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## INTRODUCTION

At the end of the 2010 calendar year, 3,995,235 people held Minnesota driver licenses and 4,915,121 motor vehicles were registered in the state. Vehicles traveled almost 57 billion miles on public roadways. There were 74,073 traffic crashes; 411 people died and 31,176 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 necessity of getting from one place to another and the efficiency of motor vehicles for this purpose result 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 34 and the fifth leading cause of death among all persons (*Injury Facts, 2005-2006 Edition*, p. 10-11).

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 2009 data. Based upon those, the total economic loss from 2010 traffic crashes in Minnesota was \$1,477,388,500, a figure that is calculated as follows:

### Cost of Motor Vehicle Crashes in 2010:

411	deaths	@	\$1,290,000	=	\$530,190,000
1,191	severe injuries	@	\$67,800	=	\$80,749,800
7,445	moderate injuries	@	\$21,900	=	\$163,045,500
22,540	minor injuries	@	\$12,400	=	\$279,496,000
51,696	PDO crashes	@	\$8,200	=	\$423,907,200
	Total	=			\$1,477,388,500

### Factors affecting traffic crashes

Many factors may contribute to even a single crash. Cell phone use or playing with the radio may lead to driver distraction, which together with wet, slippery pavement and high traffic congestion at an intersection causes a traffic crash. Public policy cannot address the infinite number of individual causes imaginable.

There are a more limited number of factors that significantly affect the aggregate 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.

*Behavior factors:* For all crashes, the driver behaviors police cite most often as contributing factors are, in order of frequency, driver inattention or distraction, failure to yield right of way, and illegal or unsafe speed. In fatal crashes, illegal or unsafe speed is cited most often, followed by driver inattention or distraction. Reducing these behaviors would reduce crashes. Further, when there is a crash, using safety equipment will reduce severity. Motorcyclists and bicyclists should wear helmets. Vehicle occupants should use safety belts. Infants and toddlers should always be placed in child safety seats, and booster seats should be used for older children.

*Roadway characteristics:* Limited access highways carry about a fifth of the traffic volume in Minnesota, yet account for only about a twelfth of fatal accidents. 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 signing.

*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 a reverse 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, about one in 18 teenage drivers are involved in crashes each year. The involvement rate drops off for successive age groups. For example, it is about 1 in 36 for drivers in their 40s. The aging of the ‘baby boom’ has reduced crash incidence, however, their children who are now driving may cause an increase.

### **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 2010, there were 32,788 traffic fatalities throughout the country and 411 in Minnesota. The respective rates per hundred million miles of travel were 1.10 and 0.73. 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. 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..."

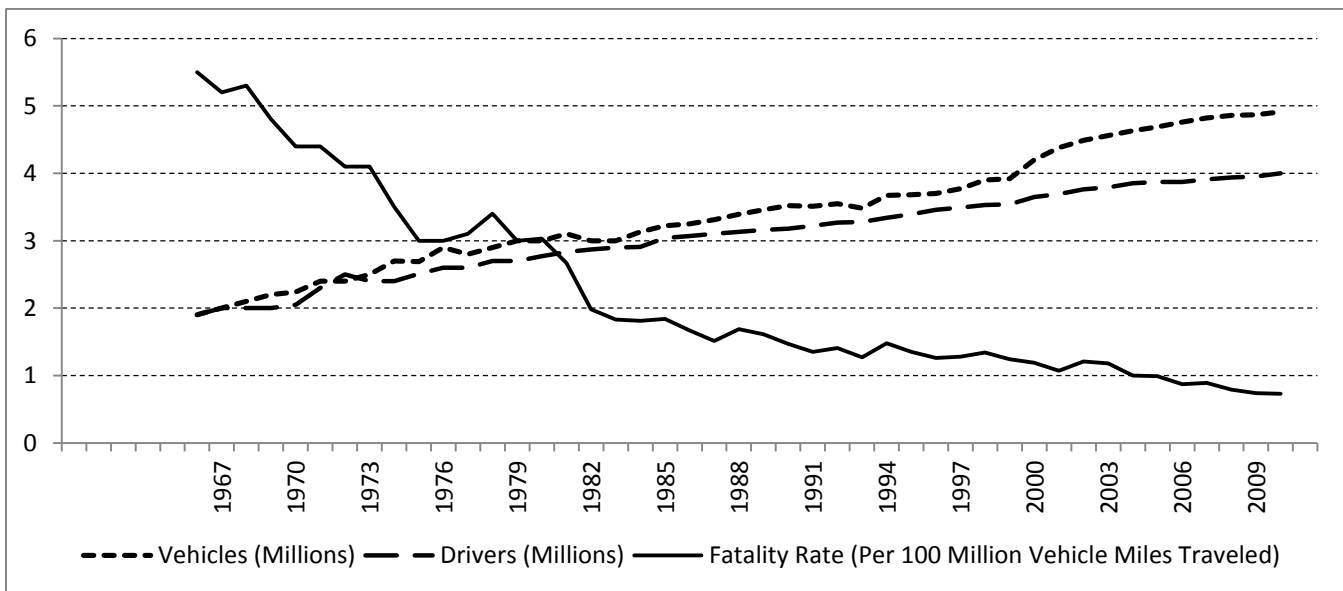
Section 169.09 specifies that a driver involved in a crash that results in injury to or death of any person or total property damage of \$1,000 or more must submit a report within ten days of the crash. The law enforcement officer who investigates the crash must also submit a report within ten days.

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 ten sections. The first present's information on the aggregate of all crashes reported to the state during the preceding calendar year. The remaining eight 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), and school buses (section VIII), trains (section IX). The final section (X) summarizes information on teen driver involved crashes.

FIGURE 1

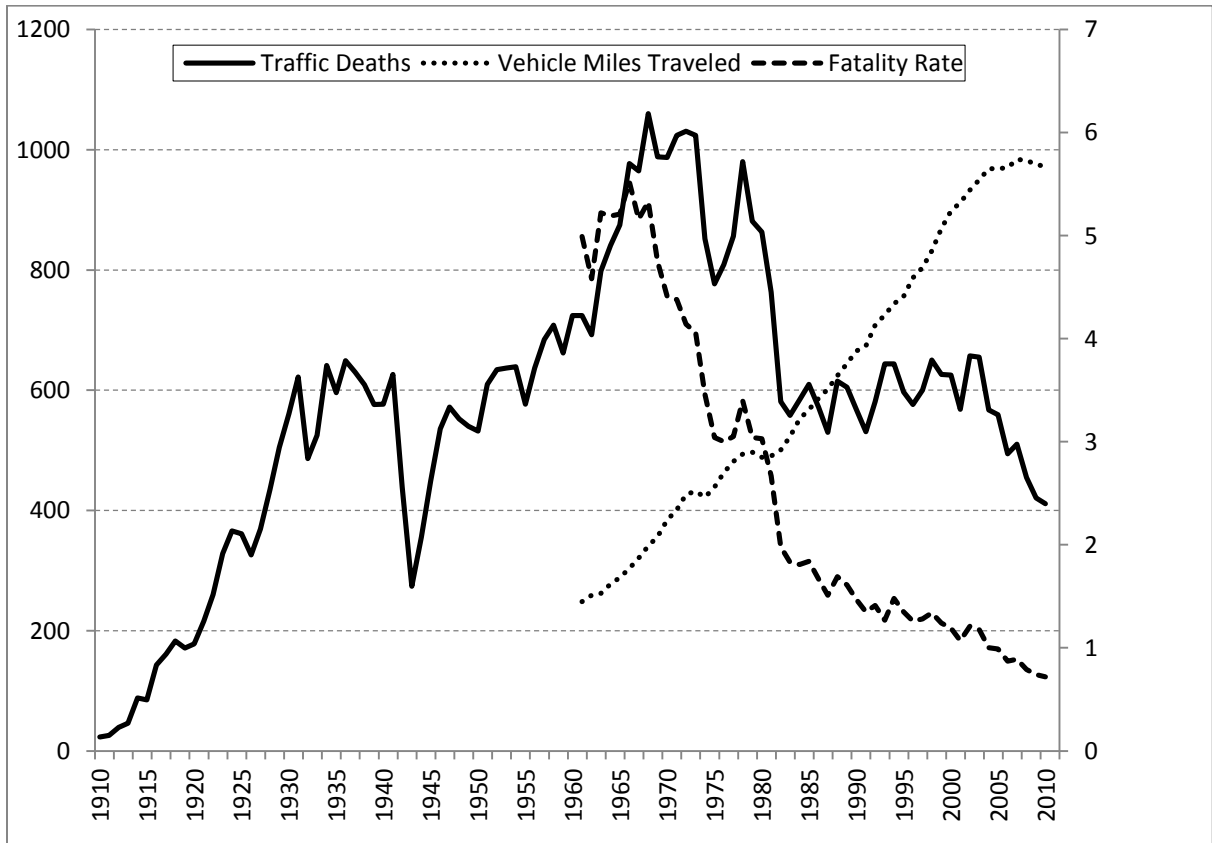
**VEHICLES, DRIVERS AND FATALITY RATE, 1966-2010**



**TABLE 1**  
**MINNESOTA TRAFFIC FATALITIES, 1910-2010**  
 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	1927	369	1944	356	1961	724	14.5	4.99	1978	980	28.8	3.40	1995	597	44.1	1.35
1911	26	1928	435	1945	449	1962	692	15.1	4.58	1979	881	29.0	3.04	1996	576	45.9	1.26
1912	39	1929	505	1946	536	1963	798	15.3	5.22	1980	863	28.5	3.03	1997	600	46.9	1.28
1913	46	1930	561	1947	572	1964	841	16.2	5.19	1981	763	28.6	2.67	1998	650	48.5	1.34
1914	88	1931	622	1948	552	1965	875	16.8	5.21	1982	581	29.2	1.98	1999	626	50.7	1.24
1915	85	1932	486	1949	540	1966	977	17.7	5.52	1983	558	30.5	1.83	2000	625	52.4	1.19
1916	143	1933	525	1950	532	1967	965	18.7	5.16	1984	584	32.2	1.81	2001	568	53.2	1.07
1917	161	1934	641	1951	610	1968	1,060	19.9	5.33	1985	610	33.1	1.84	2002	657	54.4	1.21
1918	183	1935	596	1952	534	1969	988	20.8	4.75	1986	572	34.2	1.67	2003	655	55.4	1.18
1919	171	1936	649	1953	637	1970	987	22.4	4.41	1987	530	35.1	1.51	2004	567	56.5	1.00
1920	178	1937	630	1954	639	1971	1,024	23.4	4.38	1988	615	36.4	1.69	2005	559	56.5	0.99
1921	216	1938	609	1955	577	1972	1,031	24.9	4.14	1989	605	37.6	1.61	2006	494	56.6	0.87
1922	260	1939	576	1956	637	1973	1,024	25.2	4.06	1990	568	38.8	1.47	2007	510	57.4	0.89
1923	328	1940	577	1957	684	1974	852	24.6	3.46	1991	531	39.3	1.35	2008	455	57.3	0.79
1924	366	1941	626	1958	708	1975	777	25.6	3.04	1992	581	41.3	1.41	2009	421	56.9	0.74
1925	361	1942	439	1959	662	1976	809	27.0	3.00	1993	538	42.3	1.27	2010	411	56.7	0.72
1926	326	1943	274	1960	724	1977	856	28.1	3.05	1994	644	43.4	1.48				

**FIGURE 2**  
**MINNESOTA TRAFFIC FATALITIES, 1910-2010**  
 Since 1961: Miles Traveled \*in Ten Billions) and Fatality Rates (per 100 Million VMT)



**TABLE 2**  
**DRIVER LICENSE\* SUMMARY BY AGE, 2005 - 2010**

<b>Age</b>	<b>2005</b>	<b>2006</b>	<b>2007</b>	<b>2008</b>	<b>2009</b>	<b>2010</b>
15	31,161	26,360	26,029	26,141	28,126	28,020
16	55,398	53,520	51,499	49,801	49,884	49,634
17	61,431	60,695	59,766	57,875	56,554	55,885
18	65,440	64,617	64,910	64,337	62,707	61,526
19	68,842	67,917	67,664	68,050	67,701	66,272
20	71,780	68,826	69,091	68,920	69,074	69,495
<b>Under 21</b>	<b>354,052</b>	<b>341,935</b>	<b>338,959</b>	<b>335,124</b>	<b>334,046</b>	<b>330,832</b>
15 – 19	282,272	273,109	269,868	266,204	264,972	261,337
20 – 24	361,839	353,949	351,877	350,535	347,193	348,937
25 – 29	348,538	353,241	360,944	365,501	364,228	366,813
30 – 34	319,537	311,685	316,410	324,694	330,073	342,756
35 – 39	349,515	342,520	336,604	327,911	319,456	311,858
40 – 44	390,439	372,638	358,091	347,387	339,999	340,906
45 – 49	400,876	401,715	401,496	399,215	391,392	380,685
50 – 54	355,524	361,197	369,195	376,096	382,435	389,685
55 – 59	296,390	306,185	314,238	324,589	332,705	343,840
60 – 64	212,324	226,262	239,650	251,756	265,450	282,820
65 – 69	163,125	168,693	178,918	187,347	193,513	198,777
70 – 74	131,383	132,725	136,026	140,879	143,738	149,002
75 – 79	114,220	114,750	114,678	113,740	113,517	114,320
80 – 84	85,056	86,274	88,606	89,045	87,672	88,821
85 & Older	61,055	66,217	71,373	73,502	71,997	74,678
<b>Total</b>	<b>3,872,093</b>	<b>3,871,160</b>	<b>3,907,974</b>	<b>3,938,401</b>	<b>3,948,340</b>	<b>3,995,235</b>

\* 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, 2005 - 2010**

<b>Type of Vehicle*</b>	<b>2005</b>	<b>2006</b>	<b>2007</b>	<b>2008</b>	<b>2009</b>	<b>2010</b>
Passenger Vehicles	3,288,446	3,353,858	3,406,848	3,455,451	3,478,218	3,527,503
Pickup Trucks	894,230	883,623	872,057	849,627	833,329	828,305
Commercial Trucks	211,577	215,542	217,059	215,107	213,489	214,680
Recreational Vehicles	39,032	37,978	37,399	34,998	35,042	34,797
Motorcycles	185,087	197,735	209,591	224,625	226,675	229,912
Motorized Bicycles	9,432	10,726	12,343	15,601	15,559	15,682
School Buses	6,093	6,257	6,399	6,766	6,810	6,940
Buses	5,018	5,235	5,312	5,076	4,996	5,067
Van Pool	193	197	199	205	165	174
Tax Exempt Vehicles	49,845	49,721	51,483	51,045	52,480	52,061
<b>Motor Vehicle Subtotal</b>	<b>4,688,953</b>	<b>4,760,872</b>	<b>4,818,690</b>	<b>4,858,501</b>	<b>4,866,763</b>	<b>4,915,121</b>
<b>Other Registrations*</b>						
Trailers	1,448,877	1,445,556	1,508,157	1,564,054	1,610,989	1,665,491
Classic Motor Vehicles	153,383	153,594	160,195	166,472	172,858	179,771
Classic Motorcycles	6,266	6,855	7,511	8,124	8,778	9,487
<b>Other Subtotal</b>	<b>1,608,526</b>	<b>1,606,005</b>	<b>1,675,863</b>	<b>1,738,650</b>	<b>1,792,625</b>	<b>1,854,749</b>
<b>Total Registrations</b>	<b>6,297,479</b>	<b>6,366,877</b>	<b>6,494,553</b>	<b>6,597,151</b>	<b>6,659,388</b>	<b>6,769,870</b>

\* 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 accidents. Following are some notes on the registration categories shown above:

- Passenger Vehicles include cars, SUV's, and Vans (except for "Van Pools"). A Van Pool is a Van used exclusively for car pooling purposes.
- Pickup Trucks are rated three-fourths ton or less.
- Motorcycles have engines exceeding 50 cc; 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, about 75,000 traffic crashes each year have been reported. This is a very large number that is commensurate with the critical dependence we have placed upon motor vehicles for all sorts of transportation needs. Preventing the number of traffic crashes remains a challenge each year for public safety officials because; by the end of the calendar year 2010:

- The population of Minnesota increased to 5.32 million.
- More than 4.9 million motor vehicles were registered.
- There were almost 4 million licensed drivers.
- Almost 57 billion miles were driven.

These numbers increase steadily. And, as more and more roads are constructed, the citizens of Minnesota face an extreme challenge in reducing this dependence on the motor vehicle, and with it, the high number and severity of traffic crashes.

## Crashes Increase, Fatalities Decrease in 2010

There were 74,073 traffic crashes reported to Public Safety in 2010, an increase of 1% from 2009. And, there were 411 deaths on Minnesota roads, a 2.4% decrease from the previous year. The total number of deaths in 2010 was the lowest amount recorded in Minnesota since 1944. 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 2010

The following facts give an overall picture of 2010 traffic crashes; In addition to the 411 killed...

- 31,176 were injured.
- 1,191 of these were severe injuries.
- 7,445 of these were moderate injuries.
- 22,540 of these were minor injuries.
  
- In all crashes, 182,672 people were involved.
- In all crashes, 134,414 motor vehicles were involved.
- There were 898 crashes that involved at least 1 bicyclist.
- There were 808 crashes that involved at least 1 pedestrian.
  
- One-third of all crashes involved just one vehicle.
- One-fourth of all fatalities were less than 25 years of age.
- 2 of 3 fatalities occurred in rural areas (< 5,000 pop.).
- In all, 6,352 crashes were "hit-and-run".
- The economic loss to Minnesota was almost \$1.5 billion.

## WHO was involved?

Among drivers, young people and males are over represented in traffic crashes in Minnesota. There are 3,995,235 licensed drivers in the state. People aged 15- 24 make up 15.2% of the licensed drivers, yet they accounted for 25.3% of the crash-involved drivers. Teenage drivers are the worst, from this perspective. In 2010, they represented just 6.5% of the licensed drivers, but 11.4% of the crash-involved drivers. By contrast drivers over 65 made up 15.7% of the driving population, but accounted for just 8.0% of the crash-involved drivers. Crash-involved drivers are also more likely to be males: 68.5% of drivers in fatal crashes were male; 56.1% of drivers in all crashes were male.

Traffic crashes are the leading cause of death to young people. In the state last year, 151 people under age 30 died in crashes, representing 37% of all traffic deaths. As mentioned previously, people over 65 are safe drivers as a general rule, but are more likely to be killed if they are involved in a traffic crash. Senior citizen drivers were involved in only 8% of all traffic crashes in 2010 but accounted for 18% of the traffic fatalities.

Among people injured, young people especially pay the price. There were 13,522 people under age 30 who were injured, representing 43% of the total number of people injured. People aged 65 and over accounted for just 8% of all traffic injuries.

## WHY they happened

Because defective equipment (such as a flat tire) may be a contributing factor in a particular traffic crash, an officer at the scene will list 0, 1, or 2 contributing factors for each 'vehicle' involved. Thus, the 'cause' of a crash is sometimes not entirely clear as multiple vehicular factors in a crash may be listed alongside multiple human factors. However, vehicular factors are not cited as often as human factors. Human behavior factors usually give us a clear indication of why a traffic crash occurs.

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, illegal or unsafe speed is the contributing factor cited most often for all drivers. For older drivers, driver inattention or distraction is the most cited factor. Driver Inexperience is the second most cited factor for drivers aged 15-19. In multiple-vehicle crashes, for drivers through age 64, driver inattention or distraction is cited most often, and failure to yield right of way is cited second most often. After age 65, the pattern reverses: failing to yield is most common, and inattention or distraction is second most common.

### **WHAT the conditions were**

Victims of traffic crashes are mostly car, pickup, sport utility vehicle (SUV) or van occupants. Of the 411 traffic fatalities, 296 (72%) were from these 4 vehicle types. There were also 36 pedestrians, 45 motorcyclists, and 9 bicyclists who died in traffic crashes. There were 8 deaths to ATV riders, and 7 fatalities among commercial truck occupants.

A collision with another vehicle is the leading crash type. Almost half (47%) of the fatal crashes and almost two-thirds (65%) 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 two-thirds of nonfatal crashes occurred during daylight hours. A majority of crashes occur also in good weather conditions. Over half of all crashes occur during “clear” weather. Road surface conditions where crashes occurred were usually good. For fatal crashes, 77% were on dry roads, 9% 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, 251 (69%) of all fatal crashes occurred in rural areas, which are defined as having a population of less than 5,000 people. And, 123 (34%) of all fatal crashes occurred on county state aid highways, and 84 of those were in rural areas. Injury and property damage crashes are more common in urban areas. Over two-thirds of them happened inside cities of 5,000 or more population. The seven county metro area, with over half the state's population, accounted for only 26% of the fatal crashes, but 59% of all crashes.

### **WHEN they occurred**

A fatal traffic crash is most likely to occur during afternoon the rush-hour time period of 3-6 p.m. This observable fact has changed since the early 1990's when most fatal crashes occurred during the time period of 10 p.m.--2 a.m. at night. 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. Similarly, total crashes were also concentrated in the afternoon time frame: 43% of all crashes occurred in the six hour time period of 12-6 p.m. This event has not changed over the years. Indeed, Figure 1.03 on page 36 shows that the afternoon rush hour period is truly a dangerous time to be driving.

Fridays, Saturdays, and Sundays accounted for 174 of the 364 total fatal crashes (48%). Total crashes are more evenly distributed across days of the week, although Fridays had the most (16%) and Sundays had the least (10%).

As a general rule, harsh winter weather results in more traffic crashes. In other words, there are more ‘fender-benders’ during icy and snowy conditions. December of 2010 followed this axiom. Because of severe weather, December had the most crashes reported of any month (9,591). As a general rule, warmer weather produces more fatalities. May and October had the most with 44 each. As mentioned earlier, though, other factors are involved than strictly the weather. These include speeding, drinking and driving, not wearing a seat belt, and not paying attention while driving.

### **Can traffic crashes be prevented?**

Each year over the past decade, about 500 people were killed and 35,000 people were injured on our roadways. We must acknowledge the fact that Minnesota is still experiencing an “epidemic” concerning traffic crashes. In a public health sense, epidemics that kill and injure fewer people are usually 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 prevented. Coupled with enforcement, education, engineering, and emergency trauma solutions, changes in the behavior of all drivers will surely 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 and never drive impaired.



TABLE 1.01

## TRAFFIC SAFETY STATISTICS SUMMARY, 1965 - 2010

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	Fatality	Crash	Fatality	Crash	Fatality
									Rates Per 100,000 Popu- lation (j)	Rates Per 100 Mil VMT (k)	Rates Per 100,000 MV (l)	Rates Per 100,000 Popu- lation (m)	Rates Per 100 Mil VMT (n)	
1965	83,329	875	50,847	1.85	1.86	3.57	16.8	4,480	2,334	496	47.0	24.5	5.20	
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	5.32	56.7	1,507	1,392	131	8.4	7.7	0.72	

## Note:

- (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  
2005 - 2010**

	2005	2006	2007	2008	2009	2010	Record High	
<b>Fatal Crashes</b>	<b>500</b>	<b>456</b>	<b>463</b>	<b>420</b>	<b>371</b>	<b>364</b>	<b>878</b>	<b>(1973)</b>
<b>Injury Crashes</b>	<b>26,618</b>	<b>24,663</b>	<b>24,978</b>	<b>23,914</b>	<b>22,159</b>	<b>22,013</b>	<b>33,686</b>	<b>(1978)</b>
Severe	1,660	1,528	1,441	1,248	1,036	974	5,109	(1984) <sup>1</sup>
Moderate	7,958	7,111	7,099	6,493	5,942	5,792	12,326	(1985) <sup>1</sup>
Minor	17,000	16,024	16,438	16,173	15,181	15,247	18,578	(1996) <sup>1</sup>
<b>PDO Crashes</b>	<b>60,695</b>	<b>53,626</b>	<b>56,064</b>	<b>54,761</b>	<b>50,968</b>	<b>51,696</b>	<b>94,810</b>	<b>(1975)</b>
<b>Total Crashes</b>	<b>87,813</b>	<b>78,745</b>	<b>81,505</b>	<b>79,095</b>	<b>73,498</b>	<b>74,073</b>	<b>123,106</b>	<b>(1975)</b>
<b>Total Injuries</b>	<b>37,686</b>	<b>35,025</b>	<b>35,318</b>	<b>33,379</b>	<b>31,074</b>	<b>31,176</b>	<b>50,332</b>	<b>(1978)</b>
Severe	2,019	1,844	1,736	1,553	1,271	1,191	6,573	(1984) <sup>1</sup>
Moderate	10,453	9,323	9,365	8,334	7,714	7,445	17,670	(1985) <sup>1</sup>
Minor	25,214	23,858	24,217	23,492	22,089	22,540	28,631	(1996) <sup>1</sup>
<b>Total Fatalities</b>	<b>559</b>	<b>494</b>	<b>510</b>	<b>455</b>	<b>421</b>	<b>411</b>	<b>1,060</b>	<b>(1968)</b>
Motor Vehicle Occupant	440	373	399	325	302	305	544	(2002) <sup>1</sup>
Motorcycle	59	70	61	72	53	45	121	(1980)
Pedestrian	44	38	33	25	41	36	157	(1971)
Bicycle	7	8	4	13	10	9	24	(1977)
All Terrain Vehicle	7	2	4	10	9	8	10	(2008)
Snowmobile	2	3	3	1	0	3	9	(1984)
Farm Equipment	0	0	3	0	3	2	N/A	N/A
Other Vehicle Type	0	0	3	9	3	3	N/A	N/A
<b>Minnesota Fatality Rate<sup>3</sup></b>	0.99	0.87	0.89	0.79	0.74	0.72	23.6	(1934)
<b>U.S. Fatality Rate<sup>3</sup></b>	1.46	1.42	1.36	1.25	1.16	1.10	18.0	(1925)
<b>Minnesota Economic Loss (millions)</b>	\$1,666	\$1,529	\$1,654	\$1,480	\$1,496	\$1,477	\$1,769	(2004) <sup>4</sup>

<sup>1</sup> The available records on which these categories "record highs" are based only go back to 1984.

<sup>2</sup> Fatalities occurring in motor vehicle/train crashes are included in other categories as well.

<sup>3</sup> Rate is based on 100 million vehicle miles of travel.

<sup>4</sup> Economic cost estimates are based upon wage and productivity losses, medical expenses, administrative expenses, motor vehicle damage, and employers' uninsured costs, among other factors.

TABLE 1.03

2010 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 and Older	Total
Car	Driver	Male	0	8	21	14	10	6	6	9	74
		Female	0	6	12	7	5	9	3	12	54
	Passenger	Male	3	12	8	3	0	2	1	3	32
		Female	1	2	10	1	3	1	2	6	26
Pickup	Driver	Male	0	1	1	2	1	2	1	1	9
		Female	0	1	2	1	2	0	1	0	7
	Passenger	Male	0	0	2	0	0	1	1	1	5
		Female	0	4	0	0	0	0	0	0	4
SUV	Driver	Male	0	1	5	3	4	6	4	0	23
		Female	0	0	2	3	4	2	1	0	12
	Passenger	Male	2	4	2	0	0	1	1	0	10
		Female	1	0	1	1	0	0	0	0	3
Van	Driver	Male	0	0	3	1	4	1	4	3	16
		Female	0	0	0	2	2	3	0	5	12
	Passenger	Male	0	1	1	0	0	0	1	1	4
		Female	1	0	1	0	1	0	1	3	7
Truck	Driver	Male	0	0	0	2	1	2	1	0	6
	Passenger	Female	0	0	0	0	1	0	0	0	1
Motorcycle	Driver	Male	0	0	9	4	8	11	7	3	42
		Female	0	0	0	0	0	0	0	0	0
	Passenger	Male	0	0	0	0	0	0	0	0	0
		Female	0	0	0	0	3	0	0	0	3
Other Motor Vehicle	Driver	Male	0	2	3	2	1	1	4	1	14
		Female	0	0	0	0	0	1	0	0	1
	Passenger	Male	0	0	0	0	0	0	0	0	0
		Female	0	0	0	1	0	0	0	0	1
Bicyclist	Male	0	3	0	1	0	3	0	1	8	
	Female	0	0	1	0	0	0	0	0	1	
Pedestrian	Male	2	3	4	3	2	4	0	5	23	
	Female	1	2	2	1	1	1	2	3	13	
<b>Total Fatalities</b>	Male	7	35	59	35	31	40	31	28	266	
	Female	4	15	31	17	22	17	10	29	145	
	Total	11	50	90	52	53	57	41	57	411	

Note: The vehicle types for the 16 fatalities in the 'Other Motor Vehicle' category consisted of: Eight ATV, 3 snowmobile, 3 moped, and 2 farm equipment.

TABLE 1.04

**AGE AND GENDER OF PERSONS KILLED OR INJURED IN 2010 CRASHES**

<b>Age Group</b>	<b>Males Killed</b>	<b>Females Killed</b>	<b>Total Killed</b>	<b>Males Injured</b>	<b>Females Injured</b>	<b>Unknown Injured</b>	<b>Total Injured</b>
00 - 03	2	2	4	190	194	2	386
04 - 10	5	2	7	467	492	2	961
11 - 14	5	4	9	379	362	1	742
<b>Total &lt; 15:</b>	12	8	20	1,036	1,048	5	2,089
15	2	3	5	129	185	1	315
16	11	4	15	363	464	1	828
17	4	0	4	387	517	0	904
18	6	4	10	425	552	1	978
19	7	0	7	433	505	1	939
20	2	3	5	437	482	0	919
<b>Total 15-20:</b>	32	14	46	2,174	2,705	4	4,883
<b>Total &lt; 21:</b>	44	22	66	3,210	3,753	9	6,972
00 - 04	2	2	4	248	260	2	510
05 - 09	5	2	7	334	346	1	681
10 - 14	5	4	9	454	442	2	898
15 - 19	30	11	41	1,737	2,223	4	3,964
20 - 24	37	15	52	2,026	2,165	2	4,193
25 - 29	22	16	38	1,527	1,748	1	3,276
30 - 34	19	8	27	1,219	1,392	2	2,613
35 - 39	16	9	25	1,001	1,167	1	2,169
40 - 44	12	11	23	1,010	1,164	1	2,175
45 - 49	19	11	30	1,104	1,189	0	2,293
50 - 54	20	6	26	1,005	1,071	0	2,076
55 - 59	20	11	31	834	945	0	1,779
60 - 64	23	3	26	624	695	0	1,319
65 - 69	8	7	15	382	474	0	856
70 - 74	6	6	12	275	350	1	626
75 - 79	9	9	18	173	260	0	433
80 - 84	7	4	11	171	190	0	361
85 & Older	6	10	16	114	132	0	246
Not Stated	0	0	0	175	258	275	708
<b>Total:</b>	266	145	411	14,413	16,471	292	31,176

See Figure 1.01 on page 12 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 2010 CRASHES

Age Group	Male Drivers in Fatal Crashes	Female Drivers in Fatal Crashes	Drivers Gender Not Stated in Fatal Crashes	Total in Fatal Crashes	Male Drivers in All Crashes	Female Drivers in All Crashes	All Crashes Where Drivers Gender is Not Stated	Total in All Crashes
14 & Younger	1	0	0	1	38	23	3	64
15	1	1	0	2	106	90	0	196
16	8	6	0	14	1,481	1,426	3	2,910
17	10	3	0	13	1,876	1,720	3	3,599
18	7	6	0	13	2,137	1,904	7	4,048
19	7	5	0	12	2,194	1,742	8	3,944
20	4	5	0	9	1,942	1,869	12	3,823
<b>Total &lt; 21</b>	<b>38</b>	<b>26</b>	<b>0</b>	<b>64</b>	<b>9,774</b>	<b>8,774</b>	<b>36</b>	<b>18,584</b>
00 – 04	0	0	0	0	0	1	0	1
05 – 09	0	0	0	0	2	3	0	5
10 – 14	1	0	0	1	36	19	3	58
15 – 19	33	21	0	54	7,794	6,882	21	14,697
20 – 24	39	17	0	56	9,386	8,455	62	17,903
25 – 29	40	27	0	67	8,072	6,665	55	14,792
30 – 34	37	13	0	50	6,407	5,168	52	11,627
35 – 39	31	11	0	42	5,769	4,404	28	10,201
40 – 44	31	18	0	49	5,843	4,313	28	10,184
45 – 49	44	14	0	58	6,031	4,365	23	10,419
50 – 54	35	15	0	50	5,474	3,961	23	9,458
55 – 59	35	13	0	48	4,486	3,170	18	7,674
60 – 64	34	6	0	40	3,508	2,272	7	5,787
65 – 69	13	6	0	19	2,159	1,488	11	3,658
70 – 74	15	5	0	20	1,365	1,031	5	2,401
75 – 79	9	11	0	20	1,025	794	5	1,824
80 – 84	3	4	0	7	768	622	3	1,393
85 & Older	4	6	0	10	569	397	2	968
Not Stated	1	0	2	3	557	282	4,545	5,384
<b>Total</b>	<b>405</b>	<b>187</b>	<b>2</b>	<b>594</b>	<b>69,251</b>	<b>54,292</b>	<b>4,891</b>	<b>128,434</b>

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 shown in this table.)

