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STOP

minnesota motor vehicle  
**crash facts 2008**

## **Suggestions for Using *Crash Facts***

*Crash Facts* is designed to meet the needs of different audiences. If you are unfamiliar with this report, here are some suggestions that may make it easier for you to find the information you are looking for.

### **Legislators:**

Sections II through IX focus on particular traffic safety sub-areas (alcohol, seat belts, crashes involving motorcycles, pedestrians, etc.). Each section begins with a narrative that provides background, mentions highlights for the years, and discusses some legislative history (where appropriate). The first table in each section gives a 10-year history outlining the key parameters of the problem.

### **Students studying traffic safety issues:**

Of all age groups, teenagers and young adults pay the heaviest price in traffic safety (in terms of deaths and injuries). Each section contains tables focusing on age of drivers and victims in crashes.

### **Law enforcement community:**

There are over 500 city, county, and state law enforcement agencies in Minnesota. Each agency has access to its own reports on traffic crashes, but the data as a whole are brought together here. Table 1.24 shows statistical information arranged by county. Table 1.25 reports on the traffic crash experience of almost 200 cities with populations over 2,500.

### **Public health:**

Traffic crashes cause deaths and injuries; they are the leading cause of death to people ages 1 to 34. *Crash Facts* contains many tables that show age and gender of drivers and victims as well as the contributing factors in crashes. Section II contains tables relevant to chemical dependency issues, in particular, alcohol use and crash involvement.

### **City and county government agencies:**

County-specific information is in Table 1.24; city-specific statistics may be listed in Table 1.25. You may request additional information on traffic crashes in your county or city by contacting the Office of Traffic Safety at the address below.

### **Data availability:**

Although this report presents a wide spectrum of information in more than 100 tables and figures, it may not answer every question. You may request additional data from the Office of Traffic Safety by submitting a formal request to the address below. Keep in mind that depending on the complexity of the data requested, it may take up to two weeks to receive a response back.

Requests should be directed to:

Minnesota Department of Public Safety  
Office of Traffic Safety  
444 Cedar Street, Suite 150  
St. Paul, MN 55101-5150  
(651) 201-7076

# MINNESOTA MOTOR VEHICLE CRASH FACTS 2008

A summary of crashes occurring on Minnesota roadways based on crash reports submitted to the Minnesota Department of Public Safety by investigating police officers and drivers.

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## **Acknowledgements:**

Many thanks to the Crash Records Section of the Driver and Vehicle Services Division at the Department of Public Safety for their excellent data quality control work. Thanks also to the State Patrol, the Bureau of Criminal Apprehension, Sheriffs, Police Chiefs, and Medical Examiners for their assistance regarding alcohol-related crashes. And many thanks to all of the Minnesota officers and troopers who were on the scene of these traffic crashes. Their hard work and data reporting make this book a valuable document to traffic safety researchers, legislators, the media, and the public.

## **Note:**

This publication can be viewed online at the Office of Traffic Safety website: [www.dps.state.mn.us/ots/](http://www.dps.state.mn.us/ots/). Click on “Crash Data and Reports” at the top of the page. This site also includes archived *Crash Facts* data from 1999 to 2007.



## Office of Commissioner

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As the Commissioner of the Department of Public Safety (DPS), I'm proud to report that Minnesota has made significant progress in recent years to limit traffic deaths and serious, life-altering injuries on our roads. In 2008, 455 people died in traffic crashes — the fewest number of deaths since 1945 and an 11 percent decrease from the previous year. Minnesota's fatality rate per 100 million vehicle miles traveled is now 0.79, one of the lowest rates in the nation.

While high gas prices may have been a partial factor in the decrease in deaths — resulting in motorists traveling at safer and slower speeds to consume less fuel — we are confident that the state's proactive *Toward Zero Deaths (TZD)* efforts played a significant role.

*TZD* is an interdisciplinary program anchored by four key elements to benefit traffic safety: enforcement, education, engineering and emergency trauma care response. Enhanced enforcement campaigns are directed at local levels to address specific issues to a given area including belt use, speeding and impaired driving. Educational outreach efforts in communities, including earned and paid media help communicate important messages. Engineering enhancements such as cable median barriers improve the driving environment. And, improved emergency response strategies are working to increase the chances of survival for crash victims.