TABLE 1.06

LICENSED VS. CRASH-INVOLVED DRIVERS BY AGE, 2010

Age Group	Percentage of All Licensed Drivers	Percentage of Drivers in Fatal Crashes	Percentage of Drivers in Injury Crashes	Percentage of Drivers in Property Damage Crashes	Percentage of Drivers in All Crashes
14 & Younger	0.0%	0.2%	0.1%	0.0%	0.0%
15	0.7	0.3	0.2	0.1	0.2
16	1.2	2.4	2.3	2.2	2.3
17	1.4	2.2	2.8	2.8	2.8
18	1.5	2.2	3.1	3.2	3.2
19	1.7	2.0	2.9	3.1	3.1
20	1.7	1.5	2.9	3.0	3.0
<b>Total &lt; 21</b>	<b>8.3%</b>	<b>10.8%</b>	<b>14.4%</b>	<b>14.5%</b>	<b>14.5%</b>
15 - 19	6.5%	9.1%	11.4%	11.5%	11.4%
20 - 24	8.7	9.4	13.7	14.1	13.9
25 - 29	9.2	11.3	11.4	11.6	11.5
30 - 34	8.6	8.4	9.3	9.0	9.0
35 - 39	7.8	7.1	8.3	7.8	7.9
40 - 44	8.5	8.2	8.2	7.8	7.9
45 - 49	9.5	9.8	8.5	8.0	8.1
50 - 54	9.8	8.4	7.6	7.3	7.4
55 - 59	8.6	8.1	6.2	5.8	6.0
60 - 64	7.1	6.7	4.7	4.4	4.5
65 - 69	5.0	3.2	2.9	2.8	2.8
70 - 74	3.7	3.4	1.9	1.8	1.9
75 - 79	2.9	3.4	1.5	1.4	1.4
80 - 84	2.2	1.2	1.3	1.0	1.1
85 & Older	1.9	1.7	0.8	0.7	0.8
Age Not Stated	0.0	0.5	2.3	5.1	4.2
<b>Total Percent</b>	<b>100.0%</b>	<b>100.0%</b>	<b>100.0%</b>	<b>100.0%</b>	<b>100.0%</b>
<b>Total Number</b>	<b>3,995,235</b>				

See Figure 1.02 on page 12 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, 2010

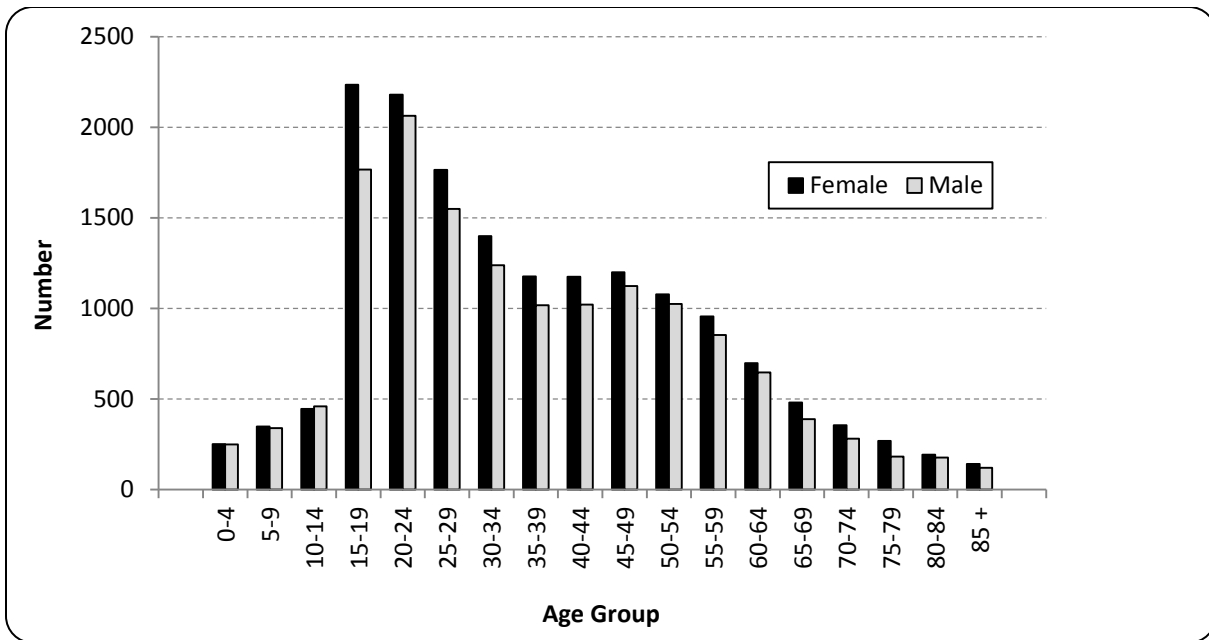
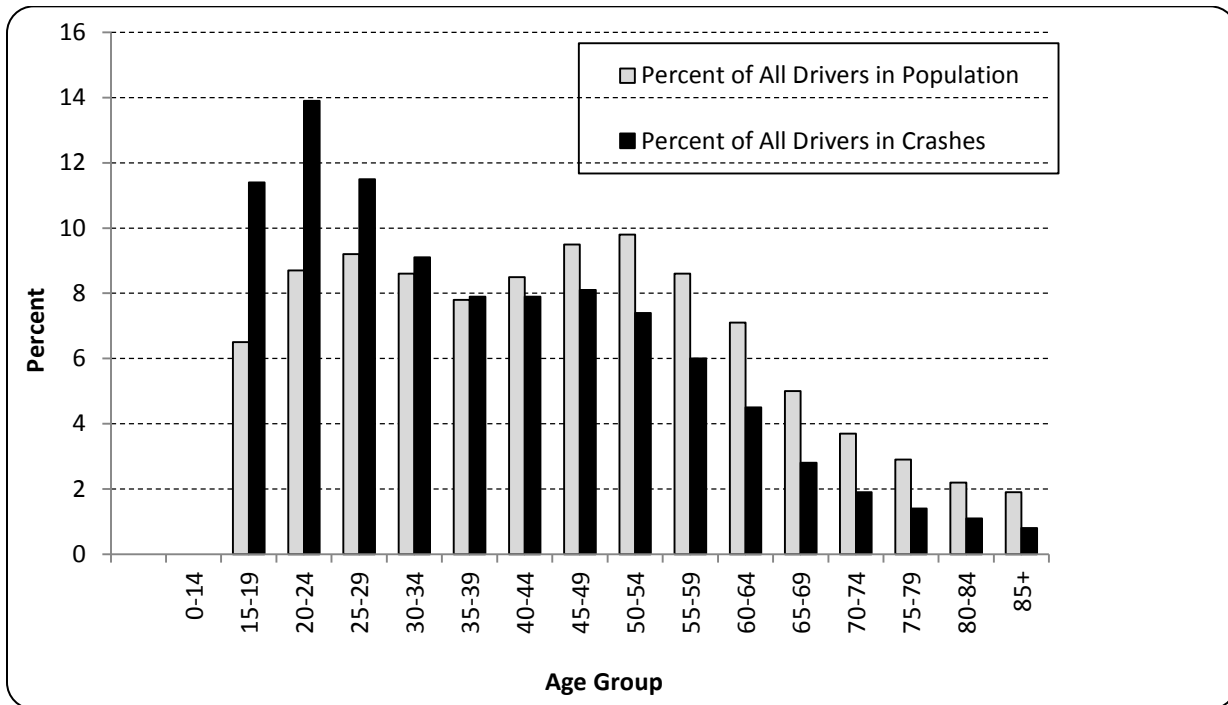


FIGURE 1.02

LICENSED VS CRASH INVOLVED DRIVERS BY AGE, 2010



*TABLE 1.07*  
**PERCENTAGE OF DRIVERS IN 2010 CRASHES  
 BY AGE AND FIRST HARMFUL EVENT**

<b>First Harmful Event</b>	<b>Age Group 15-19</b>	<b>Age Group 20-24</b>	<b>Age Group 25-29</b>	<b>Age Group 30-34</b>	<b>Age Group 35-64</b>	<b>Age Group 65-79</b>	<b>Age Group 80 +</b>	<b>All Ages</b>
<b>Collision With:</b>								
Other Motor Vehicle	76.4%	77.2%	79.5%	81.2%	81.4%	82.5%	83.0%	78.9%
Parked Motor Vehicle	3.7	3.4	3.0	2.9	3.0	3.6	5.0	4.4
Bicycle	0.4	0.6	0.6	0.5	0.7	0.8	1.1	0.7
Pedestrian	0.4	0.5	0.6	0.6	0.6	0.6	0.8	0.6
Deer	1.0	1.4	2.0	2.0	2.7	2.3	0.8	2.0
Other Animal	0.2	0.1	0.2	0.2	0.2	0.2	0.0	0.2
Railroad Train	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Fixed Object	10.2	10.0	8.4	7.2	6.1	6.0	6.3	7.5
Other Object	0.3	0.3	0.4	0.4	0.4	0.4	0.5	0.4
<b>Non-Collision:</b>								
Overturn	6.2	5.2	4.2	3.9	3.4	2.5	1.4	3.9
Other Non-Collision	0.3	0.4	0.4	0.4	0.5	0.5	0.5	0.4
<b>Other or Unknown</b>	<b>0.9</b>	<b>0.8</b>	<b>0.8</b>	<b>0.8</b>	<b>1.0</b>	<b>0.9</b>	<b>0.7</b>	<b>0.9</b>
<b>Total Percent</b>	<b>100.0%</b>	<b>100.0%</b>	<b>100.0%</b>	<b>100.0%</b>	<b>100.0%</b>	<b>100.0%</b>	<b>100.0%</b>	<b>100.0%</b>
<b>Total Drivers</b>	<b>14,697</b>	<b>17,903</b>	<b>14,792</b>	<b>11,627</b>	<b>53,723</b>	<b>7,883</b>	<b>2,366</b>	<b>128,434</b>

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*  
**DRIVERS IN 2010 CRASHES BY PHYSICAL CONDITION\***

<b>Physical Condition</b>	<b>Drivers in Fatal Crashes</b>	<b>Drivers in Injury Crashes</b>	<b>Drivers in Property Damage Crashes</b>	<b>Drivers in All Crashes</b>
Normal	329	32,668	71,549	104,546
Under the Influence	45	1,199	1,422	2,666
Had Been Drinking	24	439	496	959
Commercial Driver .04+	0	4	0	4
Had Been Using Drugs	3	78	66	147
Aggressive	0	16	24	40
Fatigued/Asleep	7	184	215	406
Physical Disability	0	29	40	69
Ill	1	79	47	127
Other	11	164	134	309
Unknown	174	4,253	14,734	19,161
<b>Total</b>	<b>594</b>	<b>39,113</b>	<b>88,727</b>	<b>128,434</b>

\* As noted by police officer on accident report. Note that in the absence of alcohol or drug test results (not usually available at the time the crash report is completed); officers are conservative in reporting impairment. Compare these figures with those from Section II. Pedestrians and bicyclists are excluded from this table.



TABLE 1.09

**SINGLE-VEHICLE CRASHES:  
CONTRIBUTING FACTORS, BY PERCENT, WITHIN DRIVER AGE GROUPS, 2010**

<b>Contributing Factor</b>	<b>Age Group 15-19</b>	<b>Age Group 20-24</b>	<b>Age Group 25-29</b>	<b>Age Group 30-34</b>	<b>Age Group 35-64</b>	<b>Age Group 65-79</b>	<b>Age Group 80+</b>	<b>All Ages</b>
<b>Human Factors</b>								
Illegal/Unsafe Speed	24.1%	28.3%	28.3%	25.9%	23.6%	17.2%	13.0%	25.2%
Driver Inattention/Distraction	14.3	11.2	11.2	12.9	12.1	15.9	16.4	12.5
Overcorrecting	10.5	8.8	6.9	7.7	7.0	6.4	4.2	7.9
Chemical Impairment	3.9	10.9	10.9	8.0	7.8	1.9	0.4	7.8
Driver Inexperience	13.6	4.0	2.5	1.6	1.6	0.9	0.4	4.3
Improper/Unsafe Lane Use	2.1	2.9	2.4	2.8	2.4	3.0	5.9	2.6
Improper Turn	0.5	0.4	0.8	0.4	0.9	2.1	2.9	0.8
Vision Obscured	0.5	0.4	0.4	0.6	0.7	1.2	3.4	0.6
Disregard for Traffic Control Device	0.5	0.5	0.6	0.4	0.4	0.8	2.5	0.5
Following Too Closely	0.3	0.6	0.6	0.5	0.6	0.5	0.0	0.5
Driving Left of Center-Not Passing	0.4	0.3	0.6	0.3	0.4	0.8	1.7	0.4
Improper Passing/Overtaking	0.3	0.3	0.2	0.6	0.4	0.2	0.0	0.3
Unsafe Backing	0.2	0.2	0.2	0.2	0.3	0.5	0.0	0.3
Failure to Yield Right of Way	0.2	0.1	0.2	0.2	0.2	0.5	0.4	0.2
Driver on Cell Phone or CB Radio	0.2	0.1	0.1	0.5	0.3	0.0	0.0	0.2
Improper Parking, Starting, Stopping	0.1	0.3	0.1	0.0	0.1	0.2	0.8	0.1
Other Human Factor	3.6	3.9	3.2	3.4	5.3	11.7	24.4	4.8
<b>Vehicular Factors</b>								
Skidding	7.7	7.4	8.5	9.5	10.0	9.2	5.5	8.7
Defective Equipment	0.8	1.0	0.9	1.9	1.4	1.0	0.4	1.2
Other Vehicular Factor	0.7	0.9	0.7	1.3	1.0	1.3	0.4	0.9
<b>Miscellaneous Factors</b>								
Weather	11.1	12.9	15.1	15.8	16.6	15.6	11.3	14.4
Other	3.6	4.0	3.3	3.4	5.4	11.7	24.4	4.8
<b>Total Percent</b>	100.0%	100.0%	100.0%	100.0%	100.0%	100.0%	100.0%	100.0%
<b>Total Contributing Factors Cited</b>	3,573	3,841	2,595	1,827	6,858	863	239	20,034
<b>Drivers for Whom There Was</b>								
<b>"No Clear Contributing Factor"</b>	243	310	307	236	1,294	131	24	2,570
<b>Total Number of Drivers</b>	2,658	3,101	2,253	1,603	6,906	894	217	18,405

Percentages are based on all contributing factors cited within each age group (some driver ages are not available). Zero, one, or two 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, 2010**

<b>Contributing Factor</b>	<b>Age Group 15-19</b>	<b>Age Group 20-24</b>	<b>Age Group 25-29</b>	<b>Age Group 30-34</b>	<b>Age Group 35-64</b>	<b>Age Group 65-79</b>	<b>Age Group 80 +</b>	<b>All Ages</b>
<b>Human Factors</b>								
Driver Inattention or Distraction	24.0%	24.1%	22.6%	22.9%	22.1%	20.7%	21.6%	22.4%
Failure to Yield Right of Way	19.9	17.6	15.4	16.9	18.6	28.6	36.0	19.2
Following Too Closely	11.5	13.5	13.2	12.5	11.9	7.2	4.9	11.7
Illegal or Unsafe Speed	7.2	8.4	9.4	9.0	6.3	3.3	2.3	7.2
Improper or Unsafe Lane Use	3.4	4.6	5.1	4.5	5.6	6.3	5.8	5.4
Disregard for Traffic Control Device	4.2	4.5	4.9	4.8	4.7	6.2	7.1	4.9
Improper turn	1.8	2.0	1.9	2.3	2.3	3.4	4.4	2.3
Vision Obscured	2.4	1.7	1.8	2.2	2.4	3.0	2.7	2.2
Chemical Impairment	0.6	2.4	2.8	2.7	2.3	0.9	0.2	1.9
Driver Inexperience	7.3	1.5	0.9	0.8	0.4	0.1	0.0	1.8
Unsafe Backing	1.1	1.1	1.2	1.6	2.1	2.5	2.0	1.7
Improper Passing or Overtaking	0.8	1.2	1.7	1.5	1.7	1.3	0.8	1.5
Improper Parking, Starting, Stopping	0.9	1.0	1.2	0.9	1.4	1.6	1.6	1.2
Driving Left of Center-Not Passing	0.5	0.7	0.4	0.6	0.8	0.7	0.7	0.7
Overcorrecting	0.7	0.8	0.7	0.6	0.6	0.5	0.2	0.6
Impeding Traffic	0.2	0.2	0.2	0.4	0.2	0.3	0.1	0.2
Improper or No Signal	0.1	0.1	0.2	0.1	0.2	0.2	0.3	0.2
Driver on Cell Phone or CB Radio	0.1	0.2	0.2	0.1	0.1	0.0	0.0	0.1
Failure to Use Lights	0.0	0.0	0.0	0.0	0.1	0.0	0.0	0.0
Other Human Factor	1.2	1.6	1.7	1.9	2.1	3.4	3.7	1.9
<b>Vehicular Factors</b>								
Skidding	3.8	3.9	4.0	3.8	3.5	2.4	1.0	3.5
Defective Equipment	0.7	0.7	0.6	0.6	0.5	0.5	0.0	0.6
Other Vehicular Factor	0.4	0.6	0.7	0.6	0.7	0.6	0.2	0.6
<b>Miscellaneous Factors</b>								
Weather	5.0	5.3	5.9	5.6	5.7	3.3	2.1	5.2
Other	2.0	2.3	3.3	3.1	3.7	3.0	2.2	3.0
<b>Total Percent</b>	100.0%	100.0%	100.0%	100.0%	100.0%	100.0%	100.0%	100.0%
<b>Total Contributing Factors Cited</b>	10,961	11,194	7,808	5,909	24,798	4,308	1,822	69,226
<b>Drivers for Whom There Was</b>								
<b>"No Clear Contributing Factor"</b>	3,434	5,335	5,658	4,810	23,834	3,025	611	47,134
<b>Total Number of Drivers</b>	12,036	14,798	12,534	10,019	46,796	6,987	2,149	110,405

Percentages are based on all contributing factors cited within each age group (some driver ages are not available). Zero, one, or two 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, 2010**

Vehicle Type	Killed	Severely Injured	Moderately Injured	Minor Injuries	Total Injured	Not Injured	Total Persons
Automobile	186	486	3,724	12,574	16,784	78,518	95,488
Pickup Truck	24	108	638	1,824	2,570	16,090	18,684
Sport Utility Vehicle	48	153	1,080	3,820	5,053	27,057	32,158
Van	38	67	584	2,116	2,767	14,309	17,114
Motor Home/Camper	0	0	7	5	12	111	123
Limousine	0	1	0	4	5	79	84
Taxi Cab	0	1	25	96	122	607	729
Police Vehicle	0	2	30	59	91	439	530
Fire Department Vehicle	0	0	0	0	0	76	76
School bus	0	1	14	80	95	3,362	3,457
Other Bus	0	0	10	98	108	1,479	1,587
Ambulance	1	0	5	12	17	109	127
Military Vehicle	0	0	0	1	1	14	15
Snowmobile	3	2	10	8	20	13	36
All Terrain Vehicle	8	9	3	9	21	11	40
Farm Tractor of Equipment	2	2	7	10	19	100	121
Motorcycle	43	188	605	436	1,229	194	1,466
Motor Scooter/Motorbike*	2	8	30	25	63	9	74
Motorized Bicycle (Moped)	3	6	23	30	59	4	66
Hit and Run Vehicle	0	1	16	47	64	2,349	2,413
Road Maintenance Vehicle	1	1	8	24	33	750	784
Other Public Owned Vehicle	0	0	2	9	11	139	150
Single Truck (2-axle, 6 tire)	1	2	14	47	63	764	828
Single Truck (3 or more axles)	1	2	11	26	39	306	346
Single Truck with Trailer	0	2	13	10	25	260	285
Truck Tractor with No Trailer	0	0	0	5	5	75	80
Truck Tractor with Semi Trailer	5	10	41	90	141	2,065	2,211
Truck Tractor with Double Trailers	0	0	1	0	1	25	26
Other or Unknown Truck Type	0	1	2	7	10	269	279
Other Vehicle Type	0	3	6	15	24	183	207
Unknown Vehicle Type	0	3	4	11	18	1,290	1,308
Bicycle	9	44	268	570	882	28	919
Pedestrian	36	88	264	472	824	1	861
<b>Total</b>	<b>411</b>	<b>1,191</b>	<b>7,445</b>	<b>22,540</b>	<b>31,176</b>	<b>151,085</b>	<b>182,672</b>

\* On the accident report form, police may show that a vehicle is a "motorcycle," a "motor scooter/motorbike," or a "moped or motorized bicycle." Since 1986, however, the law recognizes just two categories. If the vehicle has an engine capacity of more than 50 cc, it is classified as a motorcycle; if it has 50 cc or smaller engine capacity, 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 2010 CRASHES

Motor Vehicle Type*	Vehicles in Fatal Crashes	Vehicles in Injury Crashes	Vehicles in Property Damage Crashes	Vehicles in All Crashes
Automobile	242	21,735	51,491	73,468
Pickup Truck	59	4,200	10,676	14,935
Sport Utility Vehicle	89	6,948	15,946	22,983
Van	49	3,318	7,199	10,566
Motor Home/Camper	2	12	70	84
Limousine	0	7	34	41
Taxi Cab	0	168	369	537
Police Vehicle	0	121	394	515
Fire Department Vehicle	0	5	26	31
School Bus	4	118	493	615
Other Bus	1	115	416	532
Ambulance	1	21	38	60
Military Vehicle	0	2	11	13
Snowmobile	3	20	13	36
All Terrain Vehicle*	8	18	8	34
Farm Tractor or Equipment	4	46	64	114
Motorcycle	47	1,131	155	1,333
Motor scooter/Motorbike**	2	62	11	75
Motorized Bicycle (Moped)	3	53	4	60
Hit and Run Vehicle	4	340	1,931	2,275
Road Maintenance Vehicle	4	114	607	725
Other Public Owned Vehicle	0	25	109	134
Single Truck (2-axle, 6-tire)	9	185	530	724
Single Truck (3 or more axles)	13	101	204	318
Single Truck with Trailer	7	68	161	236
Truck Tractor with No Trailer	0	20	55	75
Truck Tractor with Semi Trailer	46	525	1,556	2,127
Truck Tractor with Double Trailers	1	4	21	26
Other or Unknown Truck Type	1	45	208	254
Other Vehicle Type	0	49	137	186
Unknown Vehicle Type	0	176	1,126	1,302
<b>Total***</b>	<b>599</b>	<b>39,752</b>	<b>94,063</b>	<b>134,414</b>

\* Snowmobiles and ATV's in crashes are not counted in this table unless the crash occurred on a public roadway.

\*\* On the accident report form, police may show that a vehicle is a "motorcycle," a "motor scooter/motorbike," or a "moped or motorized bicycle." Since 1986, however, the law recognizes just two categories. If the vehicle has an engine capacity of more than 50 cc, it is classified as a motorcycle; if it has 50 cc or smaller engine capacity, 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*  
**2010 CRASHES BY FIRST HARMFUL EVENT**

<b>First Harmful Event</b>	<b>Fatal Crashes</b>	<b>Personal Injury Crashes</b>	<b>Property Damage Crashes</b>	<b>Total Crashes</b>	<b>Killed</b>	<b>Injured</b>	<b>Fatality Rate Per 1,000 Crashes</b>
<b>Collision With:</b>							
Another Motor Vehicle	171	14,145	33,930	48,246	205	21,561	4.2
Parked Motor Vehicle	4	471	4,718	5,193	4	633	0.8
Bicycle	9	861	23	893	9	889	10.1
Pedestrian	35	756	0	791	35	826	44.2
Deer	6	324	2,240	2,570	6	371	2.3
Other Animal	2	50	172	224	2	60	8.9
Railroad Train	1	17	15	33	1	21	30.3
Fixed Object	50	2,567	6,829	9,446	58	3,157	6.1
Non-Fixed Object	8	77	258	343	9	99	26.2
Other Collision Type	3	151	263	417	4	197	9.6
Unk Collision Type	0	5	17	22	0	5	0.0
<b>Non-Collision:</b>							
Overturn	68	2,255	2,694	5,017	70	2,979	14.0
Submersion	2	13	29	44	2	14	45.5
Fire/Explosion	0	5	47	52	0	5	0.0
Other Non-Collision	2	152	219	373	2	166	5.4
<b>Unknown Crash Type</b>	3	164	242	409	4	193	9.8
<b>Total</b>	364	22,013	51,696	74,073	411	31,176	5.7

*TABLE 1.14*  
**2010 "HIT-AND-RUN" CRASHES BY FIRST HARMFUL EVENT**

<b>First Harmful Event</b>	<b>Fatal Crashes</b>	<b>Personal Injury Crashes</b>	<b>Property Damage Crashes</b>	<b>Total Crashes</b>	<b>Killed</b>	<b>Injured</b>
<b>Collision With:</b>						
Other Motor Vehicle	3	677	2,386	3,066	3	944
Parked Motor Vehicle	0	77	2,060	2,137	0	95
Bicycle	0	98	6	104	0	99
Pedestrian	7	151	0	158	7	172
Deer	0	0	0	0	0	0
Other Animal	0	0	0	0	0	0
Railroad Train	0	1	1	2	0	1
Fixed Object	0	108	654	762	0	135
Non-Fixed Object	0	3	14	17	0	3
Other Collision Type	0	5	18	23	0	6
Unk Collision Type	0	1	7	8	0	1
<b>Non-Collision:</b>						
Overturn	0	11	23	34	0	14
Other Non-Collision	0	3	5	8	0	3
<b>Unknown Crash Type</b>	0	5	28	33	0	6
<b>Total</b>	10	1,140	5,202	6,352	10	1,479

TABLE 1.15

## 2010 CRASHES BY TRAFFIC CONTROL DEVICE

Traffic Control Device	Fatal Crashes	Personal Injury Crashes	Property Damage Crashes	Total Crashes	Killed	Injured
Not Applicable	247	11,732	30,597	42,576	276	16,105
Traffic Signal	35	5,591	11,099	16,725	37	8,006
Overhead Flashers	1	22	34	57	2	35
Stop Sign-All Approaches	2	429	1,006	1,437	2	568
Other Stop Sign	56	3,277	6,623	9,956	63	5,065
Yield Sign	8	393	795	1,196	13	601
Flagman, Officer, School Patrol	0	22	41	63	0	29
School Bus Stop Arm	0	19	29	48	0	25
School Zone Sign	0	6	12	18	0	7
No Passing Zone	5	126	141	272	6	185
RR Crossing Gate	0	14	36	50	0	17
RR Flashing Lights	0	10	11	21	0	11
RR Crossing Stop Sign	1	7	7	15	1	11
RR Overhead Flashing Lights	0	0	1	1	0	0
RR Overhead Lights and Gate	1	9	30	40	1	12
RR Crossbuck	0	9	22	31	0	14
Other Device	4	243	609	856	5	345
Unknown	4	104	603	711	5	140
<b>Total</b>	<b>364</b>	<b>22,013</b>	<b>51,696</b>	<b>74,073</b>	<b>411</b>	<b>31,176</b>

TABLE 1.16

## 2010 CRASHES BY WEATHER CONDITION

Weather Condition	Fatal Crashes	Personal Injury Crashes	Property Damage Crashes	Total Crashes	Killed	Injured
Clear	234	13,623	29,273	43,130	260	19,357
Cloudy	75	4,836	11,286	16,197	90	6,891
Rain	13	1,133	2,781	3,927	14	1,594
Snow	16	1,396	5,051	6,463	18	1,879
Sleet/Hail/Freezing Rain	8	479	1,367	1,854	9	694
Fog/Smog/Smoke	6	104	258	368	8	143
Blowing Sand/Dust/Snow	1	253	674	928	1	355
Severe Crosswinds	1	16	43	60	1	20
Other	0	44	107	151	0	75
Not Stated/Unknown	10	129	856	995	10	168
<b>Total</b>	<b>364</b>	<b>22,013</b>	<b>51,696</b>	<b>74,073</b>	<b>411</b>	<b>31,176</b>

TABLE 1.17

## CONTRIBUTING FACTORS IN 2010 CRASHES

Contributing Factors	Percent of Factors Cited in Crashes by Severity of Crash			Number of Crashes in which the Factor was Cited			Number of People Affected	
	Fatal Crashes	Injury Crashes	Property Damage Crashes	Fatal Crashes	Injury Crashes	Property Damage Crashes	Killed	Injured
<b>Human Factors</b>								
Driver Inattention/Distracted	13.1%	20.8%	19.6%	69	5,871	11,418	76	8,600
Failure to Yield Right of Way	12.6	16.5	14.2	69	4,623	8,153	81	7,069
Illegal/Unsafe Speed	13.8	10.9	11.2	73	3,099	6,594	86	4,456
Following Too Closely	1.3	8.1	9.6	6	2,164	5,435	6	3,035
Improper/Unsafe Lane Use	5.6	3.3	5.5	30	929	3,201	35	1,312
Disregard Traffic Cntl Device	6.0	5.2	3.3	32	1,502	1,913	34	2,422
Driver Inexperience	0.9	2.4	2.2	5	698	1,343	8	1,021
Chemical Impairment	9.8	4.5	2.5	51	1,298	1,498	60	1,896
Improper Turn	0.9	1.3	2.3	5	372	1,347	7	563
Vision Obscured	1.5	1.8	1.8	8	492	1,007	8	696
Unsafe Backing	0.0	0.3	1.9	0	85	1,104	0	111
Improper Passing/Overtaking	1.1	0.8	1.4	6	232	853	9	335
Overcorrecting	5.1	2.7	2.0	27	795	1,179	28	1,119
Improper Park/Start/Stop	0.0	0.8	1.2	0	241	685	0	363
Driving Left of Ctr(Not Passing)	5.6	0.7	0.5	30	213	313	36	354
Improper/No Signal	0.2	0.1	0.1	1	28	79	1	43
Impeding Traffic	0.2	0.2	0.2	1	72	104	1	108
Driver on Phone/CB Radio	0.0	0.2	0.1	0	53	86	0	68
Failure to Use Lights	0.4	0.1	0.0	1	35	15	2	53
Non-Motorist Error	2.4	1.0	0.2	11	264	118	11	297
Other Human Factor	4.2	3.5	2.2	23	969	1,252	27	1,280
<b>Vehicular Factors</b>								
Skidding	3.3	3.7	5.0	18	1,007	2,845	19	1,361
Defective Equipment	0.4	0.6	0.7	2	188	391	2	246
Other Vehicular Factor	1.1	0.7	0.7	5	194	421	8	256
<b>Miscellaneous Factors</b>								
Weather	4.2	5.5	8.0	17	1,364	4,187	18	1,864
Other	6.4	4.0	3.6	31	999	1,866	38	1,361
<b>Total Percent</b>	100.0%	100.0%	100.0%					
<b>Total Contributing Factors</b>	549	29,433	60,982					
<b>Vehicles Where There Was "No Clear Contributing Factor"</b>	248	16,962	36,263					
<b>Total Number of Vehicles</b>	647	41,446	94,094					

Zero, one, or two 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. Note that in the absence of alcohol or drug test results (not usually available at the time the crash report is completed); officers are conservative in reporting impairment. Compare these figures with those from Section II. 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

**2010 CRASHES BY LIGHT CONDITION**

<b>Light Condition</b>	<b>Fatal Crashes</b>	<b>Personal Injury Crashes</b>	<b>Property Damage Crashes</b>	<b>Total Crashes</b>	<b>Killed</b>	<b>Injured</b>
Daylight	228	15,654	34,964	50,846	255	22,284
Dawn (Morning)	9	446	1,147	1,602	10	565
Dusk (Evening)	12	579	1,336	1,927	15	854
Dark/Street Lights On	34	3,340	8,917	12,291	43	4,713
Dark/No Street Lights	75	1,913	4,592	6,580	82	2,655
Other/Unknown	6	81	740	827	6	105
<b>Total</b>	<b>364</b>	<b>22,013</b>	<b>51,696</b>	<b>74,073</b>	<b>411</b>	<b>31,176</b>

TABLE 1.19

**2010 CRASHES BY ROAD SURFACE CONDITION**

<b>Road Surface Condition</b>	<b>Fatal Crashes</b>	<b>Personal Injury Crashes</b>	<b>Property Damage Crashes</b>	<b>Total Crashes</b>	<b>Killed</b>	<b>Injured</b>
Dry	282	15,015	29,828	45,125	313	21,550
Wet	31	2,785	6,867	9,683	40	3,942
Snow/Slush	8	1,475	5,499	6,982	9	1,988
Ice or Packed Snow	29	2,444	8,641	11,114	33	3,316
Other	8	216	401	625	10	287
Not Stated/Unknown	6	78	460	544	6	93
<b>Total</b>	<b>364</b>	<b>22,013</b>	<b>51,696</b>	<b>74,073</b>	<b>411</b>	<b>31,176</b>

TABLE 1.20

**2010 CRASHES BY ROAD DESIGN**

<b>Road Design</b>	<b>Fatal Crashes</b>	<b>Personal Injury Crashes</b>	<b>Property Damage Crashes</b>	<b>Total Crashes</b>	<b>Killed</b>	<b>Injured</b>
Freeway (Including Ramps)	36	3,645	9,891	13,572	44	5,018
Other Divided Highway	57	3,297	6,055	9,409	61	4,896
One-Way Street	3	449	1,267	1,719	3	590
4-6 Lanes Undivided	22	4,089	8,355	12,466	24	5,849
3 Lanes Undivided	1	240	470	711	1	339
2 Lane—2 Way	224	8,209	18,511	26,944	255	11,688
Alley	1	80	265	346	1	89
Other Road Design	17	692	1,577	2,286	19	962
Not Stated/Unknown	3	1,312	5,305	6,620	3	1,745
<b>Total</b>	<b>364</b>	<b>22,013</b>	<b>51,696</b>	<b>74,073</b>	<b>411</b>	<b>31,176</b>



TABLE 1.21

**2010 CRASHES BY DIAGRAM**

<b>Diagram</b>	<b>Fatal Crashes</b>	<b>Personal Injury Crashes</b>	<b>Property Damage Crashes</b>	<b>Total Crashes</b>	<b>Killed</b>	<b>Injured</b>
Rear End	26	6,498	14,599	21,123	30	9,448
Sideswipe Passing	5	955	6,998	7,958	5	1,227
Left Turn – Oncoming Traffic	5	1,171	2,315	3,491	5	1,661
Ran Off Road – Left	38	1,889	3,661	5,588	40	2,403
Right Angle	80	4,883	8,940	13,903	94	7,438
Right Turn – Cross Street Traffic	2	243	628	873	3	307
Ran Off Road – Right	61	2,219	4,122	6,402	65	2,846
Head On	83	1,171	2,455	3,709	100	1,821
Sideswipe Opposing	5	366	1,240	1,611	6	547
Other Diagram	40	1,943	4,323	6,306	44	2,648
Not Applicable	8	520	1,367	1,895	8	638
Unknown / Incomplete	11	155	1,048	1,214	11	192
<b>Total</b>	<b>364</b>	<b>22,013</b>	<b>51,696</b>	<b>74,073</b>	<b>411</b>	<b>31,176</b>

Note: It is known that there is significant error in the “diagram” field on the Police Accident Report. Two specific types of error are most common: First, the field is often left blank. Second, a large proportion (estimated by some traffic engineers to be as high as one-half) of crashes coded as “right-angle” are not right angle crashes, but are some other type of crash--most frequently “left turn into oncoming traffic.”