Important legislation in 2008 also improved traffic safety in Minnesota. Lawmakers strengthened the graduated driver's licensing law which helps teens hone their driving skills during their first year of licensure by reducing exposure to two high-risk situations: driving late at night and carrying multiple teenaged passengers. Legislators also passed a law banning the use of wireless devices in a vehicle making it illegal to text, go online and read or send emails.

The drop in fatalities can also be attributed to the state's seat belt use rate of 87 percent. We expect the compliance rate to further increase as the state passed a primary seat belt law in the spring of 2009. A new booster seat law, effective in July 2009, will also limit preventable tragedies. Further, a new statewide pilot program gives DWI offenders an opportunity to have ignition interlock devices installed to ensure they are driving legally and sober.

*Minnesota Motor Vehicle Crash Facts* is a comprehensive and detailed annual publication that helps Minnesotans better understand the impact of traffic crashes. DPS believes this publication is critical to gauge the progress we have made and to remind us that we still have a great deal of work to do. Our goal is to drive Minnesota toward zero traffic deaths. To accomplish this, we ask every motorist to buckle up, slow down, pay attention and always have a plan for a safe and sober ride to avoid driving impaired. We can't stress enough that everyone has a role in keeping our roads safe.

Sincerely,

A handwritten signature in cursive script that reads "Michael Campion".

Michael Campion

Commissioner, Minnesota Department of Public Safety



## Minnesota Traffic Crashes in 2008

### OVERVIEW

This edition of *Minnesota Motor Vehicle Crash Facts* summarizes the crashes, deaths, and injuries that occurred on Minnesota roadways during 2008. The information provided in this book will assist you in traveling our roadways safely.

#### In 2008

- 79,095 traffic crashes were reported to the Minnesota Department of Public Safety (DPS)
- 141,756 motor vehicles and 192,235 people were involved in these crashes
- 455 people died and 33,379 people were injured
- Estimated economic cost to Minnesota: \$1,480,371,300

#### On an average day in 2008

- 216 crashes
- 1.2 deaths and 91 injuries
- Average daily cost: \$4,044,730

#### 2008 crashes that were known to be alcohol involved

- 4,245 crashes
- 163 deaths and 2,896 injuries
- Estimated economic cost: \$261,017,800

#### Highlights from the 2008 *Crash Facts* edition

- **Traffic fatalities decrease.**  
In 2008, Minnesota experienced a decrease in traffic fatalities of 10.8 percent from the previous year. High gas prices and the worsening economy were likely factors contributing to this decrease, as people drove less and probably slower. However, traffic fatalities in Minnesota remain at epidemic levels - serving as a call-to-action for all motorists to buckle up, drive at safe speeds, pay attention, and never drive impaired.
- **Safety belt use in Minnesota is 87 percent.**  
An observational study in 2008 showed that belt use by front seat drivers and passengers was 87%. It is a known fact that seat belts save lives. All motor vehicle occupants are urged to buckle up, every seat, and every ride.
- **The fatality rate in Minnesota per 100 million vehicle miles traveled (VMT) remains low.**  
The VMT-based fatality rate for 2008 is 0.79, one of the lowest in the nation. The VMT fatality rate has shown dramatic improvement in the last five decades (it was 5.52 in 1966).

## CRASH FACTS ORGANIZATION

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

#### Introduction

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

- How crash costs are estimated
- Contributing factors in crashes
- Historical analysis of traffic deaths over the last 35 to 40 years

- Licensed drivers by age (Table 2)
- Registered motor vehicles by category (Table 3)

### **Section I: All Crashes**

Beginning on page 7, you will find the aggregate of all traffic crashes that occurred in Minnesota in 2008. Information provided includes:

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

### **Section II: Alcohol-Related Crashes**

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

- Historical overview since 1980 (Table 2.01)
- DWI arrest statistics (Tables 2.02, 2.03, and 2.04)
- Persons killed and injured in alcohol-related crashes by age (Table 2.05)

### **Section III: Safety Equipment Use by Vehicle Occupants in Crashes**

Beginning on page 51, you will find information on belt use by people in cars and trucks.

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

### **Section IV: Motorcycle Crashes**

Beginning on page 60, you will find information on crashes involving motorcycles.

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

### **Section V: Truck Crashes**

Beginning on page 69, you will find information on crashes that involved a heavy commercial vehicle.

- Crashes involving pickup trucks are not included in this section.

### **Section VI: Pedestrian Crashes**

Beginning on page 77, you will find information on motor-vehicle/pedestrian crashes.

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

### **Section VII: Bicycle Crashes**

Beginning on page 86, you will find information on motor-vehicle/bicycle crashes.

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

### **Section VIII: School Bus Crashes**

Beginning on page 91, you will find information pertaining to school bus crashes.

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

### **Section IX: Motor Vehicle/Train Crashes**

Beginning on page 96, you will find information pertaining to train crashes.

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

### **Definitions:**

The definitions section at the end of the book attempts to succinctly define key terms.

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# INTRODUCTION

At the end of the 2008 calendar year, 3,938,401 people held Minnesota driver licenses and 4,858,501 motor vehicles were registered in the state. Vehicles traveled over 57 billion miles on public roadways in the state. There were 79,095 traffic crashes; 455 people died and 33,379 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 the National Safety Council’s economic cost figures, the most recent of which are based on 2007 data. Based on those, the total economic loss from 2008 traffic crashes in Minnesota was \$1,480,371,300, a figure that is calculated as follows:

## Cost of Motor Vehicle Crashes in 2008

455	deaths	@	\$1,130,000	=	\$514,150,000
1,553	severe injuries	@	\$65,000	=	\$100,945,000
8,334	moderate injuries	@	\$21,000	=	\$175,014,000
23,492	minor injuries	@	\$11,900	=	\$279,554,800
54,761	PDO crashes	@	\$7,500	=	\$410,707,500
Total				=	\$1,480,371,300

## 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 eight teenage drivers are involved in crashes each year. The involvement rate drops off for successive age groups. For example, it is about 1 in 25 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 2008, there were 37,313 traffic fatalities throughout the country and 455 in Minnesota. The respective rates per hundred million miles of travel were 1.28 and 0.79. 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.

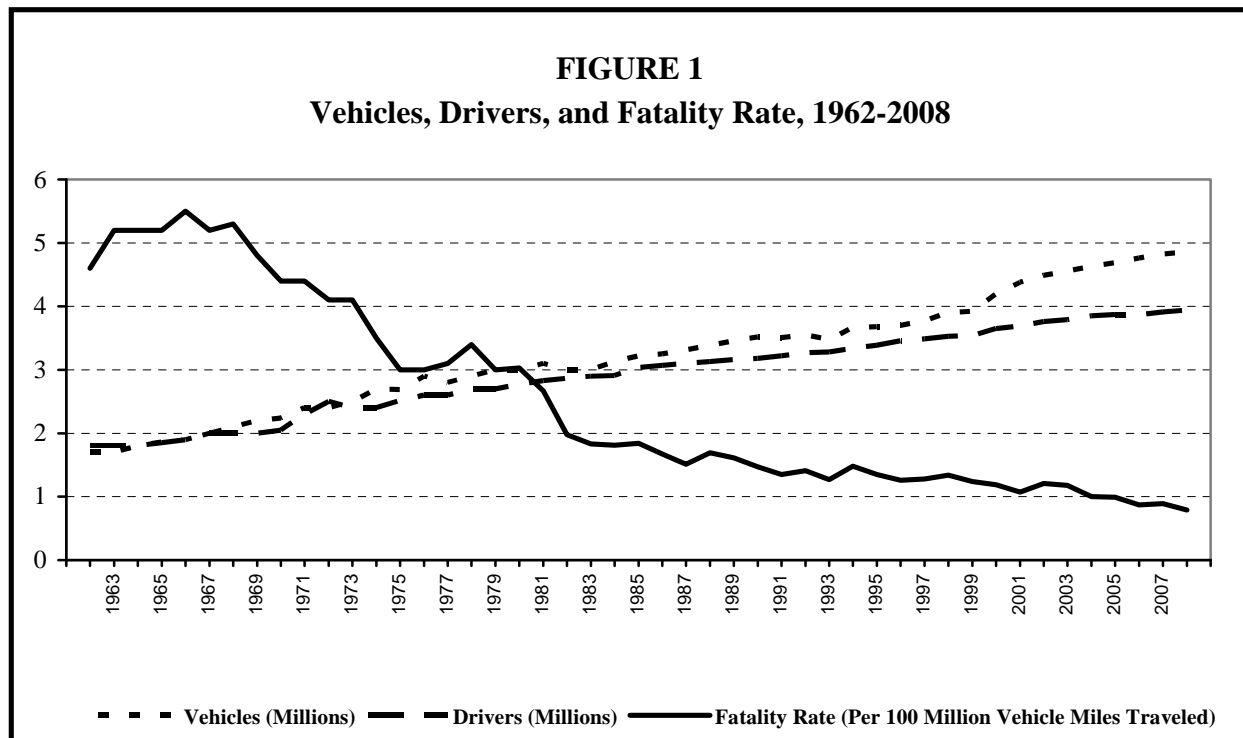
#### Legislative requirement

*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.