TABLE 1.22

**2010 CRASHES BY POPULATION OF AREA**

<b>Population of City or Township</b>	<b>Fatal Crashes</b>	<b>Personal Injury Crashes</b>	<b>Property Damage Crashes</b>	<b>Total Crashes</b>	<b>Killed</b>	<b>Injured</b>
250,000 & Over	19	4,246	12,084	16,349	23	5,851
100,000-249,999	1	450	1,112	1,563	1	618
50,000 - 99,999	32	3,797	8,452	12,281	33	5,283
25,000 - 49,999	19	2,686	6,439	9,144	22	3,744
10,000 - 24,999	31	3,607	8,968	12,606	31	5,090
5,000 - 9,999	11	1,033	2,553	3,597	17	1,489
2,500 - 4,999	10	670	1,751	2,431	10	948
1,000 - 2,499	8	398	941	1,347	9	565
Under 1,000	233	5,126	9,396	14,755	265	7,588
<b>Total</b>	<b>364</b>	<b>22,013</b>	<b>51,696</b>	<b>74,073</b>	<b>411</b>	<b>31,176</b>

TABLE 1.23

## 2010 CRASHES BY TYPE OF ROADWAY

Type of Roadway	Fatal Crashes	Personal Injury Crashes	Property Damage Crashes	Total Crashes	Killed	Injured
<b>Urban</b>						
Interstate	13	2,275	6,415	8,703	14	3,159
US Trunk Hwy	10	1,477	3,461	4,948	11	2,068
MN Trunk Hwy	19	2,371	5,156	7,546	26	3,481
County State Aid Hwy	39	4,602	9,392	14,033	42	6,531
County Road	3	115	203	321	3	165
Township Road	0	0	2	2	0	0
Municipal State Aid Hwy	20	3,440	8,795	12,255	22	4,610
Municipal Street	9	1,504	5,872	7,385	9	2,019
Other Road	0	35	312	347	0	42
<b>Urban Total</b>	<b>113</b>	<b>15,819</b>	<b>39,608</b>	<b>55,540</b>	<b>127</b>	<b>22,075</b>
<b>Rural</b>						
Interstate	16	618	1,735	2,369	17	840
US Trunk Hwy	49	1,266	2,336	3,651	52	1,959
MN Trunk Hwy	59	1,579	2,627	4,265	70	2,426
County State Aid Hwy	84	1,855	3,142	5,081	100	2,667
County Road	16	228	458	702	17	305
Township Road	20	376	654	1,050	21	551
Municipal State Aid Hwy	0	2	7	9	0	2
Municipal Street	3	251	969	1,223	3	329
Other Road	4	19	160	183	4	22
<b>Rural Total</b>	<b>251</b>	<b>6,194</b>	<b>12,088</b>	<b>18,533</b>	<b>284</b>	<b>9,101</b>
<b>All Roadways</b>						
Interstate	29	2,893	8,150	11,072	31	3,999
US Trunk Hwy	59	2,743	5,797	8,599	63	4,027
MN Trunk Hwy	78	3,950	7,783	11,811	96	5,907
County State Aid Hwy	123	6,457	12,534	19,114	142	9,198
County Road	19	343	661	1,023	20	470
Township Road	20	376	656	1,052	21	551
Municipal State Aid Hwy	20	3,442	8,802	12,264	22	4,612
Municipal Street	12	1,755	6,841	8,608	12	2,348
Other Road	4	54	472	530	4	64
<b>Total</b>	<b>364</b>	<b>22,013</b>	<b>51,696</b>	<b>74,073</b>	<b>411</b>	<b>31,176</b>

("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

## 2010 COUNTY CRASH REPORT

County	2010	20110	2010	2010	Total	Number	Number	Number	Number
	Crashes Fatal	Crashes Injury	Crashes Property Damage	Crashes Total	Crashes 2009	Killed 2010	Killed 2009	Injured 2010	Injured 2009
Aitkin	3	42	109	154	187	3	3	61	96
Anoka	13	1,122	2,137	3,272	3,303	14	16	1,628	1,659
Becker	1	97	173	271	338	1	10	140	182
Beltrami	7	137	311	455	487	7	1	185	229
Benton	3	180	358	541	590	3	5	250	249
Big Stone	0	17	36	53	59	0	2	23	30
Blue Earth	8	347	867	1,222	1,180	9	5	496	439
Brown	2	98	225	325	334	2	1	149	118
Carlton	3	90	187	280	260	3	4	137	173
Carver	3	288	685	976	910	3	11	411	370
Cass	6	113	164	283	242	6	5	191	134
Chippewa	2	49	66	117	148	2	3	78	102
Chisago	4	235	339	578	596	4	5	342	352
Clay	5	222	617	844	887	8	3	280	303
Clearwater	0	21	45	66	91	0	1	23	47
Cook	0	22	47	69	75	0	1	31	41
Cottonwood	0	52	85	137	121	0	0	73	59
Crow Wing	7	256	381	644	687	8	8	371	368
Dakota	18	1,405	3,148	4,571	4,555	21	13	2,003	2,022
Dodge	2	73	141	216	183	2	2	102	99
Douglas	4	176	445	625	650	4	4	239	250
Faribault	1	57	152	210	189	1	1	77	92
Fillmore	1	59	103	163	213	1	3	76	102
Freeborn	6	154	447	607	561	6	10	207	217
Goodhue	4	209	557	770	809	5	8	298	324
Grant	0	25	49	74	81	0	0	38	40
Hennepin	33	6,132	14,142	20,307	19,910	38	46	8,476	8,356
Houston	1	57	175	233	263	2	1	67	85
Hubbard	2	67	90	159	161	2	7	92	106
Isanti	7	124	210	341	352	13	2	190	199
Itasca	5	160	346	511	532	5	8	248	314
Jackson	4	64	117	185	159	4	6	92	103
Kanabec	2	60	97	159	141	2	1	81	72
Kandiyohi	1	219	428	648	642	2	3	347	314
Kittson	1	8	11	20	26	1	0	11	15
Koochiching	1	34	68	103	126	1	0	56	67
Lac Qui Parle	1	30	21	52	48	2	1	41	27
Lake	2	33	52	87	106	2	1	46	71
Lake of the Woods	1	7	11	19	27	1	0	8	24
Le Sueur	2	89	229	320	350	2	2	117	146
Lincoln	0	25	72	97	71	0	0	36	27
Lyon	0	98	255	353	319	0	3	145	139
McLeod	6	124	342	472	469	7	4	183	164
Mahnomen	3	9	28	40	41	3	2	17	34

*TABLE 1.24 CONTINUED*  
**2010 COUNTY CRASH REPORT**

County	2010					Number Killed 2010	Number Killed 2009	Number Injured 2010	Number Injured 2009
	2010 Crashes Fatal	20110 Crashes Injury	Crashes Property Damage	2010 Crashes Total	Total Crashes 2009				
Mahnomen	3	9	28	40	41	3	2	17	34
Marshall	2	15	21	38	45	2	1	26	28
Martin	5	98	204	307	289	10	0	150	121
Meeker	4	72	135	211	244	7	4	113	142
Mille Lacs	5	103	127	235	254	5	2	191	201
Morrison	1	130	201	332	326	1	6	171	178
Mower	3	131	364	498	485	3	2	194	203
Murray	1	37	52	90	93	1	0	55	64
Nicollet	3	115	408	526	460	3	8	148	176
Nobles	5	129	317	451	379	5	7	205	190
Norman	0	18	42	60	75	0	1	30	36
Olmsted	2	596	1,476	2,074	1,999	2	19	836	843
Otter Tail	12	209	425	646	767	14	13	290	324
Pennington	3	53	62	118	135	3	2	78	64
Pine	7	105	150	262	290	8	3	170	160
Pipestone	3	36	53	92	87	3	2	50	34
Polk	6	111	211	328	342	7	3	153	154
Pope	0	37	54	91	102	0	2	45	42
Ramsey	10	2,467	8,243	10,720	9,834	11	20	3,366	3,119
Red Lake	2	5	6	13	27	2	0	6	15
Redwood	1	65	96	162	144	1	5	111	81
Renville	3	63	86	152	158	3	12	99	120
Rice	4	243	484	731	760	4	4	334	347
Rock	3	47	124	174	148	4	1	69	54
Roseau	1	35	50	86	74	1	1	55	33
St. Louis	14	794	2,371	3,179	3,375	16	19	1,097	1,189
Scott	8	371	749	1,128	1,154	8	7	582	541
Sherburne	15	336	729	1,080	994	15	10	491	423
Sibley	4	47	91	142	142	5	0	73	66
Stearns	14	690	1,688	2,392	2,538	15	11	957	957
Steele	7	157	286	450	504	7	2	220	216
Stevens	1	31	83	115	99	1	0	48	40
Swift	3	21	58	82	72	4	2	35	27
Todd	2	99	131	232	238	3	4	158	127
Traverse	0	10	19	29	24	0	0	13	15
Wabasha	2	66	152	220	223	2	4	111	133
Wadena	1	43	81	125	122	1	2	76	48
Waseca	3	62	139	204	236	3	1	88	91
Washington	11	806	1,714	2,531	2,534	11	11	1,150	1,120
Watsonwan	1	43	107	151	146	1	1	63	72
Wilkin	4	42	82	128	128	4	1	57	46
Winona	7	218	444	669	651	9	2	299	257
Wright	6	337	749	1,092	1,211	6	14	503	567
Yellow Medicine	0	34	63	97	109	0	0	48	50
Unknown	0	0	1	1	2	0	0	0	0
<b>Minnesota Totals</b>	<b>364</b>	<b>22,013</b>	<b>51,696</b>	<b>74,073</b>	<b>73,498</b>	<b>411</b>	<b>421</b>	<b>31,176</b>	<b>31,074</b>

TABLE 1.25

## 2010 CRASHES IN CITIES OF 2,500 OR MORE POPULATION

City	Fatal Crashes	Personal Injury Crashes	Property Damage Crashes	Total Crashes	Persons Killed	Persons Injured
Afton	0	10	7	17	0	15
Albert Lea	3	67	224	294	3	94
Albertville	0	43	73	116	0	63
Alexandria	0	72	215	287	0	100
Andover	1	50	62	113	1	73
Annandale	0	3	8	11	0	6
Anoka	0	97	277	374	0	132
Apple Valley	1	155	344	500	1	206
Arden Hills	0	105	386	491	0	141
Austin	1	70	252	323	1	97
Baxter	0	53	52	105	0	82
Bayport	0	7	21	28	0	9
Becker	0	13	34	47	0	18
Belle Plaine	0	13	37	50	0	23
Bemidji	1	60	188	249	1	79
Benson	0	4	27	31	0	4
Big Lake	1	26	48	75	1	43
Blaine	2	168	295	465	2	252
Bloomington	4	575	1,233	1,812	4	779
Blue Earth	0	7	38	45	0	12
Brainerd	1	72	155	28	1	100
Breckenridge	0	6	39	45	0	7
Brooklyn Center	0	183	442	625	0	282
Brooklyn Park	1	278	224	503	1	386
Buffalo	0	36	78	114	0	54
Burnsville	3	262	582	847	3	372
Byron	0	5	19	24	0	9
Caledonia	0	4	32	36	0	4
Cambridge	1	37	79	117	6	56
Cannon Falls	1	11	39	51	1	19
Carver	0	5	7	12	0	8
Centerville	0	2	5	7	0	4
Champlin	0	39	66	105	0	56
Chanhassen	1	82	226	309	1	120
Chaska	0	49	134	183	0	69
Chatfield	0	4	16	20	0	9
Chisago City	0	17	17	34	0	26
Chisholm	0	6	20	26	0	6
Circle Pines	0	13	15	28	0	23
Cloquet	0	33	64	97	0	49
Cohasset	0	7	13	20	0	9
Cokato	0	3	15	18	0	7
Cold Spring	0	7	28	35	0	7
Columbia Heights	1	66	112	179	1	96
Columbus	0	27	52	79	0	31
Coon Rapids	1	283	628	912	1	398
Corcoran	0	13	45	58	0	19
Cottage Grove	0	74	04	278	0	97

TABLE 1.25 (Cont'd)

2010 CRASHES IN CITIES OF 2,500 OR MORE POPULATION

City	Fatal Crashes	Personal Injury Crashes	Property Damage Crashes	Total Crashes	Persons Killed	Persons Injured
Crookston	0	18	69	87	0	26
Crystal	2	81	173	256	2	110
Dayton	0	32	67	99	0	47
Deephaven	0	3	10	13	0	5
Delano	0	8	11	19	0	14
Detroit Lakes	0	18	53	71	0	27
Dilworth	0	12	18	30	0	19
Dodge Center	0	4	9	13	0	4
Duluth	1	426	1,560	1,987	1	581
Eagan	2	257	574	833	2	347
East Bethel	0	33	26	59	0	55
East Grand Forks	0	33	68	101	0	43
Eden Prairie	2	186	438	626	2	252
Edina	1	157	404	562	1	198
Elko/New Market	0	4	2	6	0	11
Elk River	0	114	215	329	0	177
Ely	0	6	10	16	0	7
Eveleth	1	4	27	32	1	9
Fairmont	0	43	111	154	0	55
Falcon Heights	0	18	44	62	0	25
Faribault	0	94	122	216	0	127
Farmington	0	33	73	106	0	52
Fergus Falls	1	57	140	198	1	67
Foley	0	3	18	21	0	5
Forest Lake	0	96	156	252	0	132
Fridley	3	143	206	352	4	217
Glencoe	1	12	40	53	2	19
Glenwood	0	7	19	26	0	9
Golden Valley	0	145	347	492	0	190
Goodview	0	5	13	18	0	6
Grand Rapids	1	51	185	237	1	85
Granite Falls	0	10	22	32	0	15
Grant	0	12	25	37	0	13
Greenfield	1	13	32	46	1	19
Ham Lake	1	43	49	93	1	70
Hanover	0	4	10	14	0	7
Hastings	2	86	177	265	2	136
Hermantown	2	30	83	115	2	53
Hibbing	1	51	152	204	1	65
Hopkins	1	69	146	216	1	91
Hugo	2	24	34	60	2	37
Hutchinson	1	56	126	183	1	81
Independence	0	13	45	58	0	19
International Falls	0	15	43	58	0	25
Inver Grove Heights	0	96	227	323	0	130
Isanti	0	9	25	34	0	13
Jackson	1	8	18	27	1	9
Jordan	0	12	40	52	0	20

TABLE 1.25 (Cont'd)

## 2010 CRASHES IN CITIES OF 2,500 OR MORE POPULATION

City	Fatal Crashes	Personal Injury Crashes	Property Damage Crashes	Total Crashes	Persons Killed	Persons Injured
Kasson	0	10	26	36	0	13
La Crescent	0	14	43	57	0	18
Lake City	0	8	41	49	0	10
Lake Crystal	0	6	21	27	0	8
Lake Elmo	0	34	86	120	0	50
Lakeville	5	107	141	253	6	159
Le Sueur	0	9	40	49	0	10
Lindstrom	0	12	28	40	0	15
Lino Lakes	0	61	179	240	0	81
Litchfield	0	15	38	53	0	17
Little Canada	1	102	202	305	1	137
Little Falls	0	16	71	87	0	22
Long Prairie	0	11	10	21	0	13
Lonsdale	0	2	8	10	0	3
Luverne	0	7	28	35	0	8
Mahtomedi	0	9	21	30	0	11
Mankato	1	239	625	865	1	334
Maple Grove	0	225	544	769	0	321
Maplewood	1	218	601	820	1	311
Marshall	0	35	141	176	0	56
Medina	0	18	61	79	0	35
Melrose	0	13	40	53	0	15
Mendota Heights	1	60	136	197	1	76
Milaca	0	10	22	32	0	21
Minneapolis	14	2,886	6,936	9,836	18	3,969
Minnetonka	0	170	295	465	0	241
Minnetrista	0	16	52	68	0	17
Montevideo	0	13	38	51	0	16
Montgomery	0	2	7	9	0	2
Monticello	0	36	109	145	0	54
Montrose	0	1	3	4	0	1
Moorhead	1	141	391	533	1	171
Mora	0	16	35	51	0	23
Morris	0	10	61	71	0	20
Mound	0	11	21	32	0	14
Mounds View	0	34	98	132	0	43
Mountain Iron	0	12	38	50	0	15
New Brighton	0	81	249	330	0	106
New Hope	0	32	94	126	0	47
Newport	0	34	66	100	0	40
New Prague	0	3	27	30	0	4
New Ulm	0	46	125	171	0	73
North Branch	1	53	90	144	1	80
Northfield	0	39	72	111	0	49
North Mankato	0	27	97	124	0	33
North Oaks	0	11	12	23	0	18
North St. Paul	1	34	88	123	1	45
Norwood	0	1	11	12	0	2

TABLE 1.25 (Cont'd)

2010 CRASHES IN CITIES OF 2,500 OR MORE POPULATION

City	Fatal Crashes	Personal Injury Crashes	Property Damage Crashes	Total Crashes	Persons Killed	Persons Injured
Nowthen	0	6	14	20	0	8
Oakdale	2	101	201	304	2	155
Oak Grove	2	20	18	40	2	32
Oak Park Heights	0	28	56	84	0	37
Olivia	0	5	11	16	0	7
Orono	1	30	65	96	1	34
Otsego	0	22	54	76	0	30
Owatonna	1	92	160	253	1	133
Park Rapids	0	8	11	19	0	10
Perham	0	6	13	19	0	7
Pine City	0	8	12	20	0	19
Pine Island	0	4	20	24	0	4
Pipestone	1	10	21	32	1	12
Plainview	0	4	15	19	0	7
Plymouth	3	200	446	649	3	264
Princeton	0	7	27	34	0	10
Prior Lake	0	30	19	49	0	45
Proctor	1	11	16	28	1	17
Ramsey	1	65	127	193	1	87
Red Wing	0	75	237	312	0	93
Redwood Falls	0	20	29	49	0	33
Richfield	2	213	518	733	3	310
Robbinsdale	0	60	138	198	0	83
Rochester	1	450	1,112	1,563	1	618
Rockford	0	4	10	14	0	4
Rockville	3	2	15	20	3	6
Rogers	0	62	181	243	0	86
Roseau	0	4	17	21	0	5
Rosemount	0	53	127	180	0	93
Roseville	1	180	578	759	2	219
Rush City	0	5	11	16	0	5
St. Anthony	0	22	62	84	0	34
St. Augusta	0	7	16	23	0	11
St. Charles	0	3	18	21	0	3
St. Cloud	5	426	953	1,384	5	576
St. Francis	0	16	8	24	0	28
St. James	0	8	25	33	0	15
St. Joseph	0	14	25	39	0	19
St. Louis Park	0	244	579	823	0	343
St. Michael	1	24	74	99	1	43
St. Paul	5	1,360	5,148	6,513	5	1,882
St. Paul Park	0	7	29	36	0	9
St. Peter	0	19	103	122	0	21
Sandstone	0	3	1	4	0	5
Sartell	0	28	73	101	0	37
Sauk Center	0	19	57	76	0	30
Sauk Rapids	0	28	57	85	0	43
Savage	2	74	179	255	2	115



TABLE 1.25 (Cont'd)

**2010 CRASHES IN CITIES OF 2,500 OR MORE POPULATION**

City	Fatal Crashes	Personal Injury Crashes	Property Damage Crashes	Total Crashes	Persons Killed	Persons Injured
Scandia	0	18	16	34	0	26
Shakopee	2	133	306	441	2	188
Shoreview	0	80	203	283	0	106
Shorewood	0	22	60	82	0	27
Sleepy Eye	0	5	30	35	0	5
South St. Paul	0	86	222	308	0	120
Spring Lake Park	0	24	46	70	0	31
Spring Valley	0	6	15	21	0	6
Staples	0	8	14	22	0	10
Stewartville	0	5	25	30	0	6
Stillwater	1	42	159	202	1	60
Thief River Falls	0	35	49	84	0	47
Two Harbors	0	7	14	21	0	14
Vadnais Heights	0	72	167	239	0	96
Victoria	0	26	48	74	0	33
Virginia	2	32	119	153	2	42
Wabasha	1	7	11	19	1	18
Waconia	1	24	55	80	1	44
Wadena	0	10	27	37	0	18
Waite Park	0	52	146	198	0	75
Waseca	0	14	56	70	0	17
Watertown	0	7	25	32	0	10
Wayzata	0	25	92	117	0	33
West St. Paul	1	97	231	329	1	135
White Bear Lake	1	138	353	492	1	195
Willmar	0	115	288	403	0	166
Windom	0	24	42	66	0	31
Winona	0	113	209	322	0	156
Woodbury	3	204	444	651	3	314
Worthington	1	65	195	261	1	102
Wyoming	1	32	48	81	1	41
Zimmerman	0	15	42	57	0	18
Zumbrota	0	3	14	17	0	3

TABLE 1.26

2010 CRASHES BY TIME AND DAY

Hour Beginning	All		Sun.		Mon.		Tues.		Wed.		Thurs.		Fri.		Sat.	
	Total	Fatal	Total	Fatal	Total	Fatal	Total	Fatal	Total	Fatal	Total	Fatal	Total	Fatal	Total	Fatal
Midnight	1,164	12	289	3	124	1	121	0	96	0	127	3	123	2	284	3
1:00	1,127	9	240	1	105	1	105	1	126	1	108	1	173	2	270	2
2:00	1,140	12	291	5	109	0	92	0	88	0	139	2	157	1	264	4
3:00	860	5	198	1	91	0	88	2	93	1	96	0	128	0	166	1
4:00	795	2	128	0	129	0	117	0	88	0	92	1	124	0	117	1
5:00	1,169	11	151	2	194	0	194	0	164	2	151	3	151	0	164	4
6:00	1,999	13	140	2	355	4	374	1	299	2	298	0	332	2	201	2
7:00	4,169	10	183	3	777	0	830	0	796	2	708	3	613	2	262	0
8:00	4,037	12	202	1	745	5	780	2	685	3	695	0	578	1	352	0
9:00	3,455	13	253	0	582	0	627	5	524	0	539	2	488	4	442	2
10:00	3,499	15	378	2	596	2	505	3	450	5	533	0	522	3	515	0
11:00	3,959	12	381	1	631	1	546	1	529	2	587	4	582	2	703	1
Noon	4,443	14	444	4	657	2	657	0	624	1	637	2	729	2	695	3
1:00	4,136	27	455	6	691	5	546	3	565	1	582	4	712	3	585	5
2:00	4,897	27	493	4	809	5	664	1	735	2	719	5	895	3	582	7
3:00	5,921	23	493	4	1,018	7	936	2	947	3	886	2	1,083	2	558	3
4:00	6,124	24	575	5	1,012	6	981	4	987	2	989	2	1,037	3	543	2
5:00	6,147	27	498	0	985	5	1,026	2	1,119	6	1,001	7	1,020	3	498	4
6:00	4,122	23	431	4	558	3	599	1	676	4	650	2	734	4	474	5
7:00	2,756	22	341	4	399	3	391	4	364	2	395	2	515	5	351	2
8:00	2,273	11	291	3	302	2	318	1	338	0	367	0	375	3	282	2
9:00	2,181	11	267	2	289	1	277	4	250	2	386	1	398	0	314	1
10:00	1,932	14	244	0	240	0	216	1	233	1	259	6	365	3	375	3
11:00	1,445	15	141	0	166	2	160	1	158	1	160	1	290	3	370	7
Unknown	323	0	45	0	46	0	47	0	54	0	40	0	52	0	39	0
<b>Total</b>	<b>74,073</b>	<b>364</b>	<b>7,552</b>	<b>57</b>	<b>11,610</b>	<b>55</b>	<b>11,197</b>	<b>39</b>	<b>10,988</b>	<b>43</b>	<b>11,144</b>	<b>53</b>	<b>12,176</b>	<b>53</b>	<b>9,406</b>	<b>64</b>

FIGURE 1.03

**TOTAL CRASHES vs FATAL CRASHES BY TIME 2010**

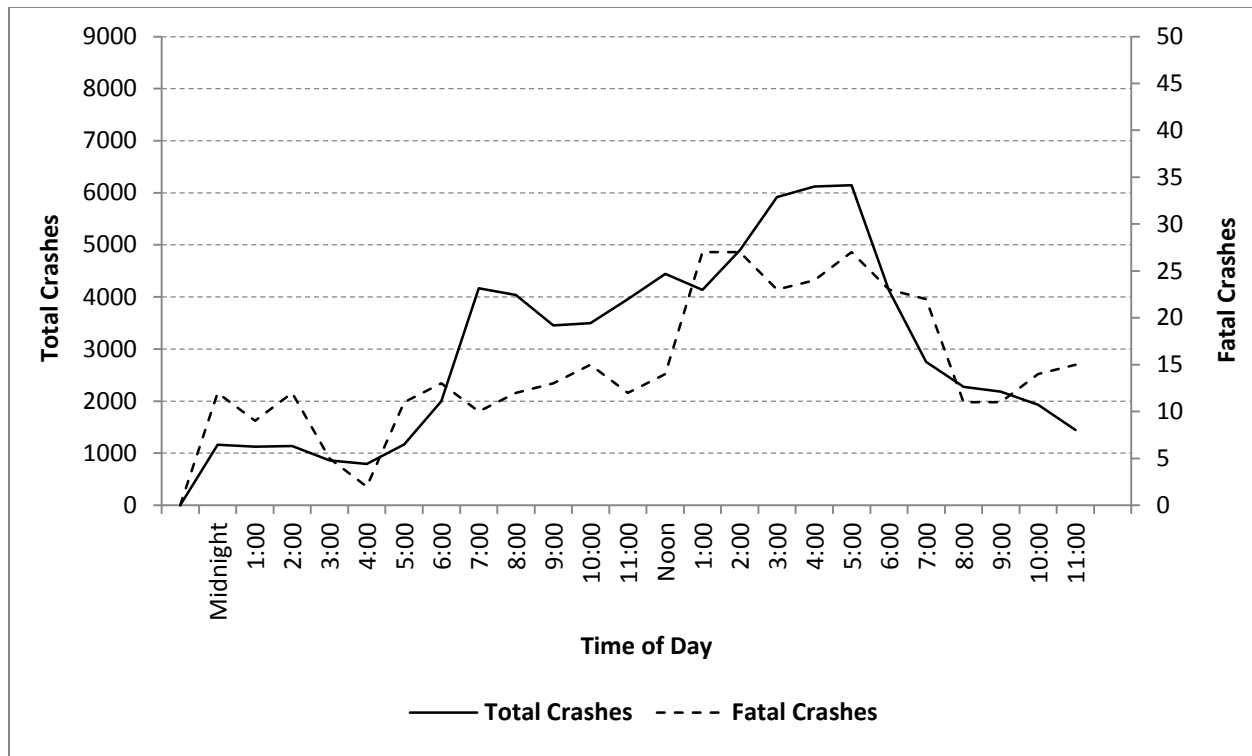


TABLE 1.27

**2010 CRASHES, FATALITIES, AND INJURIES BY MONTH**

Month	Fatal Crashes	Injury Crashes	Property Damage Crashes	Total Crashes	Killed	Injured
January	25	1,821	5,603	7,449	28	2,501
February	15	1,912	5,486	7,413	18	2,675
March	18	1,298	2,866	4,182	20	1,887
April	31	1,529	2,815	4,375	43	2,109
May	40	1,859	3,368	5,267	44	2,634
June	30	1,821	3,697	5,548	31	2,617
July	44	1,975	3,491	5,510	53	2,839
August	37	1,873	3,383	5,293	39	2,747
September	35	1,835	3,779	5,649	36	2,642
October	39	1,983	4,107	6,129	44	2,796
November	29	1,989	5,649	7,667	32	2,793
December	21	2,118	7,452	9,591	23	2,936
<b>Total</b>	<b>364</b>	<b>22,013</b>	<b>51,696</b>	<b>74,073</b>	<b>411</b>	<b>31,176</b>

TABLE 1.28

**HOLIDAY CRASH SUMMARY, 2005 - 2010**

<b>Holiday Period</b>	<b>Year</b>	<b>Hours*</b>	<b>Fatal Crashes</b>	<b>Personal Injury Crashes</b>	<b>Property Damage Crashes</b>	<b>Total Crashes</b>	<b>Killed</b>	<b>Injured</b>
<b>Memorial Day</b> (For 2010, the holiday period was 6 pm Fri, May 28 -- midnight Monday, May 31)	2005	78	8	177	342	527	9	295
	2006	78	3	188	344	535	4	287
	2007	78	5	167	259	431	5	243
	2008	78	2	168	275	445	2	243
	2009	78	9	168	259	436	13	254
	2010	78	8	167	244	419	9	245
<b>July 4<sup>th</sup></b> (For 2010, the holiday period was 6 pm Fri, July 2 -- midnight Monday, July 5)	2005	78	7	207	336	550	9	332
	2006	102	5	266	389	660	5	377
	2007	30	0	73	134	207	0	103
	2008	78	8	188	247	443	8	290
	2009	78	7	191	263	461	10	303
	2010	78	4	165	268	437	5	246
<b>Labor Day</b> (For 2010, the holiday period was 6 pm Fri, Sept 3 -- midnight Monday, Sept 6)	2005	78	8	187	315	510	8	269
	2006	78	1	182	325	508	1	272
	2007	78	6	204	320	530	6	300
	2008	78	4	197	252	453	4	286
	2009	78	2	150	218	370	3	197
	2010	78	5	143	265	413	5	228
<b>Thanksgiving</b> (For 2010, the holiday period was 6 pm Wed, Nov 24 -- midnight Sunday, Nov 28)	2005	102	8	390	1,066	1,464	11	592
	2006	102	8	200	469	677	8	299
	2007	102	4	203	561	768	4	298
	2008	102	7	251	700	958	7	400
	2009	102	5	168	397	570	5	263
	2010	102	4	201	589	794	4	281
<b>Christmas</b> (For 2010, the holiday period was 6 pm Thur, Dec 23—midnight Sunday, Dec 26)	2005	78	1	153	325	479	1	227
	2006	78	0	150	333	483	0	214
	2007	102	10	456	1,480	1,946	11	682
	2008	102	3	197	485	685	3	279
	2009	78	1	168	669	838	1	261
	2010	78	0	135	555	690	0	197
<b>New Year's</b> (For 2010, the holiday period was 6 pm Thur, Dec 30 -- Midnight Sunday, January 2, 2011)	2005/06	78	6	134	422	562	8	211
	2006/07	78	8	286	735	1,029	9	451
	2007/08	102	4	174	525	703	4	263
	2008/09	102	3	305	989	1,297	3	467
	2009/10	78	3	133	495	631	4	197
	2010/11	78	1	221	671	893	1	308

\* Holiday period hours vary depending on the day of the week on which the holiday falls.

## II: ALCOHOL - RELATED CRASHES

### BACKGROUND AND DEFINITIONS

#### 1. 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, 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 law calls for, the number of impaired driving incidents on record is almost the same as the number of arrests.

#### (2) 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 or higher 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. Though rare, an officer sometimes reports he or she believed a person had been drinking or was under the influence, but the alcohol test is negative. In these cases, the test result takes priority over the officer’s perception, and the crash is not classified as alcohol-related.

#### Alcohol-related fatalities and injuries

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.

#### Officers’ reported perceptions are conservative

Officers are conservative in reporting drinking and driving. However, officers’ 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 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. In 2010, eight drinking pedestrians died after colliding with a vehicle driven by a non-drinking driver. (Two more drinking pedestrians died after colliding with drinking drivers). 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. (This procedure was once again improved in 2002). 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 2.01 and 2.07 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 2010**

Drinking and driving remains a serious problem in Minnesota and across the nation. For 2010, the National Safety Council has made a conservative estimate of \$239 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. Last year, 6% of minor injuries, 11% of moderate injuries, 24% of severe injuries, and 32% of deaths were alcohol-related. In all, 131 known people died and 2,485 known people were injured in crashes classified as alcohol-related. (NHTSA estimates will be higher).

### **Impaired driving incidents (DWIs) decrease**

There were 29,918 impaired driving incidents last year in Minnesota. This number represents a 9% decrease from the previous year. There would surely be more impaired driving arrests each year if staffing levels of state troopers and police officers in Minnesota had not remained static over the past 30 years. These low staffing levels are inconsistent with the fact that the population and the number of roads continue to rise, and the fact that the number of licensed drivers in Minnesota is now quickly approaching 4 million people.

### **Males and young people**

When gender is stated, males made up 67% of the DWI offenders last year, however, females are getting arrested more often. In 2010, they accounted for 25% of the incidents. (10 years ago, they were 19% 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 committed fully 52% of the incidents on record. Drivers under age 21 accounted for 7%.

### **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. Motorists aged 15-34 accounted for 38% of all traffic deaths, and for fully 55% of the alcohol-related deaths. It is also the drinkers themselves who are more likely to pay the price for their dangerous behavior. Last year, 95 (73%) of the 131 people who died in alcohol-related crashes were themselves the people whose drinking behavior caused the crash to be classified as alcohol-related. In short, drinking drivers, pedestrians, and bicyclists mostly kill and injure themselves. The remaining 37 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 59% of the alcohol-related crashes. The late night hours 9 p.m.-3 a.m. accounted for 22% of all crashes, but 48% of the alcohol crashes.

### **Fatal alcohol crashes usually involve just one vehicle**

Of the 113 alcohol-related fatal crashes in 2010, 86 (76%) involved just one motor vehicle in transport. Of the 86 single vehicle alcohol-related fatal crashes, 28 involved a single vehicle colliding with a fixed object, and 44 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 2010, there were 270 motor vehicle drivers who were killed. (Note that this total does not include pedestrians or bicyclists). Of the 270 killed drivers, the Department of Public Safety was able to get alcohol test results for 237 (88%). Of the 237 tested, 156 (66%) tested negative, 6 (3%) tested between .01 and .07, 2 (1%) tested between .08 and .09, and 73 (31%) tested .10 or greater.

### **Majority of alcohol-related fatalities test above the legal limit**

The 131 alcohol-related fatalities in 2010 consisted of 63 car or truck drivers, 28 car or truck passengers, 16 motorcycle drivers, one motorcycle passenger, four ATV drivers, 10 pedestrians, two bicyclists, and one ATV passenger. Of the 131, the Department of Public Safety was able to get alcohol test results for 116. Of these, 96 (83%) 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 33% per year. 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. The implementation of the .08 legal limit law in mid-2005 will continue to help this downward trend.

*TABLE 2.01*  
**ALCOHOL-RELATED FATAL CRASH SUMMARY, 1980 - 2010**

Year	Alcohol Concentration Test Results on Fatally Injured Drivers Only										All Traffic Fatalities				
	Drivers Killed			Results on Drivers Tested							Alcohol-Related Fatalities				
	Total	Tested for Alcohol		Negative for Alcohol		.01 to .09 Alcohol		.10 or Higher Alcohol			Total	Known *		Estimated **	
		num- ber	percent of total	num- ber	percent of tested	num- ber	percent of tested	num- ber	percent of tested	num- ber		percent of total	num- ber	percent of total	
1980	519	337	65	103	31	37	11	197	58	863					
1981	437	288	66	110	38	28	10	150	52	763					
1982	321	232	72	106	46	14	6	112	48	581			322	56	
1983	345	258	75	113	44	28	11	117	45	558			314	56	
1984	383	318	83	133	42	36	11	149	47	584	305	52	332	57	
1985	372	295	79	156	53	31	10	108	37	610	261	43	287	47	
1986	347	281	81	143	51	24	8	114	41	572	264	46	284	50	
1987	297	265	89	132	50	18	7	115	43	530	224	42	248	47	
1988	361	313	87	163	52	32	10	118	38	615	277	45	294	48	
1989	368	313	85	158	51	26	8	129	41	605	275	45	289	48	

**ALCOHOL-RELATED FATAL CRASH SUMMARY, 1990 - 2010**

Year	Alcohol Concentration Test Results on Fatally Injured Drivers Only											All Traffic Fatalities				
	Drivers Killed			Results on Drivers Tested								Alcohol-Related Fatalities				
	Total	Tested for Alcohol		Negative for Alcohol		.01 to .07 Alcohol		.08 to .09 Alcohol		.10 or Higher Alcohol		Total	Known *		Estimated **	
		num- ber	percent of total	num- ber	percent of tested	num- ber	percent of tested	num- ber	Percent of tested	num- ber	percent of tested		num- ber	percent of total	num- ber	percent 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	171	38
2009	266	236	89	160	68	13	5	4	2	59	25	421	141	34	150	36
2010	270	237	88	156	66	6	3	2	1	73	31	411	131	32	NA	NA

\* 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 1982.

TABLE 2.02

**IMPAIRED DRIVING INCIDENTS (“DWIs”) BY GENDER  
AND BY AREA OF STATE WHERE ARREST WAS MADE, 1994 - 2010**

Year	Total	Gender		Gender		Gender		State Area Metro	State Area Metro	State Area - Non- Metro	State Area - Non- Metro
		Male Number	Per- cent	Female Number	Per- cent	Not Stated Number	Per- cent				
1994	29,739	23,182	77.9	5,296	17.8	1,261	4.2	15,477	52.0	14,262	48.0
1995	30,255	23,217	76.7	5,425	17.9	1,613	5.3	15,678	51.8	14,577	48.2
1996	30,515	23,588	77.3	5,371	17.6	1,556	5.1	15,774	51.7	14,741	48.3
1997	30,905	23,636	76.5	5,733	18.6	1,536	5.0	15,954	51.6	14,951	48.4
1998	32,001	24,193	75.6	6,048	18.9	1,760	5.5	16,537	51.7	15,464	48.3
1999	34,529	25,938	75.1	6,505	18.8	2,086	6.0	17,126	49.6	17,403	50.4
2000	34,803	27,741	74.0	6,755	19.4	2,307	6.6	16,739	48.1	18,064	51.9
2001	33,305	24,479	73.5	6,494	19.5	2,331	7.0	16,284	48.9	17,021	51.1
2002	32,948	23,887	72.5	6,557	19.9	2,504	7.6	16,147	49.0	16,801	51.0
2003	32,193	23,082	71.7	6,535	20.3	2,575	8.0	15,972	49.6	16,221	50.4
2004	34,199	24,199	70.8	7,165	21.0	2,835	8.3	16,762	49.0	17,437	51.0
2005	36,870	25,712	69.7	7,989	21.7	3,169	8.6	17,837	48.4	19,033	51.6
2006	41,842	28,665	68.6	9,293	22.2	3,884	9.3	20,496	49.0	21,346	51.0
2007	38,635	26,365	68.2	8,809	22.8	3,461	9.0	18,764	48.6	19,871	51.4
2008	35,736	24,142	67.6	8,444	23.6	3,150	8.8	17,781	49.8	17,995	50.2
2009	32,756	22,078	67.4	7,906	24.1	2,772	8.5	16,253	49.6	16,503	50.4
2010	29,918	19,982	66.8	7,410	24.8	2,526	8.4	15,146	50.6	14,772	49.4

\* 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 2.03

**IMPAIRED DRIVING INCIDENTS (“DWIs”) FOR SELECTED AGE GROUPS, 1994 - 2010**

Year	Total	Age	Age	Age	Age	Age	Age	Age	Total Under Age 21	Age	Age	Age
		0-14	15	16	17	18	19	20		21-34	35-49	50 & Older
1994	29,739	5	7	108	233	545	644	761	2,303	16,481	8,871	2,084
1995	30,255	1	20	111	243	519	723	799	2,416	16,368	9,302	2,169
1996	30,515	2	10	135	300	608	791	826	2,672	15,815	9,762	2,266
1997	30,905	5	17	102	273	627	751	886	2,661	15,495	10,283	2,466
1998	32,001	2	17	102	297	675	888	911	2,892	15,624	10,973	2,512
1999	34,529	4	18	114	285	740	1,004	1,032	3,197	17,100	11,479	2,753
2000	34,803	5	10	124	330	691	984	1,104	3,248	17,245	11,472	2,838
2001	33,305	2	14	118	277	636	911	1,030	2,988	16,791	10,740	2,786
2002	32,948	6	13	122	298	655	849	1,086	3,029	16,594	10,379	2,946
2003	32,193	3	21	117	279	689	904	1,064	3,077	16,518	9,732	2,866
2004	34,199	3	13	105	300	679	889	1,012	3,001	17,382	10,185	3,181
2005	36,870	5	16	118	335	705	1,028	1,236	3,443	19,505	10,557	3,365
2006	41,842	6	24	135	394	854	1,274	1,346	4,035	22,465	11,487	3,855
2007	38,635	4	11	126	325	712	1,064	1,209	3,451	20,518	10,743	3,922
2008	35,736	6	14	102	266	630	887	1,046	2,951	18,933	9,851	4,001
2009	32,756	6	6	75	197	524	801	896	2,505	17,165	9,196	3,889
2010	29,918	4	9	54	139	425	667	804	2,102	15,727	8,154	3,935



FIGURE 2.01

**PERCENT OF IMPAIRED DRIVING INCIDENTS (“DWIs”) COMMITTED BY OFFENDERS IN FOUR AGE GROUPS, 1990-2010**

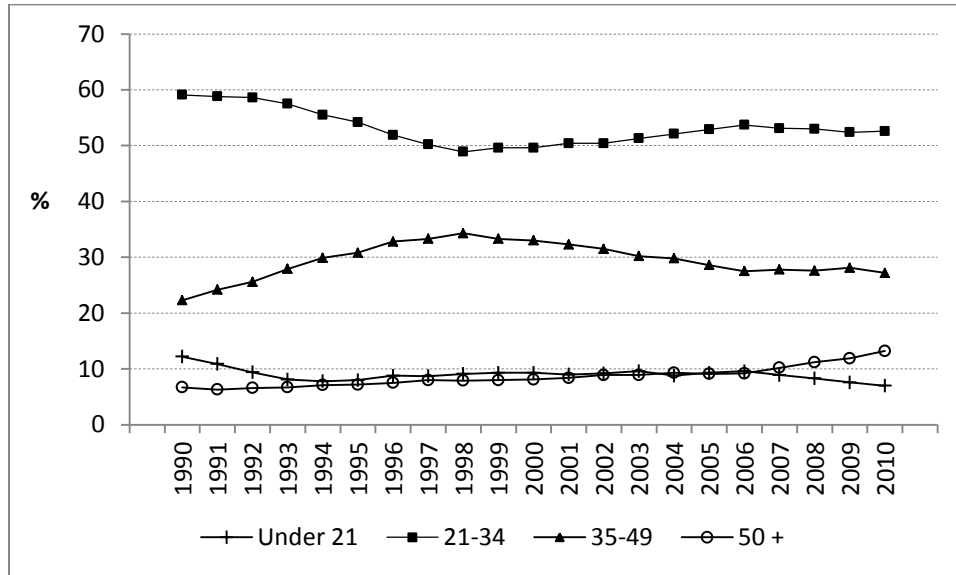


TABLE 2.04

**IMPAIRED DRIVING INCIDENTS (“DWIs”) BY AGE, 1994 - 2010**

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
1994	5	1,537	5,819	5,608	5,815	4,224	2,891	1,756	849	567	339	188	81	44	12	4	29,739
1995	1	1,616	5,850	5,517	5,800	4,536	3,034	1,732	957	550	324	185	93	43	17	0	30,255
1996	2	1,844	5,731	5,507	5,403	4,719	3,144	1,899	991	589	317	213	96	43	16	1	30,515
1997	5	1,770	5,733	5,651	4,997	4,888	3,295	2,100	1,154	615	335	204	96	46	14	2	30,905
1998	2	1,979	6,176	5,513	4,846	5,160	3,591	2,222	1,137	671	333	192	102	57	18	2	32,001
1999	4	2,161	7,389	5,843	4,900	5,267	3,844	2,368	1,330	670	405	190	98	45	12	3	34,529
2000	5	2,139	7,725	5,819	4,805	5,071	3,922	2,479	1,396	692	368	191	118	55	18	0	34,803
2001	2	1,956	7,839	5,437	4,545	4,408	3,887	2,445	1,450	649	333	194	99	43	14	4	33,305
2002	6	1,937	8,080	5,255	4,345	4,030	3,849	2,500	1,451	754	355	198	105	60	18	5	32,948
2003	3	2,010	8,195	5,394	3,993	3,621	3,646	2,465	1,380	753	381	188	97	47	19	1	32,193
2004	3	1,986	8,689	5,895	4,260	3,660	3,817	2,708	1,641	789	425	166	93	38	26	3	34,199
2005	5	2,202	9,594	6,790	4,360	3,778	3,850	2,929	1,664	920	410	213	92	48	10	5	36,870
2006	6	2,681	11,021	8,043	4,749	4,134	4,011	3,342	1,985	1,030	447	225	107	39	18	4	41,842
2007	4	2,238	9,856	7,398	4,473	3,948	3,624	3,171	1,911	1,100	491	262	93	50	13	2	38,635
2008	6	1,899	8,609	6,868	4,502	3,579	3,278	2,994	1,937	1,114	554	229	101	47	13	6	35,736
2009	6	1,603	7,570	6,394	4,097	3,386	2,937	2,873	1,893	1,055	541	225	119	37	12	7	32,756
2010	4	1,294	6,821	5,776	3,934	2,918	2,671	2,565	1,914	1,086	543	234	98	41	17	2	29,918

TABLE 2.05

**AGE OF PERSONS KILLED AND INJURED IN ALL CRASHES  
AND IN ALCOHOL - RELATED CRASHES, 2010**

Age Group	All persons killed	Persons killed – alcohol related	Persons severely injured	Persons with alcohol related severe injuries	Persons with moderate injuries	Persons with alcohol related moderate injuries	Persons with minor injuries	Persons with alcohol related minor injuries	Total persons injured	Total alcohol related injuries
00 - 04	4	0	6	0	80	8	424	18	510	26
05 - 09	7	0	12	0	117	4	552	28	681	32
10 - 14	9	0	25	1	222	9	651	31	898	41
15	5	1	8	0	84	10	223	7	315	17
16	15	4	37	4	173	11	618	14	828	29
17	4	1	38	5	212	15	654	31	904	51
18	10	2	41	15	235	17	702	41	978	73
19	7	4	33	8	205	28	701	48	939	84
20	5	5	30	9	226	36	663	69	919	114
<b>Under 21:</b>	66	17	230	42	1,554	138	5,188	287	6,972	467
00 - 14	20	0	43	1	419	21	1,627	77	2,089	99
15 - 19	41	12	157	32	909	81	2,898	141	3,964	254
20 - 24	52	29	160	61	1,094	195	2,939	307	4,193	563
25 - 29	38	19	112	33	783	123	2,381	207	3,276	363
30 - 34	27	13	96	31	580	84	1,937	127	2,613	242
35 - 39	25	12	68	26	527	62	1,574	105	2,169	193
40 - 44	23	8	91	29	506	64	1,578	87	2,175	180
45 - 49	30	9	108	21	576	65	1,609	89	2,293	175
50 - 54	26	13	68	13	488	54	1,520	78	2,076	145
55 - 59	31	5	93	16	439	36	1,247	51	1,779	103
60 - 64	26	7	65	8	307	19	947	42	1,319	69
65 - 69	15	0	38	3	209	11	609	11	856	25
70 - 74	12	2	25	0	167	8	434	10	626	18
75 - 79	18	1	21	2	135	4	277	7	433	13
80 - 84	11	1	19	1	119	2	223	2	361	5
85 & Older	16	0	12	1	74	1	160	2	246	4
Not Stated	0	0	15	2	113	8	580	24	708	34
<b>Total</b>	411	131	1,191	280	7,445	838	22,540	1,367	31,176	2,485

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

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

\* As shown, there were 131 alcohol-related traffic deaths in the year 2010. Ten of those deaths were to pedestrians, and all 10 were drinking. In two of the 10 fatal crashes involving a drinking pedestrian, the motor vehicle driver had also been drinking. Additionally, two bicyclists were among the 131 alcohol-related deaths. In one of those crashes, the bicyclist was drinking but the motor vehicle driver was not. In the other crash, the bicyclist was not drinking but the motor vehicle driver was.

TABLE 2.06

**2010 ALCOHOL - RELATED FATALITIES'  
LEVEL OF ALCOHOL CONCENTRATION BY TRAFFIC ROLE**

<b>Traffic Role</b>	<b>Killed</b>	<b>Tested</b>	<b>.00</b>	<b>.01 - .07</b>	<b>.08 - .09</b>	<b>.10 +</b>
Car or Truck Driver	63	60	4	4	1	51
Car or Truck Passenger	28	17	6	2	1	8
Motorcycle Driver	16	16	1	1	1	13
Motorcycle Passenger	1	1	0	0	0	1
ATV	5	4	0	0	0	4
Snowmobile	2	2	0	0	0	2
Pedestrian	10	10	0	0	0	10
Bicyclist	2	2	1	0	1	0
Other Vehicle	4	4	0	1	0	3
<b>Total</b>	<b>131</b>	<b>116</b>	<b>12</b>	<b>8</b>	<b>4</b>	<b>92</b>

TABLE 2.07

**PERCENT OF DEATHS, INJURIES, AND PROPERTY DAMAGE CRASHES  
DETERMINED TO BE ALCOHOL - RELATED, 2001 - 2010**

	<b>2001</b>	<b>2002</b>	<b>2003</b>	<b>2004</b>	<b>2005</b>	<b>2006</b>	<b>2007</b>	<b>2008</b>	<b>2009</b>	<b>2010</b>
Deaths* (Known)	37%	36%	39%	31%	35%	34%	37%	36%	34%	32%
Estimated)	40%	39%	41%	32%	36%	37%	39%	38%	36%	NA
Injuries**	10%	10%	NA	9%	9%	10%	9%	9%	8%	8%
PDO Crashes**	4%	4%	NA	3%	4%	4%	4%	4%	4%	4%

\* Based on alcohol test results plus 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 2.08

**FIRST HARMFUL EVENT IN ALCOHOL-RELATED  
FATAL CRASHES AND ALL FATAL CRASHES, 2010**

<b>First Harmful Event</b>	<b>All Fatal Crashes Number</b>	<b>All Fatal Crashes Percent</b>	<b>Alcohol-Related Fatal Crashes *Number</b>	<b>Alcohol-Related Fatal Crashes *Percent</b>
<b>Collision with:</b>				
Another Motor Vehicle	171	47.0%	27	23.9%
Parked Motor Vehicle	4	1.1	2	1.8
Train	1	0.3	0	0.0
Bicyclist	9	2.5	2	1.8
Pedestrian	35	9.6	10	8.8
Deer	6	1.6	1	0.9
Fixed Object	50	13.7	28	24.8
Other Collision Type	3	0.8	1	0.9
<b>Non-Collision:</b>				
Overturn	68	18.7	34	30.1
Submersion	2	0.6	2	1.8
Other Type Non-Collision	2	0.6	0	0.0
<b>Unknown</b>	<b>13</b>	<b>3.6</b>	<b>6</b>	<b>5.3</b>
<b>Total</b>	<b>364</b>	<b>100.0%</b>	<b>113</b>	<b>100.0%</b>

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

TABLE 2.09

**TEST RESULTS OF DRIVERS KILLED, 2001 - 2010**

Year	Killed	Tested	.00	.01 - .07	.08 - .09	.10 +
2001	361	322	198 (61%)	17 (5%)	6 (2%)	101 (31%)
2002	430	365	223 (61%)	21 (6%)	3 (1%)	118 (32%)
2003	435	376	219 (58%)	18 (5%)	5 (1%)	134 (36%)
2004	389	337	219 (65%)	11 (3%)	4 (1%)	103 (31%)
2005	379	348	213 (61%)	17 (5%)	5 (1%)	113 (33%)
2006	346	321	207 (64%)	15 (5%)	5 (2%)	94 (29%)
2007	381	336	207 (62%)	15 (4%)	7 (2%)	107 (32%)
2008	316	286	176 (62%)	15 (5%)	6 (2%)	89 (31%)
2009	266	236	160 (68%)	13 (5%)	4 (2%)	59 (25%)
2010	270	237	156 (66%)	6 (3%)	2 (1%)	73 (31%)

\* Percents based on drivers tested.

TABLE 2.10

**DRIVERS KILLED WHO TESTED .01 OR HIGHER, 2001 - 2010  
("Any Alcohol")**

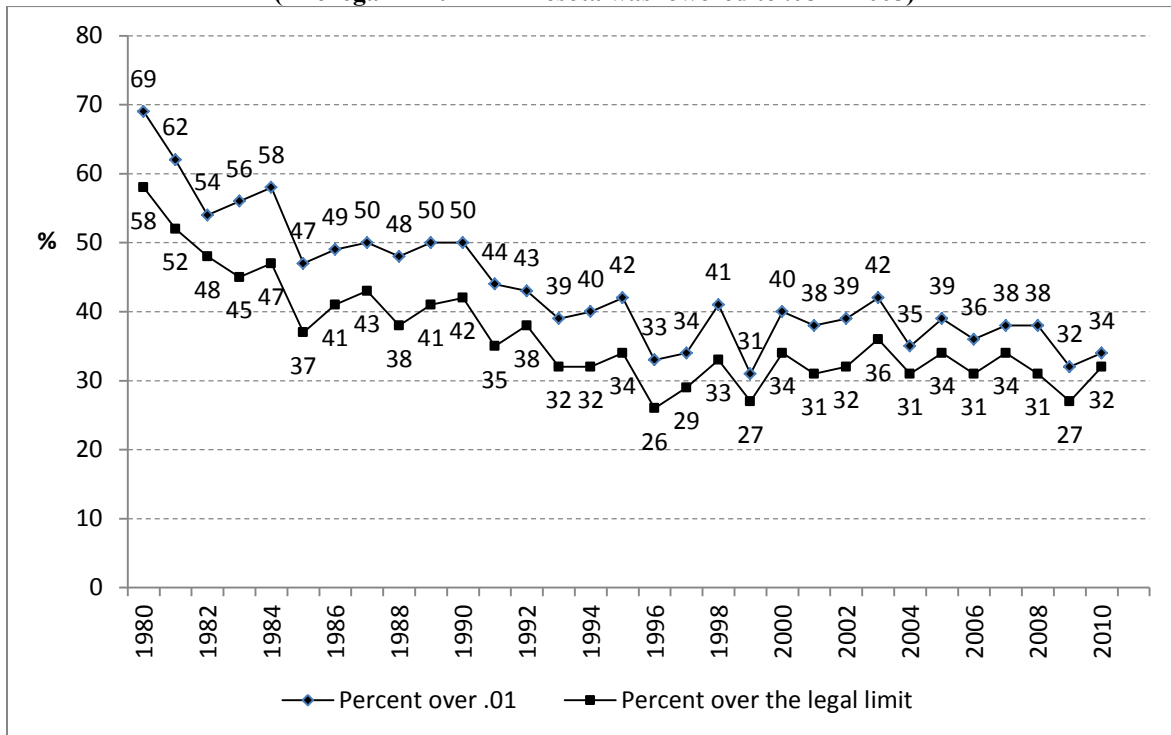
Year	Total	Male	Female	Occurred Between Midnight - 3 AM	Under Legal Age
2001	124	104 (84%)	20 (16%)	37 (30%)	17 (14%)
2002	142	124 (87%)	18 (13%)	41 (29%)	23 (16%)
2003	157	135 (86%)	22 (14%)	42 (27%)	14 (9%)
2004	118	101 (86%)	17 (14%)	35 (30%)	19 (16%)
2005	135	120 (89%)	15 (11%)	34 (25%)	11 (8%)
2006	114	95 (83%)	19 (17%)	34 (30%)	14 (12%)
2007	129	110 (85%)	19 (15%)	28 (22%)	11 (9%)
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%)

TABLE 2.11

**DRIVERS KILLED WHO TESTED OVER THE LEGAL LIMIT, 2001 - 2010  
(The legal limit in Minnesota was lowered to .08 in mid-2005)**

Year	Total	Male	Female	Occurred Between Midnight - 3 AM	Under Legal Age
2001	101	86 (85%)	15 (15%)	31 (31%)	15 (15%)
2002	118	102 (86%)	16 (14%)	34 (29%)	16 (14%)
2003	134	115 (86%)	19 (14%)	39 (29%)	9 (7%)
2004	103	90 (87%)	13 (13%)	34 (33%)	16 (16%)
2005	118	105 (89%)	13 (11%)	33 (28%)	9 (8%)
2006	99	84 (85%)	15 (15%)	32 (32%)	13 (13%)
2007	114	98 (86%)	16 (14%)	27 (24%)	10 (9%)
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%)

**FIGURE 2.02**  
**KILLED DRIVERS TESTED FOR ALCOHOL: 1980 – 2010**  
**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 2010**

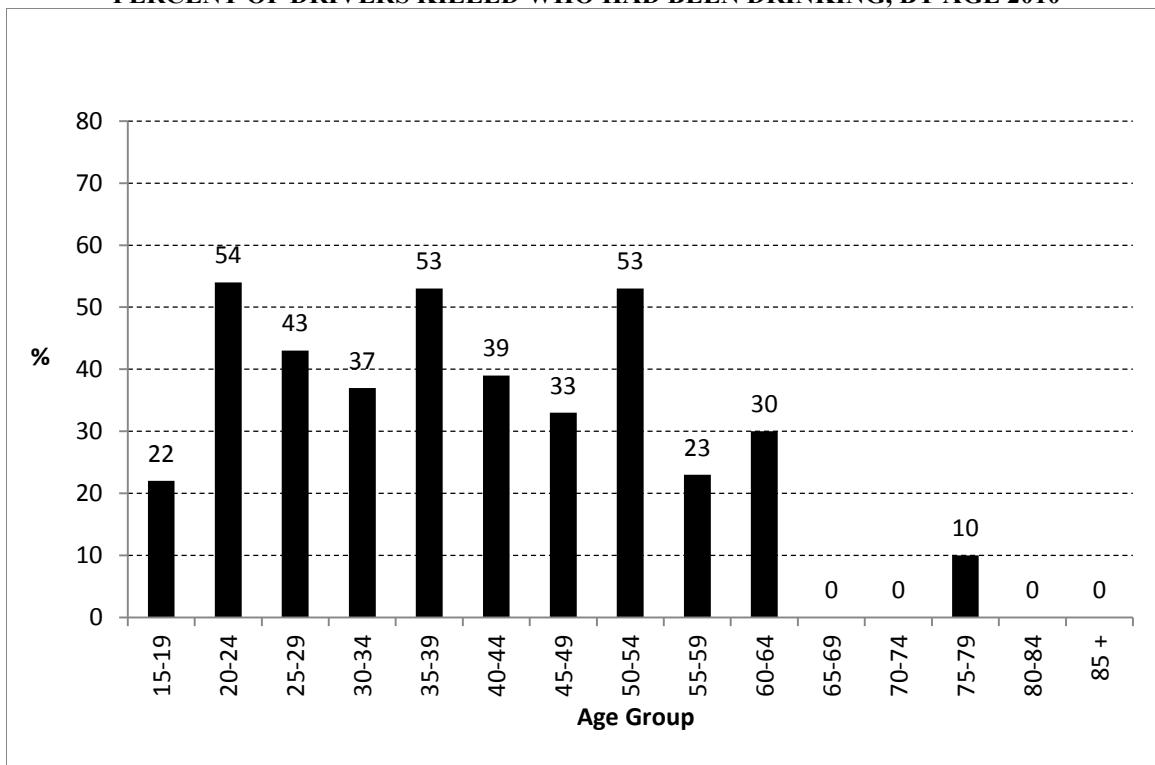


TABLE 2.12

2010 DRIVER FATALITIES' LEVEL OF ALCOHOL CONCENTRATION BY AGE

Age	Killed	Tested	Alcohol Concentration								Alcohol Concentration						
			.00		.01 - .07		.08 - .09		.10 +		.01-	.05-	.10-	.15-	.20-	.25	
			num- ber	per- cent	num- ber	per- cent	num- ber	per- cent	num- ber	per- cent	.00	.04	.09	.14	.19	.24	+
00 - 14	1	1	1	0	0	0	0	0	0	1	0	0	0	0	0	0	
15	2	2	2	0	0	0	0	0	0	2	0	0	0	0	0	0	
16	4	4	3	0	0	0	0	1	0	3	0	0	0	0	0	1	
17	2	2	2	0	0	0	0	0	0	2	0	0	0	0	0	0	
18	6	6	5	0	0	0	0	1	0	5	0	0	0	1	0	0	
19	4	4	2	0	0	0	0	2	0	2	0	0	1	0	0	1	
20	3	3	0	1	0	0	0	2	0	0	0	1	1	0	1	0	
<b>Under 21</b>	22	22	15	1	0	0	0	6	0	15	0	1	2	1	1	2	
00 - 14	1	1	1	100.0	0	0.0	0	0.0	0	0.0	1	0	0	0	0	0	
15 - 19	18	18	14	77.8	0	0.0	0	0.0	4	22.2	14	0	0	1	1	0	
20 - 24	32	28	13	46.4	1	3.6	1	3.6	13	46.4	13	0	2	2	3	4	
25 - 29	26	23	13	56.5	1	4.4	0	0.0	9	39.1	13	1	0	2	2	5	
30 - 34	20	19	12	63.2	0	0.0	0	0.0	7	36.8	12	0	0	1	2	1	
35 - 39	21	19	9	47.4	1	5.3	0	0.0	9	47.4	9	1	0	2	2	5	
40 - 44	19	18	11	61.1	0	0.0	0	0.0	7	38.9	11	0	0	1	1	4	
45 - 49	23	18	12	66.7	0	0.0	1	5.6	5	27.8	12	0	1	0	3	2	
50 - 54	20	19	9	47.4	1	5.3	0	0.0	9	47.4	9	1	0	4	3	0	
55 - 59	24	22	17	77.3	0	0.0	0	0.0	5	22.7	17	0	0	1	2	0	
60 - 64	23	20	14	70.0	1	5.0	0	0.0	5	25.0	14	1	0	0	4	0	
65 - 69	9	9	9	100.0	0	0.0	0	0.0	0	0.0	9	0	0	0	0	0	
70 - 74	8	5	5	100.0	0	0.0	0	0.0	0	0.0	5	0	0	0	0	0	
75 - 79	14	10	9	90.0	1	10.0	0	0.0	0	0.0	9	1	0	0	0	0	
80 - 84	5	4	4	100.0	0	0.0	0	0.0	0	0.0	4	0	0	0	0	0	
85 +	7	4	4	100.0	0	0.0	0	0.0	0	0.0	4	0	0	0	0	0	
<b>Total</b>	270	237	156	65.8	6	2.5	2	0.8	73	30.8	156	5	3	14	23	21	

\* Percents, based on drivers tested, may not add to 100.0% due to rounding.

TABLE 2.13

## 2010 ALCOHOL - RELATED CRASHES BY MONTH

Month	Fatal Crashes	Injury Crashes	Property Damage Crashes	Total Crashes	Killed	Injured
January	8	121	191	320	9	173
February	2	136	184	322	2	181
March	7	129	145	281	9	183
April	15	141	126	282	22	203
May	16	160	139	315	16	218
June	7	163	140	310	8	233
July	11	157	141	309	16	233
August	12	164	136	312	12	262
September	11	151	146	308	11	209
October	12	172	153	337	14	238
November	8	128	193	329	8	199
December	4	101	213	318	4	153
<b>Total</b>	<b>113</b>	<b>1,723</b>	<b>1,907</b>	<b>3,743</b>	<b>131</b>	<b>2,485</b>

TABLE 2.14

## 2010 ALCOHOL - RELATED CRASHES BY ROADWAY TYPE

Roadway Type	Fatal Crashes	Injury Crashes	Property Damage Crashes	Total Crashes	Killed	Injured
Urban Interstate	5	165	260	430	5	226
Rural Interstate	2	27	33	62	2	37
Urban US Trunk Hwy	4	80	103	187	4	129
Rural US Trunk Hwy	12	88	75	175	13	147
Urban MN Trunk Hwy	3	153	173	329	9	247
Rural MN Trunk Hwy	19	156	105	280	23	239
County State Aid Hwy	36	508	445	989	41	724
County Road	10	62	35	107	11	78
Township Road	9	74	45	128	9	114
Mun State Aid Hwy	8	222	306	536	9	304
Municipal Street	4	184	312	500	4	235
Other	1	4	15	20	1	5
<b>Total</b>	<b>113</b>	<b>1,723</b>	<b>1,907</b>	<b>3,743</b>	<b>131</b>	<b>2,485</b>

FIGURE 2.04

2010 ALCOHOL-RELATED CRASHES BY TIME OF DAY

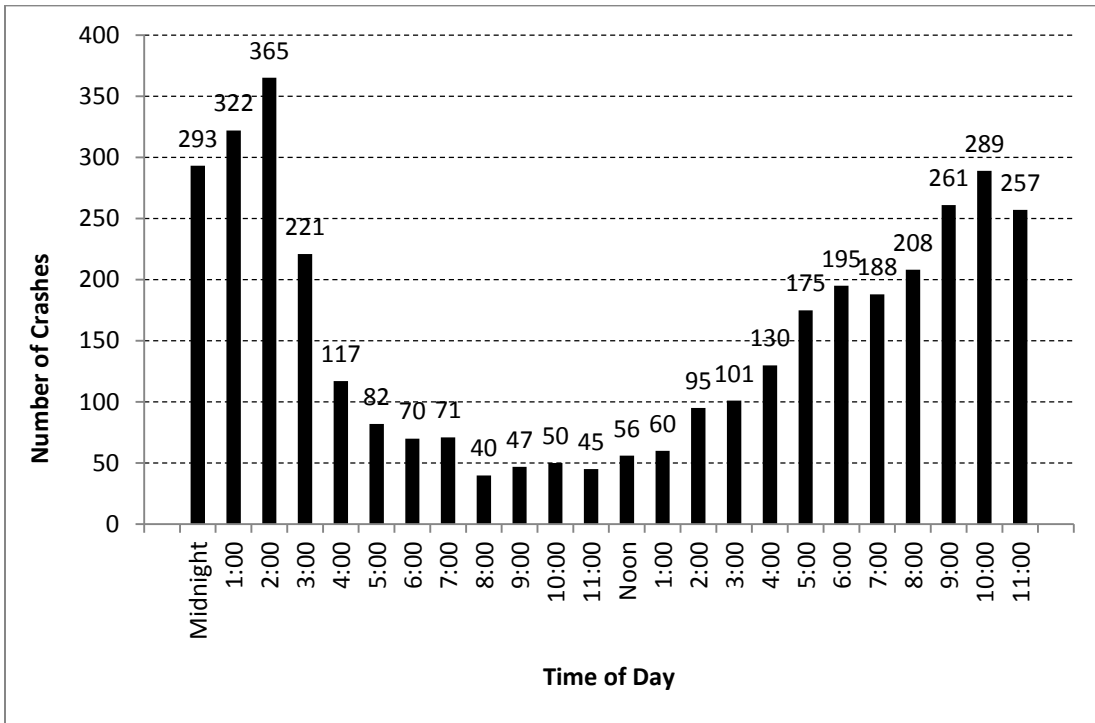


FIGURE 2.05

2010 ALCOHOL-RELATED CRASHES BY DAY OF WEEK

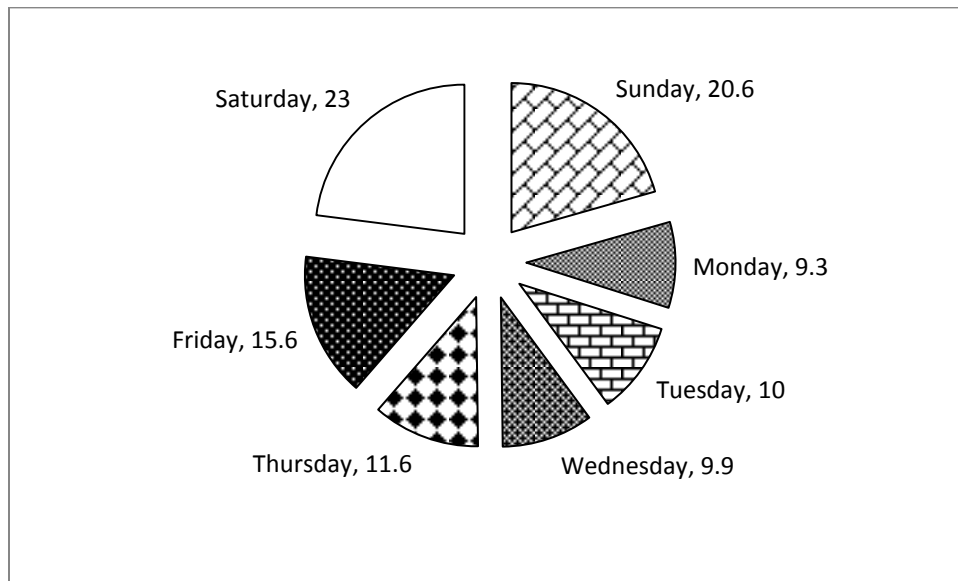




TABLE 2.15

**2010 ALCOHOL-RELATED CRASHES BY TIME OF DAY AND DAY OF WEEK**

<b>Hour Beginning</b>	<b>Sun-day</b>	<b>Mon-day</b>	<b>Tues-day</b>	<b>Wednes-day</b>	<b>Thurs-day</b>	<b>Fri-day</b>	<b>Satur-day</b>	<b>Total Crashes</b>	<b>Total Killed</b>	<b>Total Injured</b>
Midnight	71	28	25	24	32	31	82	293	9	158
1:00 AM	85	23	27	28	32	43	84	322	6	190
2:00 AM	111	17	23	19	42	45	108	365	13	183
3:00 AM	79	15	11	14	19	25	58	221	1	142
4:00 AM	39	6	9	7	12	14	30	117	2	79
5:00 AM	23	2	4	10	4	9	30	82	7	55
6:00 AM	21	3	5	6	6	11	18	70	5	54
7:00 AM	23	6	7	10	9	8	8	71	7	52
8:00 AM	9	7	4	0	2	8	10	40	2	33
9:00 AM	11	2	7	3	11	4	9	47	0	16
10:00 AM	12	4	7	7	6	6	8	50	2	29
11:00 AM	7	7	4	4	10	4	9	45	0	23
Noon	5	9	10	3	4	10	15	56	1	47
1:00 PM	18	4	10	3	4	11	10	60	4	41
2:00 PM	18	16	7	7	12	15	20	95	3	76
3:00 PM	21	13	8	9	9	22	19	101	4	91
4:00 PM	29	7	14	18	17	19	26	130	3	116
5:00 PM	24	21	26	33	17	25	29	175	7	120
6:00 PM	30	21	23	24	24	33	40	195	11	133
7:00 PM	28	19	29	18	24	32	38	188	11	127
8:00 PM	21	26	26	32	32	31	40	208	3	143
9:00 PM	22	28	31	26	45	56	53	261	5	193
10:00 PM	37	33	30	37	32	63	57	289	11	197
11:00 PM	25	29	27	28	30	59	59	257	14	185
Unknown	1	1	0	2	1	0	0	5	0	2
<b>Total</b>	<b>770</b>	<b>347</b>	<b>374</b>	<b>372</b>	<b>436</b>	<b>584</b>	<b>860</b>	<b>3,743</b>	<b>131</b>	<b>2,485</b>

### III: SAFETY EQUIPMENT USE BY VEHICLE OCCUPANTS IN 2010 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, children aged 4 through 7 must now be properly restrained 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 10.5% of the persons killed and 10.0% of the persons injured in 2010.

#### **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<sup>th</sup>, 2009. In August, 2010, the observational seat belt study revealed a 92% usage rate.

#### **Occupant fatalities in 2010**

In 2010, 305 motor vehicle occupants died in crashes which represents a 1% increase from the previous year. And, vehicle occupants injured (27,790) also increased slightly (1%) from 2009. However, these figures also reveal a beneficial trend that started in the mid-1980s. Specifically, fatalities and severe injuries have been "trading off" with moderate and minor 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 2010, that number decreased to 837. This is encouraging news. By definition, minor (or "possible") and moderate (or "non-incapacitating") injuries do not produce long-term and severe suffering, while severe injuries often cause such suffering, including consequences such as permanent brain damage and dismemberment.

#### **Northwest region/Township roads**

Among the motor vehicle occupants that were killed or injured in the northwest region of Minnesota, only 66% were known to be using a restraint. This is the lowest rate of use of any region. The southwest region was second lowest: 78%. Concerning types of roadway, 'Township Roads' had the lowest percentage of seat belt use (69%).

#### **Ejection update: always wear your seat belt**

Of the 305 occupants killed in 2010, one-fourth were ejected or partially ejected from the vehicles they were riding in. And, 92% of these ejected fatalities were not wearing a seat belt.

#### **Airbag update: always wear your seat belt**

In 2010, airbag deployment was reported 14,011 times when the occupant was also wearing a seat belt. Fifty-four percent of these incidents resulted in no apparent injury. Airbags deployed 734 times when occupants were not wearing seat belts. Only 29% of these cases resulted in no apparent injury.

TABLE 3.01

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

Date of Survey	Area of State			Class of Roadway	
	Overall	Metro	Non-Metro	Major Roads	Local Roads
June 1986	20%	30%	15%	23%	17%
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

Date of Survey	Overall	Vehicle Type				Gender	
		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

\*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 crash.

TABLE 3.02

**MOTOR VEHICLE OCCUPANTS KILLED OR INJURED  
BY EJECTION STATUS AND INJURY SEVERITY, 2010**

Ejection Status	Killed		Severe Injury		Moderate Injury		Minor Injury		Total Persons Killed or Injured	
	Number	Percent	Number	Percent	Number	Percent	Number	Percent	Number	Percent
<b>Not Ejected</b>	222	0.8	698	2.6	5,804	22.0	19,715	74.6	26,439	100%
<b>Partly Ejected</b>	17	32.1		17.0		32.1		18.9	53	100%
<b>Ejected</b>	58	16.5	8	23.1	10	31.0	10	29.3	351	100%
<b>Not Stated</b>	8	0.6	4	3.9	265	21.2	93	74.3	1,252	100%
<b>Total</b>	305	1.1%	837	3.0%	6,195	22.0%	20,758	73.9%	28,095	100%

TABLE 3.03

**MOTOR VEHICLE OCCUPANTS KILLED OR INJURED,  
BY AGE AND INJURY SEVERITY, 2010**

Age Group	Killed	Severe	Injured Moderate	Injured Minor	Injured Total
00 - 04	4	4	64	400	468
05 - 09	4	5	86	458	549
10 - 14	7	17	162	497	676
15 - 19	33	134	805	2,701	3,640
20 - 24	39	122	914	2,702	3,738
25 - 29	32	87	658	2,195	2,940
30 - 34	21	72	477	1,826	2,375
35 - 39	19	48	437	1,472	1,957
40 - 44	16	50	414	1,469	1,933
45 - 49	22	72	462	1,463	1,997
50 - 54	17	42	386	1,368	1,796
55 - 59	19	60	334	1,146	1,540
60 - 64	13	33	242	887	1,162
65 - 69	15	21	184	578	783
70 - 74	10	16	153	418	587
75 - 79	13	16	134	270	420
80 - 84	9	18	113	219	350
85 & Older	12	9	73	155	237
Not Stated	0	11	97	534	642
<b>Total</b>	305	837	6,195	20,758	27,790

FIGURE 3.01

**SAFETY EQUIPMENT USE AMONG MOTOR VEHICLE OCCUPANTS KILLED OR INJURED, BY AGE, 2010**

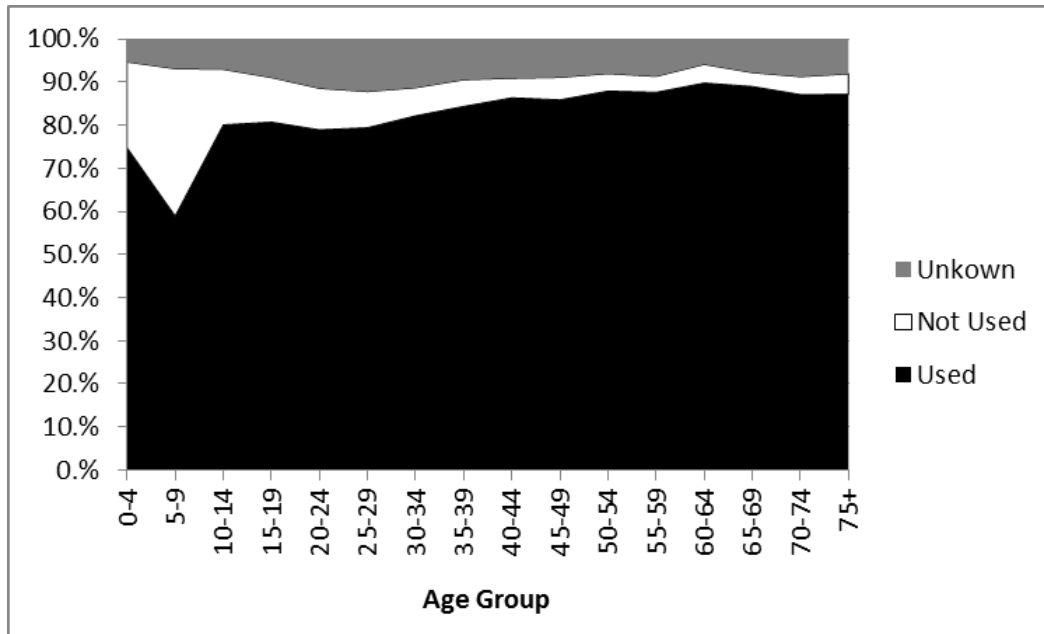


TABLE 3.04

**SAFETY EQUIPMENT USE BY VEHICLE OCCUPANTS, BY GENDER AND INJURY SEVERITY, 2010**

	Females Killed	Males Killed	Total Killed	Females Severely Injured	Males Severely Injured	Females Moderately Injured	Males Moderately Injured	Females-Minor Injuries	Males-Minor Injuries	Total
Used	72	76	148	251	237	2,766	2,119	10,306	7,171	22,979
Not Used	43	82	125	79	148	267	396	557	578	2,039
Unknown	11	21	32	41	79	279	336	932	993	2,772
<b>Total</b>	<b>126</b>	<b>179</b>	<b>305</b>	<b>371</b>	<b>464</b>	<b>3,312</b>	<b>2,851</b>	<b>11,795</b>	<b>8,742</b>	<b>27,790</b>

Note: Gender was not reported for 255 persons injured (mostly those with minor injuries), causing the “Total” to be 255 greater than the sum of the “severe,” “moderate,” and “minor” injury columns.

TABLE 3.05

**SAFETY EQUIPMENT USE BY VEHICLE OCCUPANTS KILLED  
OR INJURED, BY AGE AND INJURY SEVERITY, 2010**

Age Group	Restraint Use	No. Killed	Percent Killed	No. Severely Injured	Percent Severely Injured	No. Moderately Injured	Percent Moderately Injured	No. of Minor Injuries	Percent of Minor Injuries	Total No. Injured	Total Percent Injured
00 - 03	Used	4	100.0	3	75.0	30	66.7	242	78.1	275	76.6
Years	Not Used	0	0.0	1	25.0	14	31.1	49	15.8	64	17.8
	Unknown	<u>0</u>	<u>0.0</u>	<u>0</u>	<u>0.0</u>	<u>1</u>	<u>2.2</u>	<u>19</u>	<u>6.1</u>	<u>20</u>	<u>5.6</u>
	Subtotal	4	100.0	4	100.0	45	100.0	310	100.0	359	100.0
04 - 07	Used	0	0.0	1	33.3	28	41.2	172	49.1	201	47.7
Years	Not Used	1	100.0	2	66.7	36	52.9	153	43.7	191	45.4
	Unknown	<u>0</u>	<u>0.0</u>	<u>0</u>	<u>0.0</u>	<u>4</u>	<u>5.9</u>	<u>25</u>	<u>7.1</u>	<u>29</u>	<u>6.9</u>
	Subtotal	1	100.0	3	100.0	68	100.0	350	100.0	421	100.0
Total	Used	4	80.0	4	57.1	58	51.3	414	62.7	476	61.0
00 - 07	Not Used	1	20.0	3	42.9	50	44.2	202	30.6	255	32.7
Years	Unknown	<u>0</u>	<u>0.0</u>	<u>0</u>	<u>0.0</u>	<u>5</u>	<u>4.4</u>	<u>44</u>	<u>6.7</u>	<u>49</u>	<u>6.3</u>
	Subtotal	5	100.0	7	100.0	113	100.0	660	100.0	780	100.0
00 - 04	Used	4	100.0	3	75.0	40	62.5	306	76.5	349	74.6
Years	Not Used	0	0.0	1	25.0	22	34.4	71	17.8	94	20.1
	Unknown	<u>0</u>	<u>0.0</u>	<u>0</u>	<u>0.0</u>	<u>2</u>	<u>3.1</u>	<u>23</u>	<u>5.8</u>	<u>25</u>	<u>5.3</u>
	Subtotal	4	100.0	4	100.0	64	100.0	400	100.0	468	100.0
05 - 09	Used	2	50.0	3	60.0	47	54.6	274	59.8	324	59.0
Years	Not Used	2	50.0	2	40.0	36	41.9	149	32.5	187	34.1
	Unknown	<u>0</u>	<u>0.0</u>	<u>0</u>	<u>0.0</u>	<u>3</u>	<u>3.5</u>	<u>35</u>	<u>7.6</u>	<u>38</u>	<u>6.9</u>
	Subtotal	4	100.0	5	100.0	86	100.0	458	100.0	549	100.0
10 - 14	Used	2	28.6	5	29.4	115	71.0	425	85.5	545	80.6
Years	Not Used	5	71.4	10	58.8	30	18.5	43	8.6	83	12.3
	Unknown	<u>0</u>	<u>0.0</u>	<u>2</u>	<u>11.8</u>	<u>17</u>	<u>10.5</u>	<u>29</u>	<u>5.8</u>	<u>48</u>	<u>7.1</u>
	Subtotal	7	100.0	17	100.0	162	100.0	497	100.0	676	100.0
15 - 19	Used	14	42.4	79	59.0	603	74.9	2,269	84.0	2,951	81.1
Years	Not Used	16	48.5	38	28.4	121	15.0	206	7.6	365	10.0
	Unknown	<u>3</u>	<u>9.1</u>	<u>17</u>	<u>12.7</u>	<u>81</u>	<u>10.1</u>	<u>226</u>	<u>8.4</u>	<u>324</u>	<u>8.9</u>
	Subtotal	33	100.0	134	100.0	805	100.0	2,701	100.0	3,640	100.0
20 - 24	Used	13	33.3	59	48.4	702	76.8	2,207	81.7	2,968	79.4
Years	Not Used	21	53.8	44	36.1	121	13.2	179	6.6	344	9.2
	Unknown	<u>5</u>	<u>12.8</u>	<u>19</u>	<u>15.6</u>	<u>91</u>	<u>10.0</u>	<u>316</u>	<u>11.7</u>	<u>426</u>	<u>11.4</u>
	Subtotal	39	100.0	122	100.0	914	100.0	2,702	100.0	3,738	100.0
25 - 29	Used	12	37.5	40	46.0	489	74.3	1,819	82.9	2,348	79.9
Years	Not Used	16	50.0	32	36.8	84	12.8	118	5.4	234	8.0
	Unknown	<u>4</u>	<u>12.5</u>	<u>15</u>	<u>17.2</u>	<u>85</u>	<u>12.9</u>	<u>258</u>	<u>11.8</u>	<u>358</u>	<u>12.2</u>
	Subtotal	32	100.0	87	100.0	658	100.0	2,195	100.0	2,940	100.0
30 - 34	Used	4	19.0	34	47.2	373	78.2	1,558	85.3	1,965	82.7
Years	Not Used	14	66.7	20	27.8	45	9.4	78	4.3	143	6.0
	Unknown	<u>3</u>	<u>14.3</u>	<u>18</u>	<u>25.0</u>	<u>59</u>	<u>12.4</u>	<u>190</u>	<u>10.4</u>	<u>267</u>	<u>11.2</u>
	Subtotal	21	100.0	72	100.0	477	100.0	1,826	100.0	2,375	100.0
35 - 39	Used	8	42.1	31	64.6	345	79.0	1,283	87.2	1,659	84.8
Years	Not Used	10	52.6	13	27.1	44	10.1	56	3.8	113	5.8
	Unknown	<u>1</u>	<u>5.3</u>	<u>4</u>	<u>8.3</u>	<u>48</u>	<u>11.0</u>	<u>133</u>	<u>9.0</u>	<u>185</u>	<u>9.4</u>
	Subtotal	19	100.0	48	100.0	437	100.0	1,472	100.0	1,957	100.0

TABLE 3.05 CONTINUED

**SAFETY EQUIPMENT USE BY VEHICLE OCCUPANTS KILLED OR INJURED, BY AGE AND INJURY SEVERITY, 2010**

Age Group	Restraint Use	No. Killed	Percent Killed	No. Severely Injured	Percent Severely Injured	No. Moderately Injured	Percent Moderately Injured	No. of Minor Injuries	Percent of Minor Injuries	Total No. Injured	Total Percent Injured
40 - 44 Years	Used	6	37.5	32	64.0	332	80.2	1,313	89.4	1,677	86.8
	Not Used	9	56.2	11	22.0	40	9.7	29	2.0	80	4.1
	Unknown	<u>1</u>	<u>6.2</u>	<u>7</u>	<u>14.0</u>	<u>42</u>	<u>10.1</u>	<u>127</u>	<u>8.6</u>	<u>176</u>	<u>9.1</u>
	Subtotal	16	100.0	50	100.0	414	100.0	1,469	100.0	1,933	100.0
45 - 49 Years	Used	10	45.4	45	62.5	389	84.2	1,290	88.2	1,724	86.3
	Not Used	10	45.4	17	23.6	31	6.7	48	3.3	96	4.8
	Unknown	<u>2</u>	<u>9.1</u>	<u>10</u>	<u>13.9</u>	<u>42</u>	<u>9.1</u>	<u>125</u>	<u>8.5</u>	<u>177</u>	<u>8.9</u>
	Subtotal	22	100.0	72	100.0	462	100.0	1,463	100.0	1,997	100.0
50 - 54 Years	Used	10	58.8	24	57.1	327	84.7	1,233	90.1	1,584	88.2
	Not Used	4	23.5	14	33.3	25	6.5	31	2.3	70	3.9
	Unknown	<u>3</u>	<u>17.6</u>	<u>4</u>	<u>9.5</u>	<u>34</u>	<u>8.8</u>	<u>104</u>	<u>7.6</u>	<u>142</u>	<u>7.9</u>
	Subtotal	17	100.0	42	100.0	386	100.0	1,368	100.0	1,796	100.0
55 - 59 Years	Used	14	73.7	43	71.7	291	87.1	1,018	88.8	1,352	87.8
	Not Used	3	15.8	8	13.3	15	4.5	32	2.8	55	3.6
	Unknown	<u>2</u>	<u>10.5</u>	<u>9</u>	<u>15.0</u>	<u>28</u>	<u>8.4</u>	<u>98</u>	<u>8.4</u>	<u>133</u>	<u>8.6</u>
	Subtotal	19	100.0	60	100.0	334	100.0	1,146	100.0	1,540	100.0
60 - 64 Years	Used	8	61.5	27	81.8	209	86.4	811	91.4	1,047	90.1
	Not Used	5	38.5	6	18.2	15	6.2	25	2.8	46	4.0
	Unknown	<u>0</u>	<u>0.0</u>	<u>0</u>	<u>0.0</u>	<u>18</u>	<u>7.4</u>	<u>51</u>	<u>5.8</u>	<u>69</u>	<u>5.9</u>
	Subtotal	13	100.0	33	100.0	242	100.0	887	100.0	1,162	100.0
65 - 69 Years	Used	12	80.0	16	76.2	167	90.8	515	89.1	698	89.1
	Not Used	1	6.7	2	9.5	6	3.3	17	2.9	25	3.2
	Unknown	<u>2</u>	<u>13.3</u>	<u>3</u>	<u>14.3</u>	<u>11</u>	<u>6.0</u>	<u>46</u>	<u>8.0</u>	<u>60</u>	<u>7.7</u>
	Subtotal	15	100.0	21	100.0	184	100.0	578	100.0	783	100.0
70 - 74 Years	Used	7	70.0	11	68.8	129	84.3	373	89.2	513	87.4
	Not Used	1	10.0	4	25.0	8	5.2	12	2.9	24	4.1
	Unknown	<u>2</u>	<u>20.0</u>	<u>1</u>	<u>6.2</u>	<u>16</u>	<u>10.5</u>	<u>33</u>	<u>7.9</u>	<u>50</u>	<u>8.5</u>
	Subtotal	10	100.0	16	100.0	153	100.0	418	100.0	587	100.0
75 & Older	Used	22	64.7	30	69.8	281	87.8	574	89.0	885	87.8
	Not Used	8	23.5	4	9.3	16	5.0	22	3.4	42.4	6.3
	Unknown	<u>4</u>	<u>11.8</u>	<u>9</u>	<u>20.9</u>	<u>23</u>	<u>7.2</u>	<u>49</u>	<u>7.6</u>	<u>81</u>	<u>8.0</u>
	Subtotal	34	100.0	43	100.0	320	100.0	645	100.0	1,008	100.0
Age Not Stated	Used	0	0.0	6	54.6	64	66.0	320	60.0	390	60.8
	Not Used	0	0.0	2	18.2	9	9.3	27	5.1	38	5.9
	Unknown	<u>0</u>	<u>0.0</u>	<u>3</u>	<u>27.3</u>	<u>24</u>	<u>24.7</u>	<u>186</u>	<u>34.9</u>	<u>213</u>	<u>33.2</u>
	Subtotal	0	0.0	11	100.0	97	100.0	533	100.0	641	100.0
All Ages	Used	148	48.5	488	58.3	4,903	79.1	17,588	84.7	22,979	82.7
	Not Used	125	41.0	228	27.2	668	10.8	1,143	5.5	2,039	7.3
	Unknown	<u>32</u>	<u>10.5</u>	<u>121</u>	<u>14.5</u>	<u>624</u>	<u>10.1</u>	<u>2,027</u>	<u>9.8</u>	<u>2,772</u>	<u>10.0</u>
	Subtotal	305	100.0	837	100.0	6,195	100.0	20,758	100.0	27,790	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 in separate groups 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, 2001 - 2010**

	2001	2002	2003	2004	2005	2006	2007	2008	2009	2010
<b>Killed</b>										
Used	31.1	37.9	39.4	39.5	40.2	40.0	41.4	45.2	42.4	48.5
Not Used	54.8	55.0	48.9	51.8	51.2	52.0	48.9	46.2	43.7	41.0
Unknown	14.1	7.2	11.8	8.7	8.6	8.0	9.8	8.6	13.9	10.5
<b>Injured</b>										
<b>Severe Injuries</b>										
Used	47.1	46.0	NA	49.3	49.6	49.9	52.2	51.4	55.2	58.3
Not Used	34.4	34.5	NA	32.8	30.8	32.8	31.6	29.8	27.9	27.2
Unknown	18.5	19.5	NA	17.9	19.6	17.3	16.2	18.8	16.9	14.5
<b>Moderate Injuries</b>										
Used	65.3	65.1	NA	70.3	70.9	69.0	71.6	72.4	74.6	79.1
Not Used	21.1	21.1	NA	17.4	15.9	16.8	15.4	14.8	12.8	10.8
Unknown	13.5	13.8	NA	12.4	13.2	14.2	13.0	12.8	12.6	10.1
<b>Minor Injuries</b>										
Used	73.6	73.7	NA	78.8	80.6	80.2	81.6	81.8	83.0	84.7
Not Used	11.2	10.6	NA	9.7	8.8	8.6	7.6	7.4	6.5	5.5
Unknown	15.2	15.7	NA	11.4	10.6	11.3	10.8	10.8	10.4	9.8
<b>Total Injured</b>										
Used	69.2	69.0	NA	74.8	76.6	76.1	78.0	78.5	80.1	82.7
Not Used	16.0	15.7	NA	13.2	11.7	11.6	10.4	10.0	8.7	7.3
Unknown	14.8	15.3	NA	12.0	11.7	12.3	11.6	11.6	11.2	10.0

TABLE 3.07

**SAFETY EQUIPMENT USE BY MOTOR VEHICLE OCCUPANTS  
KILLED OR INJURED, BY ROADWAY TYPE, 2010**

Roadway Type	Used		Not Used Number	Not Used		Unknown Number	Unknown Percent	Total Number	Total Percent
	Number	Percent		Used Percent	Unknown Percent				
Interstate	3,505	90.4	219	5.6	155	4.0	3,879	100.0%	
US Trunk Hwy	3,342	87.1	288	7.5	208	5.4	3,838	100.0%	
MN Trunk Hwy	4,644	84.6	442	8.1	400	7.3	5,486	100.0%	
CSAH	6,538	79.9	653	8.0	996	12.2	8,187	100.0%	
County Road	309	73.2	55	13.0	58	13.7	422	100.0%	
Township Road	358	68.8	119	22.9	43	8.3	520	100.0%	
MSAH	3,058	79.9	213	5.6	556	14.5	3,827	100.0%	
Municipal Street	1,345	71.1	171	9.0	375	19.8	1,891	100.0%	
Other Road	28	62.2	4	8.9	13	28.9	45	100.0%	
<b>Total</b>	<b>23,127</b>	<b>82.3</b>	<b>2,164</b>	<b>7.7</b>	<b>2,804</b>	<b>10.0</b>	<b>28,095</b>	<b>100.0%</b>	

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, 2010**

EMS Region	Percent Not Used	Percent Unknown	Percent of People	Number Used
Metropolitan	83.1	5.2	11.6	15,634
Central	84.6	8.9	6.6	3,833
Northeast	81.7	10.9	7.4	1,503
Northwest	65.6	19.2	15.2	658
South Central	78.6	10.3	11.2	1,273
Southeast	83.8	8.8	7.4	2,464
Southwest	77.6	14.9	7.6	1,688
West Central	82.2	10.9	6.9	1,042
<b>Statewide</b>	<b>82.3</b>	<b>7.7</b>	<b>10.0</b>	<b>28,095</b>

\*The regions of the state are shown in the map at right.

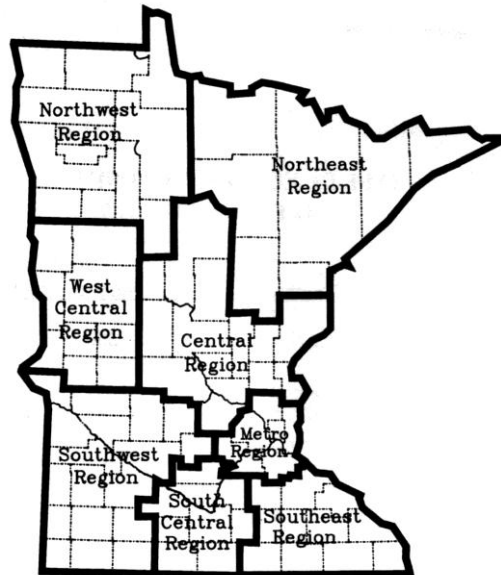


TABLE 3.09

## AIRBAG DEPLOYMENTS, 2003 - 2010

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
2003	Killed	86	67	121	190	62	526
	Severe Injury	NA	NA	NA	NA	NA	NA
	Moderate Injury	NA	NA	NA	NA	NA	NA
	Minor Injury	NA	NA	NA	NA	NA	NA
	No Apparent Injury	NA	NA	NA	NA	NA	NA
Total	NA	NA	NA	NA	NA	NA	
2004	Killed	85	66	97	173	40	461
	Severe Injury	381	181	560	444	342	1,908
	Moderate Injury	2,526	428	5,073	1,448	1,337	10,812
	Minor Injury	3,801	407	14,878	1,897	2,705	23,688
	No Apparent Injury	7,480	419	110,451	5,523	57,101	180,974
	Total	14,273	1,501	131,059	9,485	61,525	217,843
2005	Killed	74	75	103	150	38	440
	Severe Injury	308	147	457	328	302	1,542
	Moderate Injury	2,172	367	4,117	1,045	1,174	8,875
	Minor Injury	4,195	375	14,846	1,706	2,504	23,626
	No Apparent Injury	7,529	390	109,215	4,714	50,655	172,503
	Total	14,278	1,354	128,738	7,943	54,673	206,986
2006	Killed	80	63	69	131	30	373
	Severe Injury	265	142	398	293	230	1,328
	Moderate Injury	1,917	323	3,491	993	1,114	7,838
	Minor Injury	4,067	351	13,747	1,552	2,504	22,221
	No Apparent Injury	7,130	375	96,018	3,779	44,881	152,183
	Total	13,459	1,254	113,723	6,748	48,759	183,943
2007	Killed	89	76	76	119	39	399
	Severe Injury	294	152	350	237	200	1,233
	Moderate Injury	2,044	338	3,489	850	1,009	7,730
	Minor Injury	4,336	365	13,941	1,334	2,417	22,393
	No Apparent Injury	7,535	361	104,297	3,783	43,270	159,246
	Total	14,298	1,292	122,153	6,323	46,935	191,001
2008	Killed	81	46	66	104	28	325
	Severe Injury	278	113	290	216	207	1,104
	Moderate Injury	1,851	297	3,128	718	879	6,873
	Minor Injury	4,233	341	13,504	1,267	2,345	21,690
	No Apparent Injury	7,594	323	102,417	3,345	36,239	149,918
	Total	14,037	1,120	119,405	5,650	39,698	179,910
2009	Killed	73	57	55	75	42	302
	Severe Injury	251	96	255	160	155	917
	Moderate Injury	1,767	271	3,023	553	809	6,423
	Minor Injury	4,076	272	12,702	1,045	2,111	20,206
	No Apparent Injury	7,318	270	98,055	3,308	31,781	140,732
	Total	13,485	966	114,090	5,141	34,898	168,580
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

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.

## IV: MOTORCYCLE CRASHES

### **2010 motorcycle crash summary**

In the past decade many older people have returned to motorcycling. By the end of the calendar year 2010, the numbers of licensed motorcycle operators and the numbers of registered motorcycles in Minnesota had reached their highest levels in history. As a result, the numbers of overall motorcyclist crashes, fatalities, and injuries had been increasing for many years. In 2010, there were 1,377 crashes that involved at least one motorcycle. This represents a 4% increase from the previous year.

However, motorcyclist fatalities in 2010 decreased 15% (from 53 to 45). Of the 45 killed, 42 were drivers and 3 were passengers. But, injuries to motorcyclists increased 8% (from 1,200 to 1,296). A full 54% of all motorcyclists killed or injured in 2010 were to 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 2010, 42 motorcycle drivers were killed and 40 of them were tested. Fifteen (38%) of the 40 drivers tested positive for alcohol, and 14 of the 40 (35%) 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, 3.2 out of every 100 motorcycle crashes in 2010 was a fatal crash. For all crashes in Minnesota, only 0.5 out of every 100 crashes is a fatal crash.

### **Helmet use**

Currently, 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 collision. In 2010, only 12 (27%) of the 45 motorcycle riders killed were known to be wearing a helmet. Of the 1,296 motorcyclists injured, only 483 (37%) were recorded as wearing a helmet.

### **Operator training is essential**

A large number of middle-aged people are returning to motorcycling, and evidently, they are returning without proper operator training. In 2010, 55% of all motorcycle crashes were single vehicle crashes. A majority of these single vehicle crashes were collisions with fixed objects or simply the motorcycle overturning. In addition, 2010 data indicate that one out of every five motorcycle operators that were involved in a fatal crash did not have a valid endorsement to drive a motorcycle.

These facts surely indicate that 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 2010, 42 of the 45 motorcyclists killed, and 1,079 of the 1,296 injured, were male. Males account for 84% of all motorcyclists killed or injured.

### **Contributing factors for motorcyclists**

As noted, over half of motorcycle crashes are single-vehicle crashes. In these crashes, the factors that reporting officers cite most often are illegal or unsafe speed (20%), driver inexperience (13%), and driver inattention or distraction (10%).

In crashes that involve another motor vehicle, the reporting officers cite driver distraction most often for the motorcyclists (20%), and then following too closely (14%).

### **Contributing factors for the other drivers**

In motorcycle crashes that do involve another vehicle, the reporting officers more often associate contributing factors with the other driver than with the motorcyclist. For the other drivers, failure to yield right of way (39%), and driver inattention or distraction (22%) are cited most frequently. This clearly indicates that motor vehicle drivers tend to ignore motorcyclists.

TABLE 4.01

## MOTORCYCLE CRASH SUMMARY, 1980 - 2010

Year	Motorcycle Crashes				Killed		Injured		Licensed Operators	Registered Motorcycles	Mcy Deaths per 10,000 Reg. Mcy	Fatal Crash Rate Per 100 Crashes	
	Fatal	Injury	PDO*	Total	Mcy	Other	Mcy	Other				For Mcy	For All Crashes
1980	112	2,728	468	3,308	121	1	3,359	34	222,330	157,815	7.7	3.4	0.7
1981	92	2,516	455	3,063	96	0	2,874	196	238,926	166,151	5.8	3.0	0.7
1982	72	2,115	331	2,518	70	6	2,381	189	264,134	159,345	4.4	2.9	0.6
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
<b>Record High*</b>	112	2,728	537	3,308	121	9	3,359	207	394,083	229,912	7.7	4.7	0.8
(year)	(1980)	(1980)	(1976)	(1980)	(1980)	(1975)	(1980)	(1984)	(2010)	(2010)	(1980)	(2006)	(1970)

\* Notes: The abbreviation 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

## 2010 MOTORCYCLE CRASHES BY FIRST HARMFUL EVENT

First Harmful Event	Fatal Crashes	Injury Crashes	Property Damage Crashes	Total Crashes	Motorcyclists Killed	Motorcyclists Injured
<b>Collision With:</b>						
Other Motor Vehicle	23	480	111	614	24	538
Parked Vehicle	0	12	23	35	0	14
Bicyclist	0	2	0	2	0	2
Pedestrian	0	5	0	5	0	2
Deer	5	93	5	103	5	111
Other Animal	1	14	0	15	1	16
Fixed Object	5	148	5	158	5	159
<b>Non-Collision:</b>						
Overturn/Rollover	7	195	9	211	7	212
<b>Other / Unknown</b>	3	219	12	234	3	242
<b>Total</b>	44	1,168	165	1,377	45	1,296

TABLE 4.03

## 2010 MOTORCYCLE CRASHES BY POPULATION OF AREA

Population of City or Township	Fatal Crashes	Injury Crashes	Property Damage Crashes	Total Crashes	Motorcyclists Killed	Motorcyclists Injured
250,000 and Over	2	138	47	187	2	147
100,000 - 249,999	0	13	1	14	0	12
50,000 - 99,999	6	173	24	203	6	186
25,000 - 49,999	4	110	13	127	4	123
10,000 - 24,999	3	212	32	247	2	235
5,000 - 9,999	1	65	13	79	1	70
2,500 - 4,999	1	46	3	50	1	52
1,000 - 2,499	1	21	5	27	1	25
Under 1,000	26	390	27	443	28	446
<b>Total</b>	44	1,168	165	1,377	45	1,296

*TABLE 4.04*  
**2010 MOTORCYCLE CRASHES BY MONTH**

Month	Fatal Crashes	Injury Crashes	Property Damage Crashes	Total Crashes	Motorcyclists Killed	Motorcyclists Injured
January	0	1	0	1	0	1
February	0	3	0	3	0	4
March	0	47	3	50	0	51
April	4	117	30	151	4	129
May	8	173	28	209	7	191
June	5	146	18	169	5	161
July	8	219	24	251	9	251
August	8	195	20	223	8	216
September	5	125	18	148	5	141
October	6	121	22	149	7	129
November	0	21	1	22	0	22
December	0	0	1	1	0	0
<b>Total</b>	<b>44</b>	<b>1,168</b>	<b>165</b>	<b>1,377</b>	<b>45</b>	<b>1,296</b>

*FIGURE 4.01*  
**2010 MOTORCYCLE CRASHES BY TIME OF DAY**

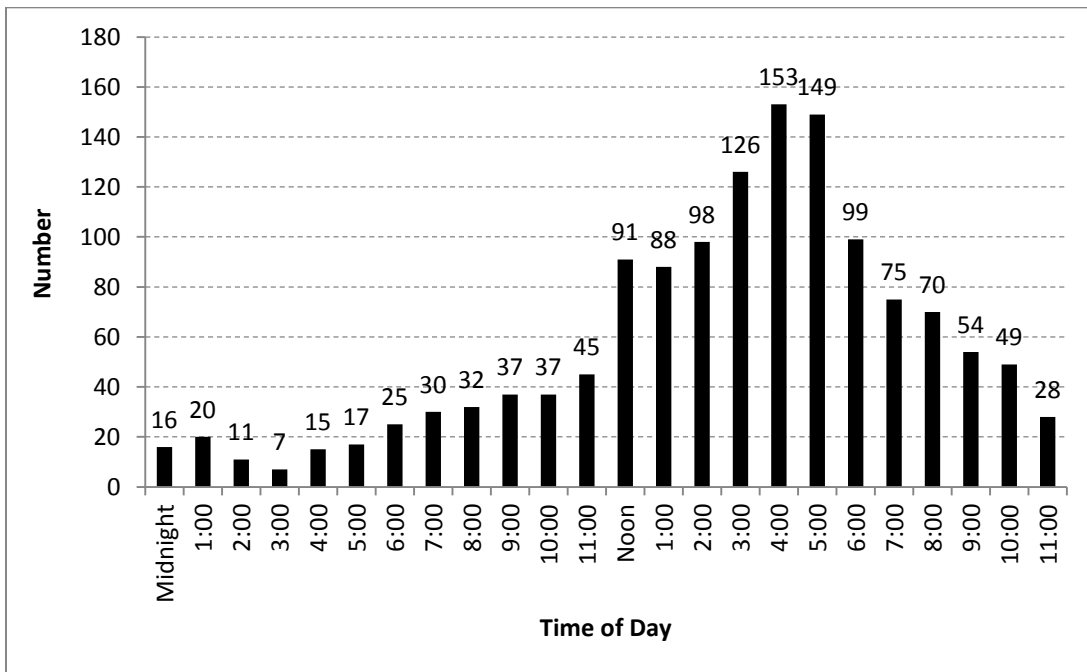


TABLE 4.05

2010 MOTORCYCLE CRASHES BY TIME AND DAY

Hour Beginning	Total Crashes	Fatal Crashes	Sun. All	Sun. Fatal	Mon. All	Mon. Fatal	Tues. All	Tues. Fatal	Wed. All	Wed. Fatal	Thur. All	Thur. Fatal	Fri. All	Fri. Fatal	Sat. All	Sat. Fatal
Midnight	16	0	4	0	4	0	2	0	0	0	1	0	3	0	2	0
1:00	20	1	5	1	2	0	3	0	3	0	2	0	0	0	5	0
2:00	11	0	2	0	0	0	0	0	2	0	1	0	3	0	3	0
3:00	7	0	2	0	0	0	0	0	1	0	1	0	0	0	3	0
4:00	15	0	2	0	4	0	2	0	1	0	2	0	2	0	2	0
5:00	17	1	1	0	5	0	3	0	0	0	6	1	0	0	2	0
6:00	25	1	1	1	3	0	6	0	6	0	3	0	4	0	2	0
7:00	30	0	1	0	7	0	7	0	3	0	4	0	7	0	1	0
8:00	32	1	2	0	2	1	6	0	8	0	3	0	6	0	5	0
9:00	37	2	4	0	5	0	7	0	6	0	3	1	5	1	7	0
10:00	37	1	7	1	5	0	2	0	5	0	4	0	9	0	5	0
11:00	45	3	9	0	6	0	5	1	3	0	3	1	4	1	15	0
Noon	91	2	20	1	9	0	12	0	11	0	9	0	9	0	21	1
1:00	88	3	22	0	5	0	9	0	6	0	9	0	12	3	25	0
2:00	98	6	14	2	15	0	5	0	5	0	15	0	17	1	27	3
3:00	126	0	25	0	24	0	9	0	14	0	15	0	13	0	26	0
4:00	153	5	27	0	15	0	26	1	15	0	26	0	20	3	24	1
5:00	149	3	32	0	21	1	21	1	22	1	12	0	18	0	23	0
6:00	99	3	20	1	9	0	12	0	12	1	17	0	12	0	17	1
7:00	75	6	7	2	7	0	9	1	10	1	14	0	14	0	14	2
8:00	70	0	6	0	4	0	14	0	8	0	10	0	13	0	15	0
9:00	54	3	9	0	2	0	4	1	8	1	9	0	8	0	14	1
10:00	49	1	5	0	5	0	7	0	8	0	7	0	12	1	5	0
11:00	28	2	2	0	5	0	4	0	4	0	0	0	3	0	10	2
Unk	5	0	0	0	0	0	0	0	0	0	1	0	3	0	1	0
<b>Total</b>	<b>1,377</b>	<b>44</b>	<b>229</b>	<b>9</b>	<b>164</b>	<b>2</b>	<b>175</b>	<b>5</b>	<b>161</b>	<b>4</b>	<b>177</b>	<b>3</b>	<b>197</b>	<b>10</b>	<b>274</b>	<b>11</b>

TABLE 4.06

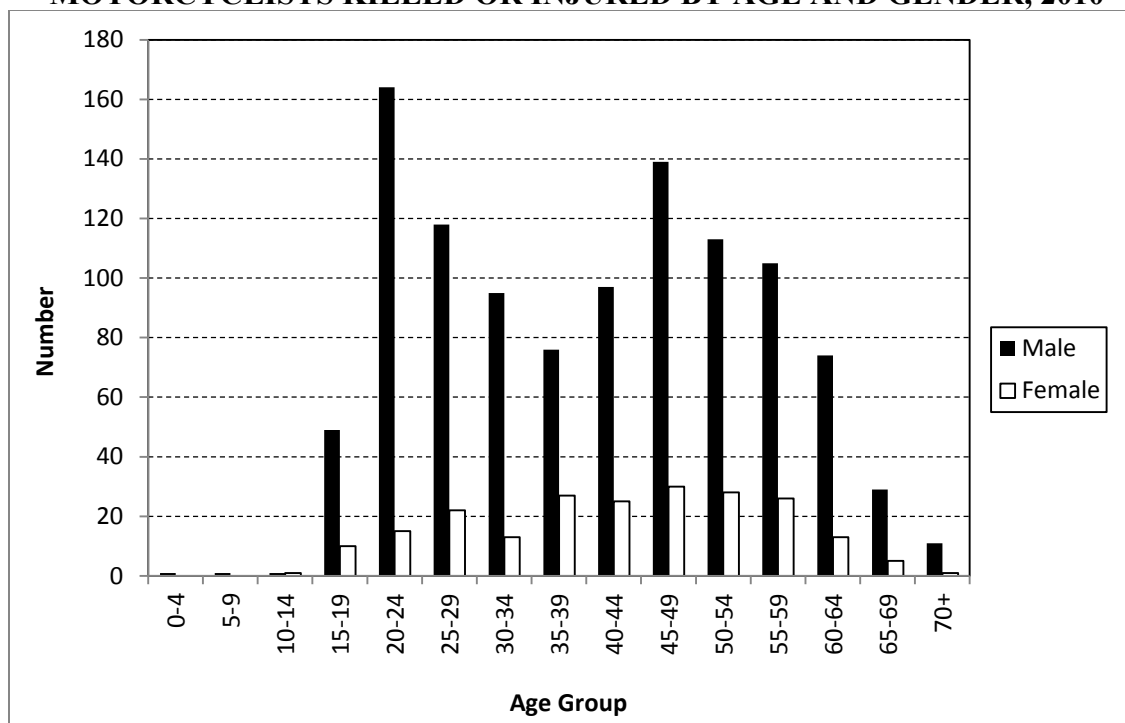
MOTORCYCLISTS KILLED OR INJURED BY AGE AND GENDER, 2010

Age Group	Killed			Injured									Total		
	M	F	Total	Severe			Moderate			Minor			M	F	Total
				M	F	Total	M	F	Total	M	F	Total			
05 – 09	0	0	0	0	0	0	1	0	1	0	0	0	1	0	1
10 – 14	0	0	0	0	0	0	0	1	1	1	0	1	1	1	2
15 – 19	0	0	0	7	1	8	23	7	30	19	2	21	49	10	59
20 – 24	6	0	6	15	1	16	79	10	89	70	4	74	164	15	179
25 – 29	3	0	3	12	3	15	55	10	65	51	9	60	118	22	140
30 – 34	2	0	2	11	1	12	50	7	57	34	5	39	95	13	108
35 – 39	2	0	2	12	1	13	41	16	57	23	10	33	76	27	103
40 – 44	4	2	6	18	6	24	52	11	63	27	8	35	97	25	122
45 – 49	4	1	5	25	7	32	58	14	72	56	9	65	139	30	169
50 – 54	5	0	5	14	3	17	53	18	71	46	7	53	113	28	141
55 – 59	6	0	6	16	5	21	49	17	66	40	4	44	105	26	131
60 – 64	7	0	7	19	5	24	36	8	44	19	0	19	74	13	87
65 – 69	0	0	0	8	1	9	10	1	11	11	3	14	29	5	34
70 & Older	3	0	3	4	0	4	6	0	6	1	1	2	11	1	12
Not Stated	0	0	0	1	0	1	3	0	3	2	1	3	6	1	7
<b>Total</b>	<b>42</b>	<b>3</b>	<b>45</b>	<b>162</b>	<b>34</b>	<b>196</b>	<b>517</b>	<b>120</b>	<b>637</b>	<b>400</b>	<b>63</b>	<b>463</b>	<b>1,079</b>	<b>217</b>	<b>1,296</b>

\* Within injury severity, where rows do not add across to total, gender was not reported on the accident report form.

FIGURE 4.02

MOTORCYCLISTS KILLED OR INJURED BY AGE AND GENDER, 2010





**TABLE 4.07  
HELMET USE BY MOTORCYCLISTS KILLED OR INJURED, 2001 - 2010**

Year	Number Used Helmet	Percent Used Helmet	Number	Percent	Number	Percent	Number	Percent
			Did NOT use Helmet	Did NOT use Helmet	of Unknown Helmet Use	of Unknown Helmet Use		
<b>Killed</b>								
2001	9	21.4	30	71.4	3	7.1	42	100.0
2002	6	12.8	30	63.8	11	23.4	47	100.0
2003	18	29.0	36	58.1	8	12.9	62	100.0
2004	14	28.0	29	58.0	7	14.0	50	100.0
2005	18	30.5	34	57.6	7	11.9	59	100.0
2006	15	21.4	53	75.7	2	2.9	70	100.0
2007	11	18.0	45	73.8	5	8.2	61	100.0
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

Year	Number Used Helmet	Percent Used Helmet	Number	Percent	Number	Percent	Number	Percent
			Did NOT use Helmet	Did NOT use Helmet	of Unknown Helmet Use	of Unknown Helmet Use		
<b>Injured</b>								
2001	379	34.6	541	49.4	174	15.9	1,094	100.0
2002	350	32.7	534	49.9	187	17.5	1,071	100.0
2003	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a
2004	418	33.4	477	38.1	356	28.5	1,251	100.0
2005	412	31.2	530	40.2	377	28.6	1,319	100.0
2006	481	34.0	544	38.5	388	27.5	1,413	100.0
2007	554	37.0	520	34.7	424	28.3	1,498	100.0
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

**TABLE 4.08  
ENDORSEMENT STATUS OF MOTORCYCLE OPERATORS  
INVOLVED IN FATAL CRASHES, 2001 - 2010**

Year	Valid Endorsement		Permit Only		Canceled, Suspended, Revoked		No Endorsement		Total** for Year	
	Number	Percent	Number	Percent	Number	Percent	Number	Percent	Number	Percent
2001	32	78.0	0	0.0	4	9.8	5	12.2	41	100.00
2002	38	79.2	0	0.0	5	10.4	5	10.4	48	100.00
2003	45	73.8	2	3.3	5	8.2	9	14.8	61	100.00
2004	45	83.3	1	1.9	0	0.0	8	14.8	54	100.00
2005	51	81.0	2	3.2	5	7.9	4	6.3	63	100.00
2006	59	83.1	1	1.4	3	4.2	4	5.6	71	100.00
2007	49	81.7	0	0.0	4	6.7	5	8.3	60	100.00
2008	57	79.2	0	0.0	5	6.9	8	11.1	72	100.00
2009	39	79.6	0	0.0	1	2.0	8	16.3	49	100.00
2010	38	77.6	0	0.0	5	10.2	5	10.2	49	100.00

\* A valid endorsement means that the driver's license has been "endorsed" to permit operation of a motorcycle.

\*\* Rows may not add to total due to the unknown status of some motorcycle operators.

TABLE 4.09

ALCOHOL USE BY KILLED MOTORCYCLE DRIVERS, 2001 – 2010

Year	Killed	Tested	Alcohol Concentration* (.00)	Alcohol Concentration* (.01 - .07)	Alcohol Concentration* (.08 – .09)	Alcohol Concentration* (.10 or more)
2001	36	31	17 (55%)	5 (16%)	1 (3%)	8 (26%)
2002	41	40	24 (60%)	2 (5%)	1 (3%)	13 (32%)
2003	53	46	27 (59%)	4 (9%)	2 (4%)	13 (28%)
2004	46	37	27 (73%)	3 (8%)	0 (0%)	7 (19%)
2005	55	51	28 (55%)	8 (16%)	1 (2%)	14 (27%)
2006	66	61	42 (69%)	1 (2%)	1 (2%)	17 (28%)
2007	58	52	34 (65%)	3 (6%)	1 (2%)	14 (27%)
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%)

\*Percentages are based on those motorcycle drivers tested.

TABLE 4.10

2010 MOTORCYCLE DRIVER FATALITIES'  
LEVEL OF ALCOHOL CONCENTRATION BY AGE

Age	Killed	Tested	Alcohol Concentration									
			.01-.07	.08-.09	.10+	.00	.01-.04	.05-.09	.10-.14	.15-.19	.20-.24	.25 and Over
14 & Younger	0	0	0	0	0	0	0	0	0	0	0	0
15	0	0	0	0	0	0	0	0	0	0	0	0
16	0	0	0	0	0	0	0	0	0	0	0	0
17	0	0	0	0	0	0	0	0	0	0	0	0
18	0	0	0	0	0	0	0	0	0	0	0	0
19	0	0	0	0	0	0	0	0	0	0	0	0
20	1	1	1	0	0	0	0	1	0	0	0	0
<b>Under 21</b>	<b>1</b>	<b>1</b>	<b>1</b>	<b>0</b>	<b>0</b>	<b>0</b>	<b>0</b>	<b>1</b>	<b>0</b>	<b>0</b>	<b>0</b>	<b>0</b>
14 & Younger	0	0	0	0	0	0	0	0	0	0	0	0
15 – 19	0	0	0	0	0	0	0	0	0	0	0	0
20 – 24	6	6	1	1	0	4	0	2	0	0	0	0
25 – 29	3	2	0	0	2	0	0	0	1	0	1	0
30 – 34	2	2	0	0	1	1	0	0	0	0	0	1
35 – 39	2	2	0	0	1	1	0	0	0	0	1	0
40 – 44	4	4	0	0	1	3	0	0	1	0	0	0
45 – 49	4	4	0	0	1	3	0	0	0	1	0	0
50 – 54	5	5	0	0	4	1	0	0	2	1	0	1
55 – 59	6	6	0	0	1	5	0	0	0	1	0	0
60 & Older	10	9	0	0	2	7	0	0	0	2	0	0
<b>Total</b>	<b>42</b>	<b>40</b>	<b>1</b>	<b>1</b>	<b>13</b>	<b>25</b>	<b>0</b>	<b>2</b>	<b>4</b>	<b>5</b>	<b>2</b>	<b>2</b>

TABLE 4.11

## CONTRIBUTING FACTORS IN 2010 MOTORCYCLE CRASHES

Contributing Factors	<i>Single Vehicle Crashes</i>		<i>Multi-Vehicle Crashes</i>			
	Attributed to Motorcycle Drivers		Attributed to Motorcycle Drivers		Attributed to Other Drivers	
	Number	Percent	Number	Percent	Number	Percent
<b>Human Factors:</b>						
Illegal/Unsafe Speed	144	20.5%	30	8.9%	9	1.8%
Driver Inexperience	90	12.8	17	5.1	7	1.4
Driver Inattention/Distracted	68	9.7	68	20.2	110	22.4
Chemical Impairment	65	9.3	18	5.4	13	2.7
Overcorrecting	45	6.4	5	1.5	1	0.2
Improper/Unsafe Lane Use	28	4.0	26	7.7	33	6.7
Following Too Closely	14	2.0	46	13.7	21	4.3
Improper Passing/Overtaking	9	1.3	25	7.4	4	0.8
Non-Motorist Error	8	1.1	2	0.6	0	0.0
Improper Turn	5	0.7	4	1.2	24	4.9
Improper Park/Start/Stop	4	0.6	3	0.9	11	2.2
Disregard Traf Control Device	4	0.6	5	1.5	17	3.5
Vision Obscured	4	0.5	3	0.9	12	2.4
Failure To Yield Right of Way	3	0.4	31	9.2	189	38.6
Driving Left of Center	1	0.1	4	1.2	6	1.2
Driver on Phone/CB/Radio	1	0.1	1	0.3	0	0.0
Improper/No Signal	0	0.0	1	0.3	1	0.2
Impeding Traffic	0	0.0	0	0.0	3	0.6
Unsafe Backing	0	0.0	0	0.0	6	1.2
Failure To Use Lights	0	0.0	2	0.6	0	0.0
Other Human Factor	24	3.4	10	3.0	5	1.0
<b>Vehicular Factors:</b>						
Skidding	55	7.8	8	2.4	0	0.0
Defective Tires	5	0.7	0	0.0	1	0.2
Defective Brakes	2	0.3	2	0.6	2	0.4
Other Vehicular Factors	19	2.7	2	0.6	1	0.2
<b>Miscellaneous Factors:</b>						
Weather Conditions	9	1.3	0	0.0	0	0.0
Other	95	13.5	23	6.8	14	2.9
<b>Total</b>	702	100.0%	336	100.0%	490	100.0%
<b>Vehicles for Which There Was "No Clear Cont. Factor"</b>	231		346		211	
<b>Total Number of Drivers</b>	772		644		602	

Zero, one, or two 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.

## 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 stepvan, (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 any of these vehicles is classified as a truck crash. Pickup trucks and vans are not counted as trucks in this section.

### **Truck crashes increase**

In 2010, there were 4,181 truck-involved traffic crashes reported to the Department of Public Safety. This represents a 14% increase from the previous year. There were 77 fatal truck crashes, killing a total of 93 people. In addition, there were 1,385 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 six of the 93 people killed in truck-involved crashes were in trucks. The other 87 deaths included four pedestrians, two motorcyclists, one bicyclist, one ATV rider, two persons in road maintenance vehicles, and 77 persons in cars, SUVs, pickups, or vans. Of the 1,385 people injured, only 284 (21%) were truck occupants.

### **Contributing factors in truck crashes**

Table 5.03 in this Section reveals that contributing factors cited by officers are very similar for truck and non-truck drivers. For example, driver inattention or distraction was most frequently cited for truck drivers

(20% of the time) as well as for non-truck drivers (18% of the time). However, non-truck drivers drive too fast and fail to yield more often than truck drivers. Illegal or unsafe speed was reported for 12% of the other vehicles but only 8% of the trucks. And, failure to yield was reported for 14% of the other vehicles but only 8% of the trucks. For the other motorists, and even more so for the truck drivers, it is quite rare that officers report the presence of any type of chemical impairment such as the use of alcohol or drugs. Less than 1% of the truckers and 2% of the drivers of other vehicles were reported as having some such impairment.

### **Truck crashes are workday occurrences**

Truck crashes are strongly tied to the workday. In 2010, only 490 (12%) 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. Only 25% of the fatal crashes and 31% 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 less than 5,000 population. Probably because high speeds are more often possible in the rural open countryside, crashes there are more severe. 77% of fatal and 45% of truck-related injury crashes occurred in the rural areas of Minnesota.

TABLE 5.01

**TRUCK CRASH SUMMARY, 2001 - 2010**

	2001	2002	2003	2004	2005	2006	2007	2008	2009	2010
<b>Total Crashes</b>	<b>4,976</b>	<b>4,409</b>	<b>NA</b>	<b>5,521</b>	<b>5,313</b>	<b>4,558</b>	<b>4,631</b>	<b>4,344</b>	<b>3,653</b>	<b>4,181</b>
Fatal Crashes	61	76	71	70	66	62	71	64	47	77
Persons Killed	67	87	78	79	78	65	90	74	58	93
Injury Crashes	1,287	1,179	NA	1,401	1,315	1,156	1,144	1,056	889	1,005
Severe	127	82	NA	107	96	89	83	72	68	71
Moderate	479	449	NA	443	377	323	334	295	288	270
Minor	681	648	NA	851	842	744	727	689	533	664
Persons Injured	1,785	1,674	NA	1,935	1,753	1,544	1,745	1,425	1,162	1,385
Severe	157	115	NA	131	116	104	130	89	88	90
Moderate	632	597	NA	585	481	415	508	388	359	358
Minor	996	962	NA	1,219	1,156	1,025	1,107	948	715	937
PDO Crashes	3,628	3,154	NA	4,050	3,932	3,340	3,416	3,224	2,717	3,099

TABLE 5.02

**PERSONS KILLED OR INJURED IN 2010 TRUCK CRASHES  
BY VEHICLE OCCUPIED**

Vehicle Type	Killed	Severely Injured	Moderate Injured	Minor Injuries	Total Injured
Automobile	46	38	151	456	645
Pickup Truck	4	9	35	60	104
SUV	9	9	33	109	151
Van	18	10	29	79	118
Pedestrian	4	2	3	8	13
Bicycle	1	1	2	4	7
Motorcycle	2	4	5	3	12
ATV	1	0	0	1	1
Snowmobile	0	0	1	0	1
Ambulance	0	0	0	3	3
Police/Fire Vehicle	0	0	3	1	4
Roadway Maintenance Vehicle	2	0	4	12	16
Farm Equipment	0	0	1	2	3
Taxicab	0	0	0	8	8
School Bus	0	0	4	3	7
Bus-Non School	0	0	4	0	4
Two-Axle, Six-Tire, Single Unit Truck	0	2	14	47	63
Three or More Axle Single Unit Truck	1	2	11	26	39
Single Unit Truck with Trailer	0	2	13	10	25
Truck Tractor with No Trailer	0	0	0	5	5
Truck Tractor with Semi Trailer	5	10	41	90	141
Truck Tractor with Twin Trailers	0	0	1	0	1
Heavy Truck--Other or Unknown Type	0	1	2	7	10
Other or Unknown Vehicle Type	0	0	1	3	4
<b>Total</b>	<b>93</b>	<b>90</b>	<b>358</b>	<b>937</b>	<b>1,385</b>

TABLE 5.03

## CONTRIBUTING FACTORS IN 2010 TRUCK CRASHES

Contributing Factors	Number Attributed to Truck Vehicles	Percent Attributed to Truck Vehicles	Number Attributed to Non- Truck Vehicles	Percent Attributed to Non- Truck Vehicles
<b>Human Factors</b>				
Driver Inattention/Distraction	607	19.8%	455	17.5%
Improper or Unsafe Lane Use	324	10.5	269	10.4
Illegal/Unsafe Speed	245	8.0	311	12.0
Failure to Yield Right of Way	241	7.8	373	14.4
Following Too Closely	216	7.0	151	5.8
Improper Turn	155	5.0	50	1.9
Unsafe Backing	142	4.6	20	0.8
Vision Obscured-Windshield	78	2.5	46	1.8
Disregarding Traffic Control Device	58	1.9	90	3.5
Improper Passing or Overtaking	56	1.8	122	4.7
Overcorrecting	39	1.3	30	1.2
Improper Parking, Starting, or Stopping	31	1.0	39	1.5
Driver Inexperience	25	0.8	54	2.1
Driving Left of Center	21	0.7	44	1.7
Chemical Impairment	14	0.5	45	1.7
Impeding Traffic	10	0.3	8	0.3
Improper/No Signal	6	0.2	6	0.2
Driver on Phone/CB/2-Way Radio	5	0.2	2	0.1
Failure to Use Lights	2	0.1	1	0.0
Non-Motorist Error	0	0.0	11	0.4
Other Human Factors	88	2.9	48	1.8
<b>Vehicular Factors</b>				
Skidding	103	3.4	113	4.3
Defective Brakes	37	1.2	12	0.5
Oversize/Overweight Vehicle	29	0.9	2	0.1
Other Vehicular Factor	58	1.9	18	0.7
<b>Miscellaneous Factors</b>				
Weather	288	9.4	182	7.0
Other	195	6.3	96	3.7
<b>Total Contributing Factors Cited</b>	3,073	100.0%	2,598	100.0%
<b>Vehicles for Which There Was "No Clear Contributing Factor"</b>	1,810		1,668	
<b>Total Number of Vehicles</b>	4,353		3,761	

Zero, one, or two 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. Human factors with a frequency of less than one-tenth of one percent are merged into the category "other human factors."

TABLE 5.04

AGE OF TRUCK DRIVERS IN 2010 CRASHES

Driver Age	Truck or Tractor	Truck with Semi-Trailer	Truck with Twin Trailer	Truck with Other Trailer	Total
10 - 14	0	0	0	0	0
15 - 19	14	5	0	2	21
20 - 24	106	64	0	14	184
25 - 29	188	171	1	31	391
30 - 34	186	189	1	28	404
35 - 39	207	230	2	30	469
40 - 44	205	244	4	31	484
45 - 49	256	318	4	37	615
50 - 54	261	323	5	28	617
55 - 59	163	257	5	26	451
60 - 64	93	159	2	11	265
65 & Older	60	133	2	12	207
Not Stated	44	69	1	7	121
Total*	1,783	2,162	27	257	4,229

\* There were 4,353 trucks involved in 2010 crashes. Table 5.04 tabulates the ages of drivers for the remaining 4,229 trucks where it was possible to identify a driver.

TABLE 5.05

DRIVERS IN 2010 TRUCK CRASHES BY PHYSICAL CONDITION\*

Physical Condition	Truck Driver Number	Truck Driver Percent	Other Driver Number	Other Driver Percent
Normal	3,876	91.6%	3,140	90.7%
Under the Influence	13	0.3	44	1.3
Had Been Drinking	4	0.1	16	0.5
Had Been Using Drugs	1	0.0	5	0.1
Fatigued/Asleep	20	0.5	10	0.3
Physical Disability	0	0.0	1	0.0
Ill	5	0.1	6	0.2
Other	6	0.1	8	0.2
Unknown	304	7.3	233	6.7
Total **	4,229	100.0%	3,463	100.0%

\* As noted by police officer on accident report.

\*\* There were 4,353 trucks involved in 2010 crashes. This table tabulates the apparent physical condition of drivers for the remaining 4,229 trucks where it was possible to identify a driver. Similarly, there were 3,736 non-truck motor vehicles involved in 2010 truck crashes. The condition of the identifiable 3,463 non-truck drivers is presented here. Totals may not add up because they include values for drivers “left blank” and “not applicable”.

TABLE 5.06

2010 TRUCK CRASHES BY FIRST HARMFUL EVENT

First Harmful Event	Fatal Crashes	Injury Crashes	Property Damage Crashes	Total Killed	Injured	Crashes
<b>Collision With:</b>						
Other Motor Vehicle	62	803	2,197	3,062	77	1,158
Parked Motor Vehicle	1	32	297	330	1	40
Train	1	4	5	10	1	4
Bicycle	1	5	0	6	1	6
Pedestrian	4	13	0	17	4	13
Deer	0	3	10	13	0	4
Other Animal	0	2	9	11	0	2
Fixed Object	1	45	297	343	1	46
<b>Non-Collision:</b>						
Overturn	4	74	126	204	4	82
Fire or Explosion	0	0	2	2	0	0
Jackknife	0	7	69	76	0	7
Other Non-Collision	0	8	16	24	0	9
<b>Other/Unknown</b>	3	9	71	83	4	14
<b>Total</b>	77	1,005	3,099	4,181	93	1,385

TABLE 5.07

2010 TRUCK CRASHES BY MONTH

Month	Fatal Crashes	Injury Crashes	Property Damage Crashes	Total Crashes	Killed	Injured
January	4	95	255	354	4	131
February	6	93	310	409	8	128
March	2	44	141	187	2	61
April	8	54	160	222	11	74
May	5	63	181	249	8	82
June	8	77	243	328	8	99
July	8	81	237	326	13	131
August	4	98	230	332	4	124
September	8	97	260	365	8	135
October	10	99	227	336	12	136
November	5	91	343	439	6	128
December	9	113	512	634	9	156
<b>Total</b>	77	1,005	3,099	4,181	93	1,385



TABLE 5.08

2010 TRUCK CRASHES BY TIME AND DAY

Time of Day	Sunday	Monday	Tuesday	Wednesday	Thursday	Friday	Saturday	Total
Midnight - 2:59 AM	24	13	18	20	20	17	26	138
3:00 - 5:59 AM	30	27	27	23	15	32	23	177
6:00 - 8:59 AM	22	142	125	118	128	110	38	683
9:00 - 11:59 AM	30	235	191	160	150	138	78	982
Noon - 2:59 PM	30	197	176	152	188	155	52	950
3:00 - 5:59 PM	32	164	147	132	158	122	38	793
6:00 - 8:59 PM	20	46	61	50	43	61	26	307
9:00 - 11:59 PM	7	29	22	23	31	21	14	147
Unknown	0	1	1	1	1	0	0	4
<b>Total</b>	<b>195</b>	<b>854</b>	<b>768</b>	<b>679</b>	<b>734</b>	<b>656</b>	<b>295</b>	<b>4,181</b>

FIGURE 5.01

2010 TRUCK CRASHES BY TIME OF DAY

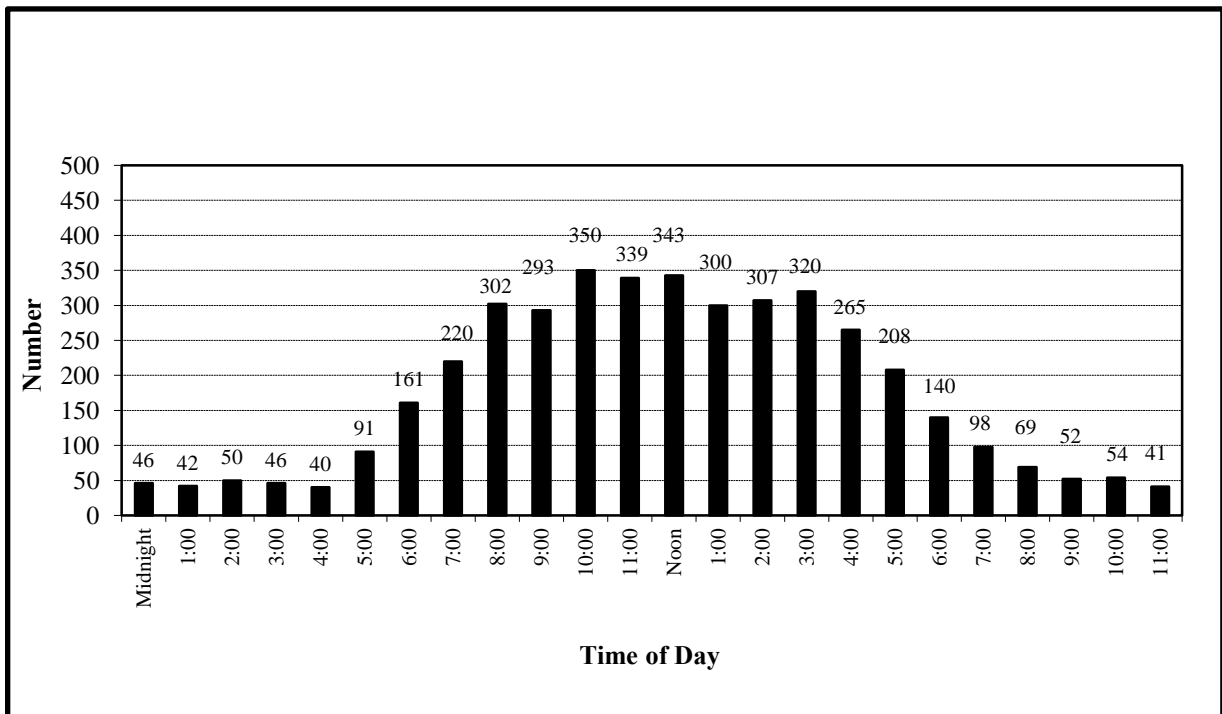


TABLE 5.09

**2010 TRUCK CRASHES BY ROAD SURFACE CONDITION**

<b>Road Surface Condition</b>	<b>Fatal Crashes</b>	<b>Injury Crashes</b>	<b>Property Damage Crashes</b>	<b>Total Crashes</b>	<b>Killed</b>	<b>Injured</b>
Dry	55	684	1,843	2,582	67	955
Wet	8	121	351	480	10	169
Snow	3	49	303	355	3	72
Slush	2	15	40	57	3	20
Ice or Packed Snow	6	131	534	671	7	160
Water Standing/Moving	1	0	1	2	1	1
Muddy	0	2	2	4	0	2
Debris	0	0	4	4	0	0
Other	2	3	13	18	2	6
Unknown	0	0	6	6	0	0
Left Blank	0	0	2	2	0	0
<b>Total</b>	<b>77</b>	<b>1,005</b>	<b>3,099</b>	<b>4,181</b>	<b>93</b>	<b>1,385</b>

TABLE 5.10

**2010 TRUCK CRASHES BY WEATHER CONDITION**

<b>Weather Condition</b>	<b>Fatal Crashes</b>	<b>Injury Crashes</b>	<b>Property Damage Crashes</b>	<b>Total Crashes</b>	<b>Killed</b>	<b>Injured</b>
Clear	44	564	1,686	2,294	54	776
Cloudy	16	232	715	963	18	336
Rain	4	50	146	200	5	64
Snow	7	86	339	432	9	110
Sleet/Hail/Freezing Rain	2	23	113	138	2	27
Fog/Smog/Smoke	4	16	17	37	5	24
Blowing Sand/Dust/Snow	0	25	62	87	0	35
Severe Cross Winds	0	5	8	13	0	6
Other	0	2	2	4	0	5
Unknown	0	1	9	10	0	1
Left Blank	0	1	2	3	0	1
<b>Total</b>	<b>77</b>	<b>1,005</b>	<b>3,099</b>	<b>4,181</b>	<b>93</b>	<b>1,385</b>

TABLE 5.11

**2010 TRUCK CRASHES BY POPULATION OF AREA**

<b>Population of City or Township</b>	<b>Fatal Crashes</b>	<b>Injury Crashes</b>	<b>Property Damage Crashes</b>	<b>Total Crashes</b>	<b>Killed</b>	<b>Injured</b>
250,000 & Over	1	127	602	730	1	171
100,000 – 249,999	0	9	56	65	0	9
50,000 - 99,999	2	146	504	652	3	194
25,000 - 49,999	5	110	336	451	6	150
10,000 - 24,999	5	120	501	626	5	169
5,000 - 9,999	5	41	134	180	6	49
2,500 - 4,999	5	33	115	153	5	41
1,000 - 2,499	1	24	60	85	1	35
Under 1,000	53	395	791	1,239	66	567
<b>Total</b>	<b>77</b>	<b>1,005</b>	<b>3,099</b>	<b>4,181</b>	<b>93</b>	<b>1,385</b>

TABLE 5.12

**2010 TRUCK CRASHES BY TYPE OF ROADWAY**

<b>Roadway Type</b>	<b>Fatal Crashes</b>	<b>Injury Crashes</b>	<b>Property Damage Crashes</b>	<b>Total Crashes</b>	<b>Killed</b>	<b>Injured</b>
Interstate Highway	10	253	822	1,085	12	339
US Trunk Highway	23	193	439	655	25	289
State Trunk Highway	14	215	518	747	17	296
County State-Aid Highway	25	206	523	754	34	279
County Road	1	11	28	40	1	17
Township Road	2	14	40	56	2	16
Local Street	2	110	691	803	2	146
Other Road	0	3	38	41	0	3
<b>Total</b>	<b>77</b>	<b>1,005</b>	<b>3,099</b>	<b>4,181</b>	<b>93</b>	<b>1,385</b>

## 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.

### **Overall, pedestrian crashes decrease**

In 2009, there were 883 crashes in which a pedestrian was injured or killed by a motor vehicle. In 2010, that number decreased to 808, an eight percent decrease from the previous year.

### **Deaths and injuries decrease**

In 2009, 41 pedestrians were killed and 880 pedestrians were injured. In 2010, 36 pedestrians were killed and 824 pedestrians were injured. Four percent of all pedestrian crashes resulted in a death, compared to one-half of 1% of all traffic crashes resulting in a death.

### **Males at greater risk**

Persons less than 25 years of age accounted for 33% of the pedestrians killed and 40% of pedestrians injured. Male pedestrians were more likely than females to be killed: Males accounted for 64% of all pedestrian fatalities.

### **Urban/rural areas and time of day**

In 2010, 91% of pedestrian crashes occurred in urban areas (defined as areas with populations over 5,000). Three out of ten (29%) 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 five (19%) pedestrian crashes occurred during the evening hours 9:00-6:00am.

### **Prior actions of vehicles**

Half (50%) of all motor vehicles involved in pedestrian crashes and over two out of three (71%) involved in fatal pedestrian crashes in 2010 were going straight ahead on the roadway prior to the crash. One out of three (33%) of all motor vehicles involved in pedestrian crashes were making a right or left turn.

### **Prior actions of pedestrians**

Twenty-eight percent of pedestrians killed and 26% of pedestrians injured were trying to cross a road at an area with no crosswalk and no signal. However, one pedestrian (3%) was killed and 14% of those injured were crossing the road at a signaled intersection and were crossing with the signal.

### **Contributing factors**

For 31% of all motor vehicle drivers in all pedestrian crashes, the reporting officer indicated that driver failure to yield right of way was a contributing factor. The second most cited contributing factor was driver inattention or distraction (22%). Obscured vision was a factor in 10% of all pedestrian crashes.

### **Drinking pedestrian fatalities**

Of the 36 pedestrians killed, 29 were tested for the presence of alcohol in their blood system. Of those tested, over one out of three (34%) had blood alcohol concentrations (BACs) of .10 or higher. Forty percent of killed pedestrians with BACs .10 or higher were 15-24-years-old, and another 40% were 25-39-years-old. Ninety percent of pedestrians killed with BACs of .10 or higher were killed 9:00pm-3:00am.

TABLE 6.01

**PEDESTRIAN CRASH SUMMARY, 2001 - 2010**

	2001	2002	2003	2004	2005	2006	2007	2008	2009	2010
Pedestrian Crashes	1,175	1,151	NA	963	938	915	957	860	883	808
Pedestrians Killed	46	50	52	37	44	38	33	25	41	36
Pedestrians Injured	1,184	1,149	NA	976	936	906	975	867	880	824

TABLE 6.02

**PEDESTRIANS KILLED OR INJURED BY AGE AND GENDER, 2010**

Age Group	Killed			Severely Injured			Moderately Injured			Minor Injuries			Total Injuries		
	M	F	Total	M	F	Total	M	F	Total	M	F	Total	M	F	Total*
00 - 04	0	0	0	2	0	2	8	4	12	9	7	16	19	11	30
05 - 09	2	1	3	3	1	4	12	4	16	23	11	34	38	16	54
10 - 14	0	0	0	2	2	4	12	7	19	25	11	36	39	20	59
15 - 19	3	2	5	5	4	9	16	9	26	17	26	43	38	39	78
20 - 24	2	2	4	8	4	12	16	17	33	28	35	63	52	56	108
25 - 29	2	0	2	1	4	5	13	13	26	22	29	51	36	46	82
30 - 34	2	0	2	4	2	6	12	8	20	10	21	31	26	31	57
35 - 39	1	1	2	2	0	2	8	6	14	16	12	29	26	18	45
40 - 44	1	0	1	6	6	12	7	5	12	13	10	23	26	21	47
45 - 49	1	1	2	2	0	2	9	2	11	16	11	27	27	13	40
50 - 54	2	0	2	2	1	3	11	4	15	22	19	41	35	24	59
55 - 59	2	1	3	2	3	5	15	10	25	11	13	24	28	26	54
60 - 64	0	2	2	1	2	3	7	4	11	10	11	21	18	17	35
65 - 69	0	0	0	4	2	6	2	6	8	0	5	5	6	13	19
70 - 74	0	1	1	3	1	4	4	1	5	2	5	7	9	7	16
75 - 79	1	1	2	1	2	3	1	0	1	0	3	3	2	5	7
80 - 84	2	0	2	1	0	1	1	2	3	1	0	1	3	2	5
85 & Older	2	1	3	2	1	3	0	1	1	1	1	2	3	3	6
Not Stated	0	0	0	1	0	2	1	3	6	3	3	15	5	6	23
Total	23	13	36	52	35	88	155	106	264	229	233	472	436	374	824

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

FIGURE 6.01

PEDESTRIAN FATALITIES BY AGE GROUP, 2001-2010 COMBINED

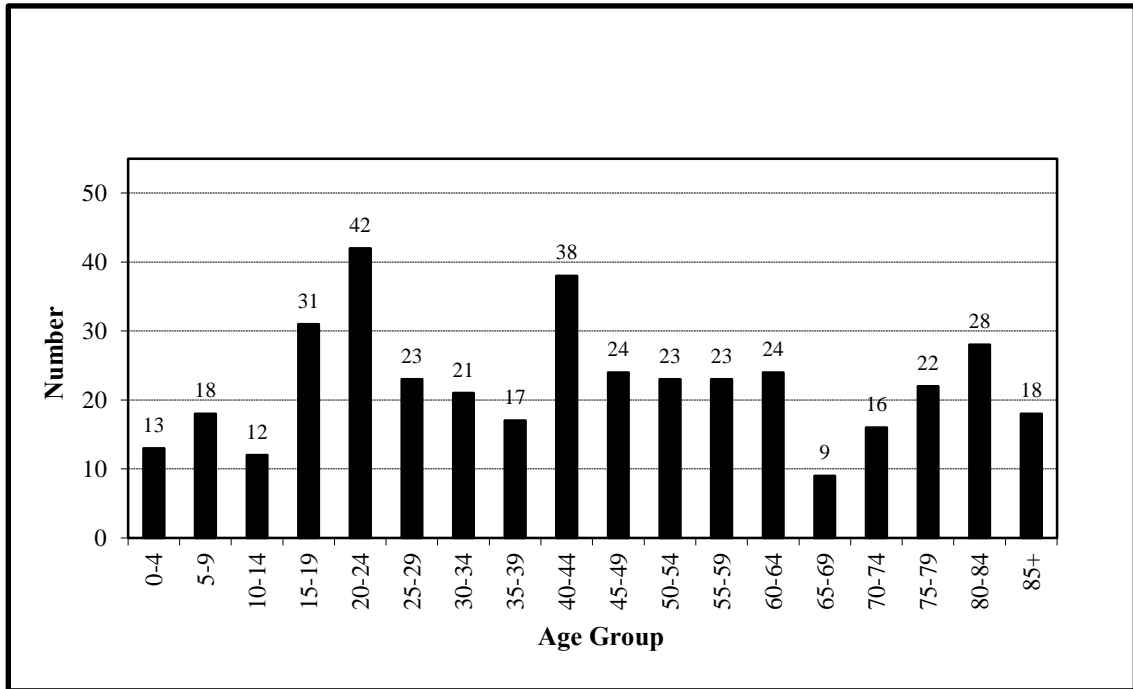


FIGURE 6.02

PEDESTRIANS KILLED OR INJURED BY AGE AND GENDER, 2010

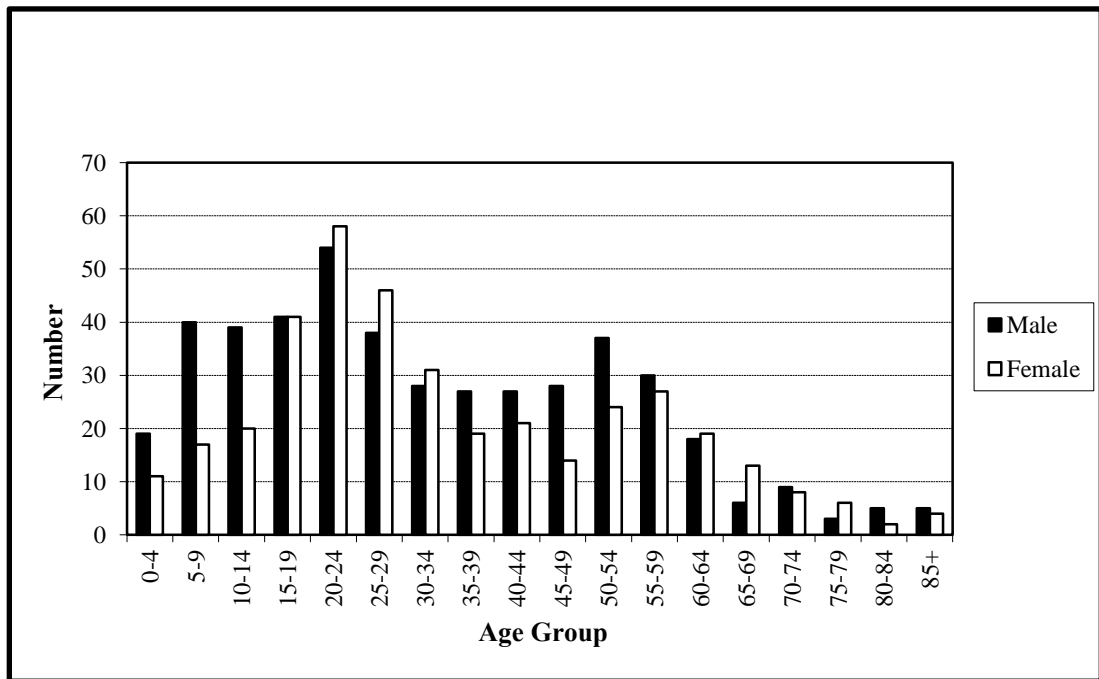


TABLE 6.03

**2010 PEDESTRIAN CRASHES BY MONTH**

<b>Month</b>	<b>Fatal Crashes</b>	<b>Injury Crashes</b>	<b>Total Crashes</b>	<b>Killed</b>	<b>Injured</b>
January	1	53	54	1	54
February	3	53	56	3	58
March	5	60	65	5	64
April	2	56	58	2	57
May	2	64	66	2	68
June	3	55	58	3	61
July	3	60	63	3	65
August	1	71	72	1	75
September	2	66	68	2	72
October	7	94	101	7	100
November	5	68	73	5	74
December	2	72	74	2	76
<b>Total</b>	<b>36</b>	<b>772</b>	<b>808</b>	<b>36</b>	<b>824</b>

TABLE 6.04

**2010 PEDESTRIAN CRASHES BY POPULATION OF AREA**

<b>Population of City or Township</b>	<b>Fatal Crashes</b>	<b>Injury Crashes</b>	<b>Total Crashes</b>	<b>Pedestrians Killed</b>	<b>Pedestrians Injured</b>
250,000 and Over	6	376	382	6	400
100,000 - 249,999	1	18	19	1	23
50,000 - 99,999	6	93	99	6	100
25,000 - 49,999	1	74	75	1	76
10,000 - 24,999	7	115	122	7	121
5,000 - 9,999	3	32	35	3	32
2,500 - 4,999	0	22	22	0	24
1,000 - 2,499	1	10	11	1	10
Under 1,000	11	32	43	11	38
<b>Total</b>	<b>36</b>	<b>772</b>	<b>808</b>	<b>36</b>	<b>824</b>

TABLE 6.05

2010 PEDESTRIAN CRASHES BY TIME AND DAY

Time of Day	Fatal Crashes	Sunday	Monday	Tuesday	Wednesday	Thursday	Friday	Saturday	Total
Midnight - 2:59 AM	5	19	4	0	1	4	5	18	51
3:00 - 5:59 AM	1	1	0	6	0	3	1	1	12
6:00 - 8:59 AM	3	2	15	21	25	19	12	3	97
9:00 - 11:59 AM	5	8	12	18	21	16	10	11	96
Noon - 2:59 PM	5	8	20	11	23	24	26	12	124
3:00 - 5:59 PM	6	19	26	30	44	26	18	18	181
6:00 - 8:59 PM	5	13	12	25	37	22	24	22	155
9:00 - 11:59 PM	6	9	6	12	9	11	23	21	91
Unknown	0	0	0	0	0	0	0	1	1
<b>Total</b>	<b>36</b>	<b>79</b>	<b>95</b>	<b>123</b>	<b>160</b>	<b>125</b>	<b>119</b>	<b>107</b>	<b>808</b>

FIGURE 6.03

2010 PEDESTRIAN CRASHES BY TIME OF DAY

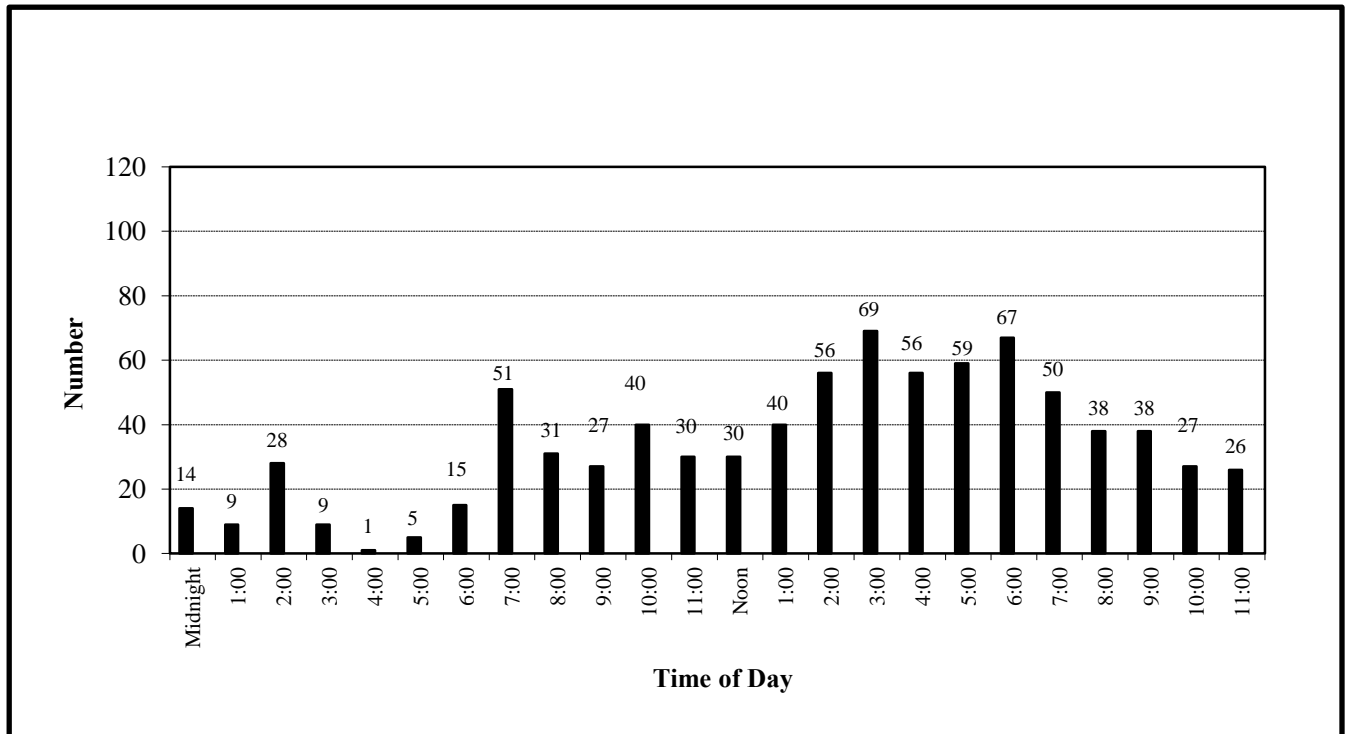




TABLE 6.06

**PRIOR ACTION OF VEHICLES IN 2010 PEDESTRIAN CRASHES**

<b>Action</b>	<b>Vehicles in Fatal Crashes</b>	<b>Vehicles in Injury Crashes</b>	<b>Vehicles in All Crashes*</b>
Going Straight	27	400	427
Wrong Way Opposing Traffic	0	3	3
Turning Right on Red	0	29	29
Turning Left on Red	0	4	4
Turning Right	2	77	79
Turning Left	3	162	165
Making U Turn	0	5	5
Starting From Parked	1	7	8
Starting in Traffic	0	6	6
Slowing in Traffic	0	4	4
Parking	0	6	6
Avoiding Object in Road	1	4	5
Changing Lanes	0	3	3
Passing	1	1	2
Backing	1	23	24
All Others	2	60	62
Unknown	0	5	5
<b>Total</b>	<b>38</b>	<b>799</b>	<b>837</b>

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

TABLE 6.07

**PRIOR ACTION OF PEDESTRIANS KILLED OR INJURED IN 2010**

<b>Action</b>	<b>Number Pedestrians Killed</b>	<b>Percent Pedestrians Killed</b>	<b>Number Pedestrians Injured</b>	<b>Percent Pedestrians Injured</b>
Crossing Road (No Crosswalk AND No Signal)	10	27.8%	215	26.1%
Crossing Against Signal	3	8.3	41	5.0
Crossing With Signal	1	2.8	114	13.8
Crossing In Crosswalk (No Signal)	2	5.6	142	17.2
Walking In Road With Traffic	4	11.1	39	4.7
Walking In Road Against Traffic	4	11.1	27	3.3
Standing In Road	3	8.3	39	4.7
Emerging From Front/Behind Parked Vehicle	0	0.0	4	0.5
Child Getting On/Off School Bus	1	2.8	2	0.2
Pushing/Working on Vehicle	1	2.8	1	0.1
Working In Road	0	0.0	7	0.8
Getting On/Off Vehicle	0	0.0	7	0.8
Playing In Road	0	0.0	5	0.6
Not In Road	0	0.0	24	2.9
Other Pedestrian Action	1	2.8	30	3.6
Unknown	6	16.7	127	15.4
<b>Total*</b>	<b>36</b>	<b>100.0%</b>	<b>824</b>	<b>100.0%</b>

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

TABLE 6.08

## CONTRIBUTING FACTORS IN 2010 PEDESTRIAN CRASHES

Contributing Factors	Number Attributed to Motor Vehicle Drivers	Percent Attributed to Motor Vehicle Drivers
<b>Human Factors</b>		
Failure to Yield Right of Way	183	31.0%
Driver Inattention / Distraction	132	22.4
Vision Obscured	61	10.3
Illegal or Unsafe Speed	31	5.3
Improper / Unsafe Lane Use	19	3.2
Chemical Impairment	19	3.2
Unsafe Backing	13	2.2
Improper Turn	12	2.0
Driver Inexperience	11	1.9
Disregard of Traffic Control	8	1.4
Improper	6	1.0
Parking/Starting/Stopping		
Improper Passing / Overtaking	4	0.7
Driver on Phone/CB/Radio	3	0.5
Driving Left of Center	2	0.3
Following Too Closely	1	0.2
Overcorrecting	1	0.2
Impeding Traffic	1	0.2
Other Human Factors	23	3.9
<b>Vehicular Factors</b>		
Skidding	3	0.5
Defective Brakes	2	0.3
<b>Miscellaneous Factors</b>		
Weather Conditions	17	2.9
Other	38	6.4
<b>Total Contributing Factors Cited</b>	590	100.0%
<b>Vehicles for Which There Was "No Clear Contributing Factor"</b>	44	
<b>Total Number of Drivers</b>	837	

Zero, one, or two 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 6.09

**PEDESTRIAN FATALITIES'  
LEVEL OF ALCOHOL CONCENTRATION, 2001 - 2010**

Year	Killed	Tested	Alcohol Concentration* (.00)	Alcohol Concentration* (.01 - .07)	Alcohol Concentration* (.08 - .09)	Alcohol Concentration* (.10 or more)
2001	46	35	25 (71%)	1 (3%)	0 (0%)	9 (26%)
2002	50	31	20 (65%)	0 (0%)	0 (0%)	11 (35%)
2003	52	36	23 (64%)	0 (0%)	0 (0%)	10 (28%)
2004	37	35	23 (66%)	0 (0%)	2 (6%)	10 (28%)
2005	44	34	18 (53%)	1 (3%)	2 (6%)	13 (38%)
2006	38	31	22 (71%)	1 (3%)	0 (0%)	8 (26%)
2007	33	18	9 (50%)	1 (6%)	0 (0%)	8 (44%)
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%)

\* 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 6.10

**2010 PEDESTRIAN FATALITIES'  
LEVEL OF ALCOHOL CONCENTRATION BY AGE**

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

TABLE 6.11

**2010 PEDESTRIAN FATALITIES' LEVEL OF ALCOHOL  
CONCENTRATION BY TIME OF DAY**

<b>Time of Day</b>	<b>Killed</b>	<b>Tested</b>	<b>Alcohol Concentration* (.00)</b>	<b>Alcohol Concentration* (.01 - .07)</b>	<b>Alcohol Concentration* (.08 - .09)</b>	<b>Alcohol Concentration* (.10 or more)</b>
Midnight - 2:59 AM	5	5	0	0	0	5
3:00 - 5:59 AM	1	1	1	0	0	0
6:00 - 8:59 AM	3	2	1	0	0	1
9:00 - 11:59 AM	5	3	3	0	0	0
Noon - 2:59 PM	5	4	4	0	0	0
3:00 - 5:59 PM	6	3	3	0	0	0
6:00 - 8:59 PM	5	5	5	0	0	0
9:00 - 11:59 PM	6	6	2	0	0	4
<b>Total</b>	<b>36</b>	<b>29</b>	<b>19</b>	<b>0</b>	<b>0</b>	<b>10</b>

## 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.

### **Number of bicycle crashes decreases**

In 2010, there was a 6.2% decrease in bicycle crashes from the previous year. In 2010, there were 898 bicycle crashes compared to 957 bicycle crashes the previous year.

### **Injuries and fatalities decrease**

The number of bicyclists injured decreased in 2010. In 2010, 882 bicyclists were injured compared to 963 injured bicyclists in 2009, a 8.4% decrease. Similarly, there were 9 bicyclist fatalities in 2010 compared to 10 fatalities in 2009, a 10% decrease.

### **Warm weather**

Bicycle crashes are mostly a warm weather occurrence. In 2010, five out of nine fatalities (55.6%), and nearly three out of every five injuries (58.3%) occurred during the four-month period June-September.

### **Time and day**

Nearly one-third (31.1%) of all weekday bicycle crashes occurred during the afternoon rush hours 3:00-6:00pm. Over one out of five (21.8%) of weekend bicycle crashes occurred during the same period.

### **Big cities**

Generally, traffic crashes involving a bicycle and a motor vehicle tend to occur in areas with larger populations. Over three out of five (62.4%) bicycle crashes and four out of nine (44.4%) fatal crashes occurred in cities where the population was over 50,000 people.

### **Males injured and killed most often**

In 2010, eight male bicyclists were killed; in contrast, there was one female bicyclist fatality. Males were also nearly three times more likely than females to be injured in a bicycle crash. 619 male bicyclists (71.3%) were injured compared to 249 female bicyclists (28.7%).

### **Age and injury severity**

Of the nine bicyclists fatally injured in 2010, four (44.4%) were 50 years of age or older. Conversely, of the 882 bicyclists injured 448 (50.8%) were 24 years of age or younger.

### **Prior action of bicyclists**

Over two out of five (42.6%) of all bicyclists in all crashes and over half (55.6%) of the bicyclist fatalities were riding with traffic. Conversely, only one out of twenty (5.5%) bicyclists in all crashes were riding against traffic.

### **Contributing factors**

Failure to yield the right of way was cited most often for both the bicyclists and other motor vehicle drivers. Failure to yield right of way was attributed to one out of four (27.1%) bicyclists and two out of five (43.8%) other drivers. For bicyclists, non-motorist error (a violation committed by the bicyclist separate from those listed), and disregard for traffic control device and were cited the next most often. Driver inattention or distraction was the second contributing factor cited most often for other drivers.

TABLE 7.01

**BICYCLE CRASH SUMMARY, 2001- 2010**

	2001	2002	2003	2004	2005	2006	2007	2008	2009	2010
Bicycle Crashes	1,016	909	NA	985	965	944	1,020	981	957	898
Bicyclists Killed	7	7	6	10	7	8	4	13	10	9
Bicyclists Injured	960	860	NA	937	952	908	979	942	963	882

TABLE 7.02

**2010 BICYCLE CRASHES BY MONTH**

Month	Fatal Crashes	Injury Crashes	Property Damage Crashes	Total Crashes	Killed	Injured
January	0	3	0	3	0	3
February	0	6	0	6	0	6
March	0	32	0	32	0	32
April	0	75	3	78	0	75
May	3	110	5	118	3	112
June	1	127	3	131	1	129
July	2	159	3	164	2	163
August	1	113	6	120	1	117
September	1	104	1	106	1	106
October	1	96	1	98	1	97
November	0	34	1	35	0	35
December	0	7	0	7	0	7
Total	9	866	23	898	9	882

FIGURE 7.01

**2010 BICYCLE CRASHES BY TIME OF DAY**

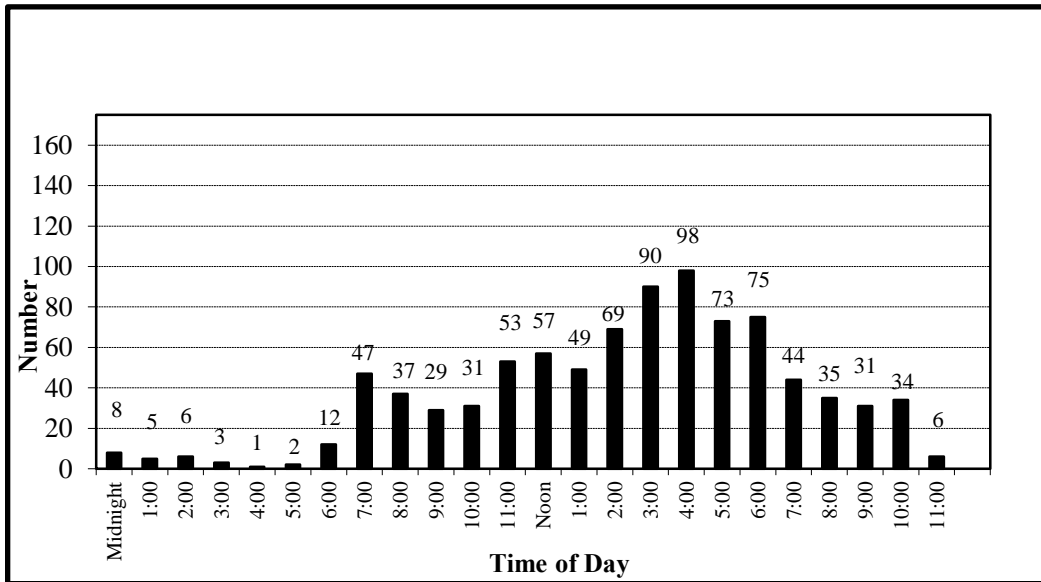


TABLE 7.03

2010 BICYCLE CRASHES BY TIME AND DAY

Time of Day	Sunday	Monday	Tuesday	Wednesday	Thursday	Friday	Saturday	Total
Midnight - 2:59 AM	5	0	0	4	1	2	7	19
3:00 - 5:59 AM	1	2	0	0	2	0	1	6
6:00 - 8:59 AM	3	16	15	23	19	16	4	96
9:00 - 11:59 AM	7	14	19	14	19	14	26	113
Noon - 2:59 PM	20	36	25	30	24	21	19	175
3:00 - 5:59 PM	22	36	40	52	51	40	20	261
6:00 - 8:59 PM	18	23	21	34	26	14	18	154
9:00 - 11:59 PM	8	8	7	11	15	10	12	71
Unknown	0	0	0	0	1	0	2	3
<b>Total</b>	<b>84</b>	<b>135</b>	<b>127</b>	<b>168</b>	<b>158</b>	<b>117</b>	<b>109</b>	<b>898</b>

TABLE 7.04

2010 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	2	383	13	398	2	391
100,000 - 249,999	0	27	0	27	0	28
50,000 - 99,999	2	131	2	135	2	135
25,000 - 49,999	2	105	2	109	2	105
10,000 - 24,999	0	143	2	145	0	144
5,000 - 9,999	0	28	3	31	0	29
2,500 - 4,999	0	19	1	20	0	20
1,000 - 2,499	0	10	0	10	0	10
Under 1,000	3	20	0	23	3	20
<b>Total</b>	<b>9</b>	<b>866</b>	<b>23</b>	<b>898</b>	<b>9</b>	<b>882</b>

FIGURE 7.02

BICYCLISTS KILLED AND INJURED BY AGE AND GENDER, 2010

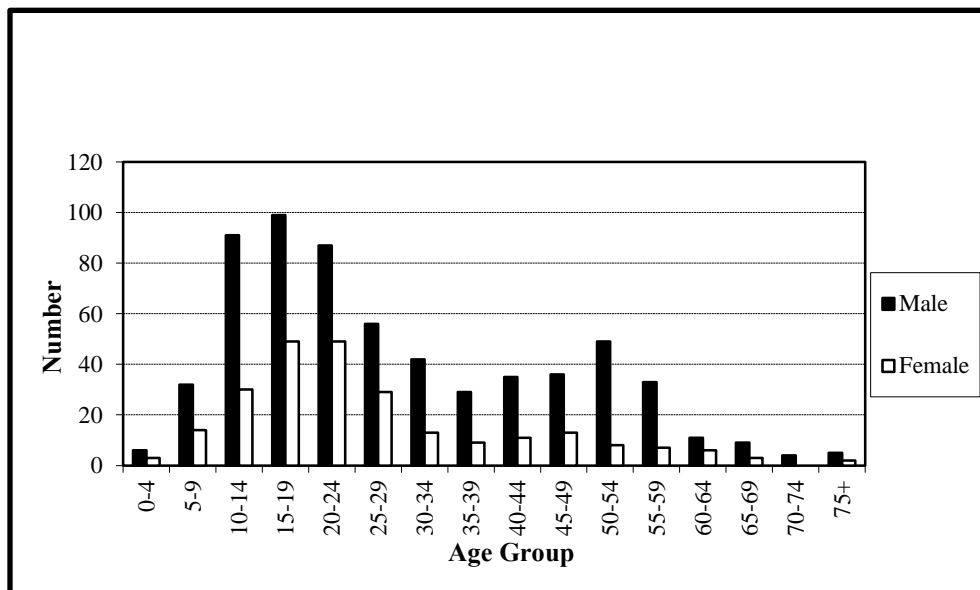


TABLE 7.05

**BICYCLISTS KILLED OR INJURED BY AGE AND GENDER, 2010**

Age Group	Killed			Severely Injured			Moderately Injured			Minor Injuries			Total Killed/Injuries		
	M	F	Total	M	F	Total*	M	F	Total*	M	F	Total*	M	F	Total*
00 – 04	0	0	0	0	0	0	2	1	3	4	2	6	6	3	9
05 – 09	0	0	0	2	0	2	10	1	11	20	13	33	32	14	46
10 – 14	1	0	1	3	1	4	22	9	31	65	20	86	91	30	122
15 – 19	2	0	2	3	1	4	30	11	41	64	37	101	99	49	148
20 – 24	0	1	1	1	2	3	34	17	51	52	29	81	87	49	136
25 – 29	0	0	0	1	1	2	19	9	28	36	19	55	56	29	85
30 – 34	1	0	1	3	1	4	15	5	20	23	7	30	42	13	55
35 – 39	0	0	0	1	0	1	11	4	15	17	5	22	29	9	38
40 – 44	0	0	0	3	0	3	9	3	12	23	8	31	35	11	46
45 – 49	0	0	0	2	0	2	14	5	19	20	8	28	36	13	49
50 – 54	1	0	1	3	2	5	12	1	13	33	5	38	49	8	57
55 – 59	2	0	2	6	1	7	7	3	10	18	3	21	33	7	40
60 – 64	0	0	0	2	0	2	5	2	7	4	4	8	11	6	17
65 – 69	0	0	0	1	0	1	2	1	3	6	2	8	9	3	12
70 – 74	0	0	0	2	0	2	0	0	0	2	0	2	4	0	4
75 & Older	1	0	1	0	1	1	0	0	0	4	1	5	5	2	7
Not Stated	0	0	0	1	0	1	0	2	4	2	2	15	3	4	20
Total	8	1	9	34	10	44	192	74	268	393	165	570	627	250	891

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

TABLE 7.06

**PRIOR ACTION OF BICYCLISTS INVOLVED IN 2010 CRASHES**

Prior Action	Bicyclists in Fatal Crashes	Bicyclists in Injury Crashes	Bicyclists in Property Damage Crashes	Bicyclists in All Crashes
Riding With Traffic	5	372	15	392
Riding Against Traffic	0	50	1	51
Making Right Turn	0	5	0	5
Making Left Turn	1	33	2	36
Riding Across Road	1	55	1	57
Slowing/Stopping/Starting	0	9	1	10
Other/Unknown	2	358	9	369
Total	9	882	29	920

\* 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 2010 BICYCLE CRASHES

Contributing Factors	Number Attributed to Bicyclists	Percent Attributed to Bicyclists	Number Attributed to Motor Vehicle Drivers	Percent Attributed to Motor Vehicle Drivers
<b>Human Factors</b>				
Failure to Yield Right of Way	150	27.1%	252	43.8%
Non-Motorist Error	105	19.0	0	0.0
Disregard Traffic Control Device	73	13.2	23	4.0
Driver Inattention/Distracted	43	7.8	136	23.7
Improper/Unsafe Lane Use	37	6.7	11	1.9
Failure to Use Lights	18	3.2	0	0.0
Driver Inexperience	11	2.0	5	0.9
Improper Turn	8	1.4	16	2.8
Chemical Impairment	6	1.1	6	1.0
Illegal/Unsafe Speed	5	0.9	3	0.5
Improper Passing/Overtaking	4	0.7	7	1.2
Impeding Traffic	4	0.7	0	0.0
Vision Obscured	4	0.7	46	8.0
Following Too Closely	3	0.5	2	0.3
Driving Left of Center	3	0.5	1	0.2
Improper/No Signal	3	0.5	0	0.0
Overcorrecting	1	0.2	0	0.0
Improper Park/Start/Stop	0	0.0	8	1.4
Unsafe Backing	0	0.0	3	0.5
Driver On Phone/CB	0	0.0	2	0.3
Other Human Factors	14	2.5	15	2.6
<b>Vehicular Factors</b>				
Defective Brakes	9	1.6	0	0.0
Skidding	1	0.2	1	0.2
Other Vehicular Factor	1	0.2	0	0.0
<b>Miscellaneous Factors</b>				
Weather Conditions	1	0.2	7	1.2
Other	50	9.0	31	5.4
<b>Total Contributing Factors Cited</b>	<b>554</b>	<b>100.0%</b>	<b>575</b>	<b>100.0%</b>
<b>Vehicles for Which There Was “No Clear Contributing Factor”</b>	<b>349</b>		<b>373</b>	
<b>Number of Bicyclists/Drivers</b>	<b>907</b>		<b>903</b>	

Zero, one, or two contributing factors may be attributed to a single driver or bicyclist. 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. For example, 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 would be called an indirect school bus crash.

### **Indirect school bus crashes**

Changes in the crash reporting system in 2003 now make it possible to identify crashes in which a school bus was indirectly involved. In 2010, there were 183 crashes resulting in 85 injuries and one fatality in which a school bus was indirectly involved.

### **Number of school bus crashes decrease**

School bus crashes have decreased. In 2010, there were 611 traffic crashes directly involving at least one school bus. That total is a 9% decrease from the previous year.

### **Four deaths in 2010**

In 2010, there were four fatal school bus crashes resulting in four deaths. One of the fatalities was a child hit by the bus after exiting; one was an elderly passenger involved in a multiple-vehicle crash; one was an elderly driver in a road incident; and one was a passenger in a car that skidded into a school bus.

### **Morning and afternoon rush hours**

Nearly two out of three (64%) school bus crashes and school bus crash injuries (68%) in 2010 occurred during the time periods of 6-9 a.m. and 3-6 p.m. Nine out of ten (93%) of school bus crashes occurred during school year months September through May.

### **School bus stop arm**

Less than 3% of all school bus crashes occurred when the school bus stop arm was deployed. Only three injuries occurred in school bus crashes where the school bus stop arm was in use.

### **Contributing factors**

Although there were 611 school bus crashes in 2010, a few involved more than one school bus. In all there were 615 school buses in crashes. For 50% of the school bus drivers, officer reports showed there was “no clear contributing factor.” The two contributing factors cited most often were driver inattention or distraction (17%), and failure to yield right of way (13%). The third most frequently cited contributing factor was improper turn (9%). The most commonly cited contributing factors attributed to drivers of other vehicles in school bus crashes were driver inattention and distraction (23%), failure to yield right of way (15%), and following too closely (10%).

TABLE 8.01

**SCHOOL BUS CRASH SUMMARY, 2001 - 2010**

	2001	2002	2003	2004	2005	2006	2007	2008	2009	2010
Total Crashes	852	719	NA	702	717	625	680	663	670	611
Fatal Crashes	4	3	3	3	7	1	7	1	4	4
Persons Killed	4	5	3	3	7	1	8	4	4	4
Injury Crashes	182	144	NA	150	140	137	126	107	144	116
Persons Injured	355	299	NA	266	250	241	243	188	233	215
Property Damage Crashes	666	572	NA	549	570	487	547	555	522	491
School Buses Directly Involved	857	731	NA	708	724	631	690	670	675	615

TABLE 8.02

**2010 SCHOOL BUS CRASHES BY TIME OF DAY**

Time of Day	Fatal Crashes	Injury Crashes	Property Damage Crashes	Total Crashes	Killed	Injured
Midnight - 2:59 AM	0	0	3	3	0	0
3:00 - 5:59 AM	0	0	7	7	0	0
6:00 - 8:59 AM	0	31	144	175	0	72
9:00 - 11:59 AM	0	22	58	80	0	29
Noon - 2:59 PM	0	18	89	107	0	26
3:00 - 5:59 PM	3	42	168	213	3	75
6:00 - 8:59 PM	0	3	13	16	0	6
9:00 - 11:59 PM	1	0	3	4	1	7
Unknown	0	0	6	6	0	0
Total	4	116	491	611	4	215

TABLE 8.03

**2010 SCHOOL BUS CRASHES BY MONTH**

Time of Day	Fatal Crashes	Injury Crashes	Property Damage Crashes	Total Crashes	Killed	Injured
January	1	20	87	108	1	34
February	0	13	69	82	0	25
March	1	9	39	49	1	26
April	0	10	30	40	0	10
May	0	9	44	53	0	17
June	0	8	14	22	0	9
July	0	1	9	10	0	1
August	1	1	6	8	1	2
September	1	11	36	48	1	26
October	0	5	30	35	0	19
November	0	16	49	65	0	25
December	0	13	78	91	0	21
Total	4	116	491	611	4	215

TABLE 8.04

**AGE AND GENDER OF PERSONS INJURED  
IN 2010 SCHOOL BUS CRASHES**

Age Group	In Bus	Pedestrian	In Other		Male	Female	Total
			Vehicle				
00 - 04	0	0	4		2	2	4
05 - 09	28	1	1		13	17	30
10 - 14	26	1	3		18	12	30
15 - 19	10	1	8		10	9	19
20 - 24	1	1	8		6	4	10
25 - 29	2	0	20		12	10	22
30 - 34	1	0	8		4	5	9
35 - 39	3	0	10		6	7	13
40 - 44	4	0	9		8	5	13
45 - 49	4	0	7		4	7	11
50 - 54	4	1	6		6	5	11
55 - 59	3	0	3		1	5	6
60 - 64	1	0	5		2	4	6
65 & Older	5	1	14		7	13	20
Unknown	3	2	6		2	6	11
Total	95	8	112		101	111	215

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

TABLE 8.05

**PERSONS KILLED OR INJURED  
IN 2010 SCHOOL BUS CRASHES BY POPULATION OF AREA**

Population of City or Township	Killed	Severely Injured	Moderately Injured	Minor Injuries	Total
250,000 and Over	1	0	10	37	47
100,000 - 249,999	0	0	1	2	3
50,000 - 99,999	0	2	5	13	20
25,000 - 49,999	1	0	5	18	23
10,000 - 24,999	0	0	4	43	47
5,000 - 9,999	0	1	0	10	11
2,500 - 4,999	0	0	1	7	8
1,000 - 2,499	0	0	1	1	2
Under 1,000	2	2	17	35	54
Total	4	5	44	166	215

TABLE 8.06

## 2010 SCHOOL BUS CRASHES BY FIRST HARMFUL EVENT

First Harmful Event	Fatal Crashes	Injury Crashes	Property Damage Crashes	Total Crashes	Killed	Injured
<b>Collision With:</b>						
Other Motor Vehicle	3	93	385	481	3	174
Parked Motor Vehicle	0	3	87	90	0	8
Bicycle	0	4	1	5	0	4
Pedestrian	1	8	0	9	1	9
Deer	0	0	2	2	0	0
Fixed Object	0	4	10	14	0	16
Overturn	0	1	2	3	0	1
<b>Other/Unknown</b>	0	3	4	7	0	3
Total	4	116	491	611	4	215

TABLE 8.07

## 2010 SCHOOL BUS CRASHES BY TRAFFIC CONTROL DEVICE

Traffic Control Device	Fatal Crashes	Injury Crashes	Property Damage Crashes†	Total Crashes*	Killed	Injured
Traffic Signal	1	25	101	127	1	37
Overhead Flashers	0	1	1	2	0	2
Stop Sign--All Approaches	0	5	29	34	0	6
Stop Sign--Not All Approaches	0	21	106	127	0	44
Yield Sign	0	5	8	13	0	7
School Bus Stop Arm	0	3	13	16	0	3
School Zone Sign	0	0	1	1	0	0
No Passing Zone	0	0	1	1	0	0
Railroad Crossing Stop Sign	0	3	12	15	0	7
Other	0	2	5	7	0	2
Not Applicable	3	50	207	260	3	106
Unknown	0	1	2	3	0	1
Total	4	116	491	611	4	215

†This field left blank on crash report for five school bus crashes

\*This field left blank on crash report for five school bus crashes

TABLE 8.08

## CONTRIBUTING FACTORS IN 2010 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
<b>Human Factors</b>				
Driver Inattention/Distraction	56	17.3%	104	22.6%
Failure to Yield Right of Way	41	12.7	70	15.2
Improper Turn	29	9.0	6	1.3
Improper/Unsafe Lane Use	25	7.7	14	3.0
Following Too Closely	21	6.5	48	10.4
Unsafe Backing	14	4.3	4	0.9
Vision Obscured	10	3.1	10	2.2
Illegal/Unsafe Speed	9	2.8	36	7.8
Improper Park/Start/Stop	8	2.5	5	1.1
Improper Passing/Overtaking	7	2.2	11	2.4
Disregard of Traffic Control Device	6	1.9	22	4.8
Driver Inexperience	6	1.9	14	3.0
Driving Left of Center	5	1.5	2	0.4
Overcorrecting	4	1.2	1	0.2
Non-Motorist Error	3	0.9	1	0.2
Improper/No Signal	1	0.3	0	0.0
Chemical Impairment	1	0.3	5	1.1
Other Human Factors	9	2.8	3	0.7
<b>Vehicular Factors</b>				
Skidding	8	2.5	43	9.3
Defective Brakes	2	0.6	3	0.7
Other Vehicular Factors	2	0.6	4	0.9
<b>Miscellaneous Factors</b>				
Weather Conditions	30	9.3	46	10.0
Other	26	8.0	9	2.0
<b>Total Contributing Factors Cited</b>	323	100.0%	461	100.0%
<b>Vehicles for Which There Was "No Clear Contributing Factor"</b>	307		238	
<b>Total Number of Drivers</b>	612		642	

Zero, one, or two 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, slightly more than 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 2010, there was one motor vehicle/train crash that resulted in a fatality, representing 3% of all motor-vehicle/train crashes in Minnesota.

### **Number of train crashes decreases**

In recent years, the number of motor-vehicle/train crashes in Minnesota has been declining. In 2010, there were 33 vehicle/train crashes, four fewer crashes than were reported the previous year.

### **Number of fatalities lowest in recent history**

Both vehicle/train crashes and fatalities decreased: one person was killed in 2010 compared to five in 2009.

### **Railroad crossings with flashing lights or gates**

Railroad crossings without some type of flashing lights or gates are very dangerous. Twenty-seven (82%) of the 33 motor-vehicle/train crashes, including the one fatal crash, occurred at a railroad crossing without flashing lights or gates. Only two crashes occurred where there was a railroad crossing gate present.

### **Most crashes occurred in rural areas**

Motor vehicle crashes involving a train are a predominantly rural phenomenon, defined as an area with less than 5,000 population. In 2010, 73 percent of the total crashes, 82 percent of injuries, and 100 percent of fatalities occurred in rural areas.

### **Contributing factors**

For motor vehicle drivers involved in train crashes, failure to yield right of way, driver inattention or distraction, and chemical impairment were the three contributing factors cited most often by officers.

TABLE 9.01

**MOTOR VEHICLE / TRAIN CRASH SUMMARY, 2001 - 2010**

	2001	2002	2003	2004	2005	2006	2007	2008	2009	2010
Total Crashes	70	77	NA	72	52	51	56	40	37	33
Fatal Crashes	5	6	5	12	5	8	2	3	4	1
Persons Killed	6	9	8	13	6	9	2	4	5	1
Injury Crashes	22	27	NA	21	22	10	16	17	11	17
Persons Injured	28	37	NA	27	29	15	20	20	15	21
Property Damage Crashes	43	44	NA	39	25	33	38	20	22	15

TABLE 9.02

**2010 MOTOR VEHICLE / TRAIN CRASHES BY MONTH**

Month	Fatal Crashes	Injury Crashes	Property Damage Crashes	Total	Killed	Injured
January	0	3	3	6	0	3
February	0	5	3	8	0	6
March	0	2	2	4	0	2
April	0	0	2	2	0	0
May	0	1	0	1	0	1
June	0	0	0	0	0	0
July	0	2	1	3	0	2
August	0	1	0	1	0	4
September	0	1	0	1	0	1
October	1	1	0	2	1	1
November	0	1	2	3	0	1
December	0	0	2	2	0	0
Total	1	17	15	33	1	21

TABLE 9.03

**2010 MOTOR VEHICLE / TRAIN CRASHES BY TIME AND DAY**

Time of Day	Sunday	Monday	Tuesday	Wednesday	Thursday	Friday	Saturday	Total
Midnight - 2:59 AM	0	0	1	1	0	1	0	3
3:00 - 5:59 AM	0	0	1	0	0	0	1	2
6:00 - 8:59 AM	1	0	0	1	1	0	0	3
9:00 - 11:59 AM	1	0	0	1	0	0	0	2
Noon - 2:59 PM	3	1	0	1	1	1	1	8
3:00 - 5:59 PM	1	1	1	1	1	1	1	7
6:00 - 8:59 PM	0	1	1	1	0	1	0	4
9:00 - 11:59 PM	1	0	0	1	0	2	0	4
Total	7	3	4	7	3	6	3	33



TABLE 9.04

**2010 MOTOR VEHICLE / TRAIN CRASHES  
BY TRAFFIC CONTROL DEVICE**

Traffic Control Device	Fatal Crashes	Injury Crashes	Property Damage Crashes	Total Crashes	Killed	Injured
Stop Sign All Approaches	0	2	1	3	0	2
RR Crossing Gate	0	1	1	2	0	1
RR Flashing Lights	0	1	0	1	0	1
RR Crossing Stop Sign	1	7	2	10	1	11
RR Overhead Lights/Gate	0	1	2	3	0	1
RR Crossbuck	0	5	5	10	0	5
Other Device	0	0	4	4	0	0
Total	1	17	15	33	1	21

TABLE 9.05

**2010 MOTOR VEHICLE / TRAIN CRASHES  
AGE OF PERSONS KILLED OR INJURED**

Age Group	Killed	Severely Injured	Moderately Injured	Minor Injuries	Total
00 - 04	0	0	0	0	0
05 - 09	0	0	0	0	0
10 - 14	0	0	1	0	1
15 - 19	0	0	1	1	2
20 - 24	0	0	0	1	1
25 - 29	0	0	0	3	3
30 - 34	0	0	0	1	1
35 - 39	0	0	0	0	0
40 - 44	0	0	0	0	0
45 - 49	1	0	0	4	4
50 - 54	0	0	0	3	3
55 - 59	0	0	0	0	0
60 - 64	0	0	1	1	2
65 - 69	0	0	0	1	1
70 - 74	0	0	1	1	2
75 - 79	0	0	0	0	0
80 & Older	0	0	0	1	1
Not Stated	0	0	0	0	0
Total	1	0	4	17	21

TABLE 9.06

**2010 MOTOR VEHICLE / TRAIN CRASHES BY POPULATION OF AREA**

<b>Population of City or Township</b>	<b>Fatal Crashes</b>	<b>Injury Crashes</b>	<b>Property Damage Crashes</b>	<b>Total Crashes</b>	<b>Killed</b>	<b>Injured</b>
250,000 and Over	0	1	1	2	0	1
100,000 - 249,999	0	0	0	0	0	0
50,000 - 99,999	0	1	0	1	0	1
25,000 - 49,999	0	1	1	2	0	1
10,000 - 24,999	0	0	2	2	0	0
5,000 - 9,999	0	0	2	2	0	0
2,500 - 4,999	0	2	0	2	0	2
1,000 - 2,499	0	2	0	2	0	5
Under 1,000	1	10	9	20	1	11
<b>Total</b>	<b>1</b>	<b>17</b>	<b>15</b>	<b>33</b>	<b>1</b>	<b>21</b>

TABLE 9.07

**2010 MOTOR VEHICLE / TRAIN CRASHES  
CONTRIBUTING FACTORS**

<b>Contributing Factor</b>	<b>Number</b>	<b>Percent</b>
<b>Human Factors</b>		
Failure to Yield Right of Way	17	35.4%
Driver Inattention/Distracted	5	10.4
Chemical Impairment	4	8.3
Improper Parking/Starting/Stopping	2	4.2
Illegal/Unsafe Speed	1	2.1
Improper Turn	1	2.1
Driver Inexperience	1	2.1
Other Human Contributing Factor	4	8.3
<b>Vehicular Factors</b>		
Skidding	4	8.3
<b>Other</b>		
Weather	6	12.5
Other Contributing Factor	3	6.3
<b>Total Contributing Factors Cited</b>	<b>48</b>	<b>100.0%</b>
<b>Vehicles for Which There Was "No Clear Contributing Factor"</b>	<b>2</b>	
<b>Number of Drivers</b>	<b>33</b>	

Zero, one, or two 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. Parents should establish clear, sensible rules to reduce their teen driver's exposure to high-risk situations. Making decisions, with safety as a priority over convenience, are essential to protecting our most vulnerable drivers - teens.

### 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 6.02: Teen pedestrians killed or injured.
- Table 7.05: Teen bicyclists killed or injured.
- Table 8.04: Teen school bus riders killed or injured.

### Improvement seen in the past decade

Table 10.01 indicates that the numbers of teen involved traffic crashes have been decreasing. 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 used). In 2004, 23% of all traffic crashes in Minnesota were teen related. In 2010, that percentage dropped to 18%.

Teen (ages 13-19) fatalities have also decreased. In 2004, 16% of all traffic fatalities in Minnesota were teens. In 2010, that percentage dropped to 11%.

Teen (ages 13-19) injuries have also decreased. In 2004, 18% of all traffic injuries in Minnesota were teens. In 2010, that percentage dropped to 14%.

### Rate per licensed teen driver decreasing

Table 10.02 indicates that the number of teen MVO drivers (ages 15-19) who were involved in crashes has also been decreasing. MVO stands for 'motor vehicle occupant'. That is, only teens that were driving vehicles normally equipped with seat belts are counted in this table. In 2004, 79 teen MVO drivers were involved in crashes for every 1,000 licensed teen drivers. In 2010, that rate dropped to 56.

### Colder weather

Teen involved crashes are rather evenly distributed throughout the year; however, there is an uptick during the colder months. In 2010, 41% of all teen involved crashes occurred during the four months of January, February, November, and December.

### 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 time, 37% of all teen crashes occurred in 2010. On the other hand, only 13% of all teen crashes occur during the six-hour nighttime period of 9:00 p.m. – 3:00 a.m.

### Contributing factors

For teen drivers of any vehicle involved in crashes, driver distraction was listed most often (21%) by officers at the scene. Next was failure to yield the right of way (15%), and then illegal or unsafe speed (11%). For the 'other' motor vehicle drivers involved, failure to yield the right of way was listed most often (24%), next was driver distraction (18%). Only 6% of the 'other' drivers were listed as illegal or unsafe speed.

TABLE 10.01

## TEEN CRASH SUMMARY, 2004 - 2010

Category	2004	2005	2006	2007	2008	2009	2010
Crashes with at least one Teen (15-19) Driver*	20,693	19,262	16,951	17,011	15,475	14,142	13,611
All Traffic Crashes in Minnesota	91,274	87,813	78,745	81,505	79,095	73,498	74,073
-Teen (15-19) Driver* Crash %	22.7%	21.9%	21.5%	20.9%	19.6%	19.2%	18.4%
Teen (13-19) Traffic Fatalities	88	72	75	53	37	40	47
All Traffic Fatalities in Minnesota	567	559	494	510	455	421	411
-Teen (13-19) Fatality %	15.5%	12.9%	15.2%	10.4%	8.1%	9.5%	11.4%
Teen (13-19) Traffic Injuries	7,056	6,431	6,054	5,723	5,079	4,648	4,391
All Traffic Injuries in Minnesota	40,073	37,686	35,025	35,318	33,379	31,074	31,176
-Teen (13-19) Injury %	17.6%	17.1%	17.3%	16.2%	15.2%	15.0%	14.1%

\*Driver of any motor vehicle.

TABLE 10.02

## TEEN, MOTOR VEHICLE OCCUPANT\* DRIVER CRASH INVOLVEMENT, 2004 - 2010

Age of Teen MVO* Driver	2004	2005	2006	2007	2008	2009	2010
Age 15 MVO* Drivers involved in Crashes	327	272	249	236	195	159	187
Age 15 Licensed Drivers**	31,638	31,161	26,360	26,029	26,141	28,126	28,020
-Rate per 1,000 Licensed Drivers:	10.3	8.7	9.4	9.1	7.5	5.7	6.7
Age 16 MVO* Drivers involved in Crashes	5,232	4,696	4,364	3,889	3,496	3,160	2,897
Age 16 Licensed Drivers**	55,812	55,398	53,520	51,499	49,801	49,884	49,634
-Rate per 1,000 Licensed Drivers:	93.7	84.8	81.5	75.5	70.2	63.3	58.4
Age 17 MVO* Drivers involved in Crashes	5,717	5,449	4,830	4,793	4,227	3,888	3,580
Age 17 Licensed Drivers**	61,286	61,431	60,695	59,766	57,875	56,554	55,885
-Rate per 1,000 Licensed Drivers:	93.3	88.7	79.6	80.2	73.0	68.7	64.1
Age 18 MVO* Drivers involved in Crashes	5,823	5,391	4,669	4,780	4,527	4,024	4,014
Age 18 Licensed Drivers**	66,397	65,440	64,617	64,910	64,337	62,707	61,526
-Rate per 1,000 Licensed Drivers:	87.7	82.4	72.3	73.6	70.4	64.2	65.2
Age 19 MVO* Drivers involved in Crashes	5,412	5,091	4,265	4,581	4,153	3,971	3,900
Age 19 Licensed Drivers**	71,026	68,842	67,917	67,664	68,050	67,701	66,272
-Rate per 1,000 Licensed Drivers:	76.2	74.0	62.8	67.7	61.0	58.7	58.8
All 15-19 MVO* Drivers involved in Crashes	22,511	20,899	18,377	18,279	16,598	15,202	14,578
All 15-19 Licensed Drivers**	286,159	282,272	273,109	269,868	266,204	264,972	261,337
-Rate per 1,000 Licensed Drivers:	78.7	74.0	67.3	67.7	62.4	57.4	55.8

\*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

**2010 TEEN INVOLVED CRASHES\* BY MONTH**  
 (\*Crashes involving at least one Teen Driver (15-19) of any vehicle)

Month	Fatal Crashes	A-Injury Crashes	B-Injury Crashes	C-Injury Crashes	PDO Crashes	Total Crashes
January	4	12	55	242	974	1,287
February	0	12	91	261	954	1,318
March	3	6	80	172	518	779
April	5	16	76	209	541	847
May	6	13	98	267	637	1,021
June	4	19	96	277	722	1,118
July	9	21	95	255	672	1,052
August	3	14	98	252	646	1,013
September	5	15	94	268	770	1,152
October	6	18	78	242	755	1,099
November	2	14	78	259	951	1,304
December	2	11	83	261	1,264	1,621
<b>Total</b>	49	171	1,022	2,965	9,404	13,611

TABLE 10.04

**2010 TEEN INVOLVED CRASHES BY DAY OF WEEK**  
 (\*Crashes involving at least one Teen Driver (15-19) of any vehicle)

Day	Fatal Crashes	A-Injury Crashes	B-Injury Crashes	C-Injury Crashes	PDO Crashes	Total Crashes
Sunday	6	24	150	307	918	1,405
Monday	11	32	148	439	1,437	2,067
Tuesday	7	26	133	437	1,415	2,018
Wednesday	5	19	141	466	1,403	2,034
Thursday	7	23	140	452	1,365	1,987
Friday	6	25	194	503	1,669	2,397
Saturday	7	22	116	361	1,197	1,703
<b>Total</b>	49	171	1,022	2,965	9,404	13,611

TABLE 10.05

**2010 TEEN INVOLVED CRASHES BY TIME OF DAY**

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

Hour	Fatal Crashes	A-Injury Crashes	B-Injury Crashes	C-Injury Crashes	PDO Crashes	Total Crashes
Midnight	0	5	10	33	145	193
1:00	2	8	17	24	104	155
2:00	2	5	14	27	89	137
3:00	1	4	20	18	87	130
4:00	0	2	8	24	58	92
5:00	1	3	15	18	81	118
6:00	2	4	18	37	108	169
7:00	1	13	53	190	608	865
8:00	2	8	39	105	444	598
9:00	0	5	29	84	267	385
10:00	3	4	37	94	326	464
11:00	0	2	38	120	407	567
Noon	2	9	43	136	488	678
1:00	4	6	52	151	474	687
2:00	2	8	57	219	731	1,017
3:00	5	20	96	346	1,013	1,480
4:00	5	6	108	297	903	1,319
5:00	2	14	82	299	819	1,216
6:00	4	9	65	214	575	867
7:00	3	12	67	139	411	632
8:00	4	10	42	128	350	534
9:00	2	4	44	108	380	538
10:00	2	5	43	82	292	424
11:00	0	5	24	68	217	314
Unknown	0	0	1	4	27	32
<b>Total</b>	<b>49</b>	<b>171</b>	<b>1,022</b>	<b>2,965</b>	<b>9,404</b>	<b>13,611</b>

FIGURE 10.01

**TOTAL TEEN INVOLVED CRASHES, BY TIME, 2010**

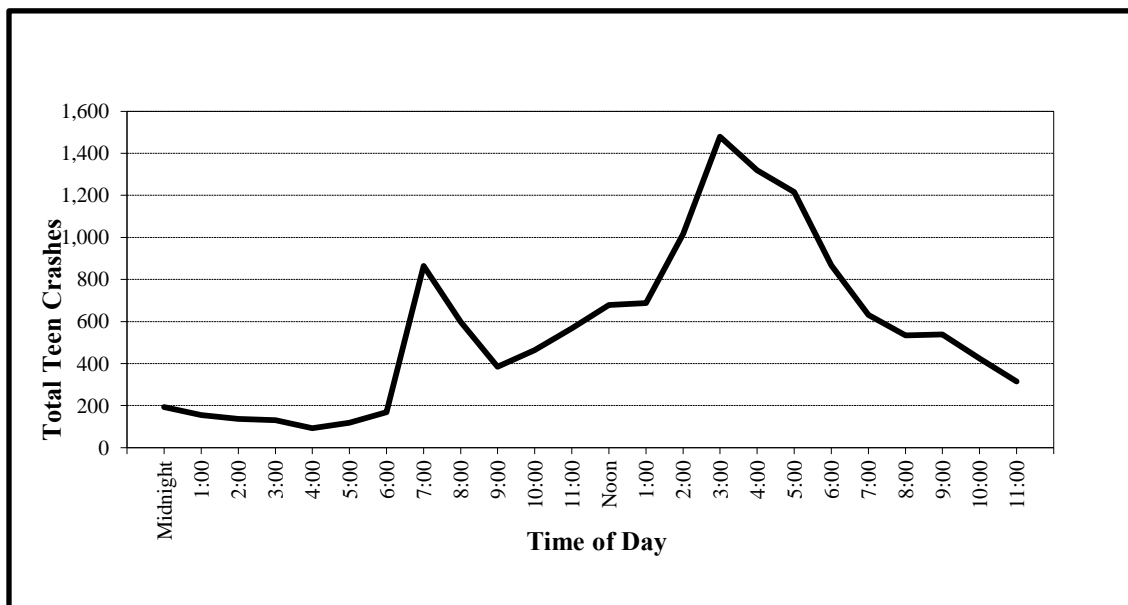


TABLE 10.06

CONTRIBUTING FACTORS IN 2010 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*
<b>Human Factors</b>				
Driver Inattention/Distraction	3,145	21.6%	770	18.1%
Failure to Yield Right of Way	2,194	15.1%	1,011	23.7%
Illegal/Unsafe Speed	1,646	11.3	239	5.6
Driver Inexperience	1,283	8.8	29	0.7
Following Too Closely	1,276	8.8	487	11.4
Disregard Traffic Control Device	474	3.3	183	4.3
Improper/Unsafe Lane Use	451	3.1	190	4.5
Overcorrecting	449	3.1	14	0.3
Vision Obscured	282	1.9	105	2.5
Improper Turn	220	1.5	107	2.5
Chemical Impairment	212	1.5	86	2.0
Unsafe Backing	130	0.9	56	1.3
Improper Park/Start/Stop	108	0.7	50	1.2
Improper Passing/Overtaking	100	0.7	70	1.6
Driving Left of Center	69	0.5	27	0.6
Driver On Phone/CB	21	0.1	6	0.1
Impeding Traffic	18	0.1	13	0.3
Improper/No Signal	13	0.1	8	0.2
Failure to Use Lights	2	0.0	6	0.1
Non-Motorist Error	0	0.0	38	0.9
Other Human Factors	262	1.8	93	2.2
<b>Vehicular Factors</b>				
Skidding	689	4.7	157	3.7
Defective Brakes	104	0.7	17	0.4
Oversize/Overweight Vehicle	3	0.0	0	0.0
Other Vehicular Factor	72	0.5	35	0.8
<b>Miscellaneous Factors</b>				
Weather Conditions	940	6.5	280	6.6
Other	371	2.6	186	4.4
<b>Total</b>	14,534	100.0%	4,263	100.0%
<b>Vehicles for Which There Was “No Clear Contributing Factor”</b>	3,679		6,780	
<b>Total Number of Drivers</b>	14,697		10,915	

\*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 ‘Teen Driver’ data.

Zero, one, or two 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.

**Severe or Incapacitating Injury** -- An injury (other than fatal) that prevents the injured person from walking, driving or normally continuing the activities he or she was capable of performing before the injury occurred. Includes severe lacerations, broken or distorted limbs, skull fracture, crushed chest, internal injuries, unconsciousness, etc. Hospitalization is usually required.

**Moderate/Non-Incapacitating injury** -- An injury (other than fatal or severe) that is evident to the officer at the scene of the crash. Includes abrasions, minor lacerations, bleeding, etc. May require medical treatment, but hospitalization is usually not required.

**Minor or Possible Injury** -- An injury (other than fatal, severe, or moderate) that is reported by a person involved in the crash. Includes complaint of physical pain when no cause is evident, momentary unconsciousness, limping, nausea, hysteria, etc.



**Motorcycle** -- A two-wheeled or three-wheeled motor vehicle having one or more riding saddles and having an engine of more than 50 cc. If it has a 50 cc or smaller engine, 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.