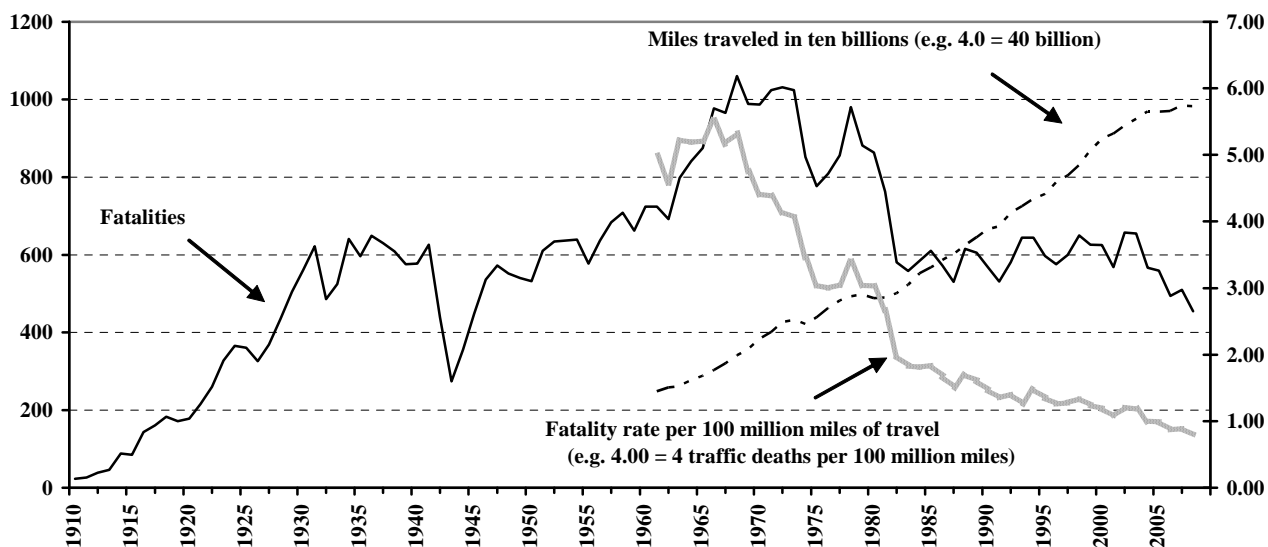
*Crash Facts* is divided into nine sections. The first present's information on the aggregate of all crashes reported to the state during the preceding calendar year. The remaining eight sections focus on specific areas of interest to policy makers and the public. Section II deals with alcohol-related 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 five sections focus on crashes that involved motorcycles (section IV), trucks (section V), pedestrians (section VI), bicycles (section VII), and school buses (section VIII). The final section (IX) summarizes information on collisions between motor vehicles and trains.



**TABLE 1**  
**Minnesota Traffic Fatalities, 1910 – 2008**  
 Since 1961: Vehicle Miles Traveled (Billions) and Fatality Rates (Per 100 Million VMT)

YEAR	Fatal- ities	YEAR	Fatal- ities	YEAR	Fatal- ities	YEAR	Fatal- ities	Vehicle Miles	Fatal Rate	YEAR	Fatal- ities	Vehicle Miles	Fatal Rate	YEAR	Fatal- ities	Vehicle Miles	Fatal Rate
(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)	(10)	(11)	(12)	(13)	(14)	(15)	(16)	(17)	(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				
1925	361	1942	439	1959	662	1976	809	27.0	3.00	1993	538	42.3	1.27				
1926	326	1943	274	1960	724	1977	856	28.1	3.05	1994	644	43.4	1.48				

**FIGURE 2**  
**Minnesota Traffic Fatalities, 1910 - 2008**  
 Since 1961: Miles Traveled (in Ten Billions) and Fatality Rates (per 100 Million VMT)



**TABLE 2**  
**DRIVER LICENSE\* SUMMARY BY AGE, 2003 - 2008**

<b>Age</b>	<b>2003</b>	<b>2004</b>	<b>2005</b>	<b>2006</b>	<b>2007</b>	<b>2008</b>
15	29,800	31,638	31,161	26,360	26,029	26,141
16	55,614	55,812	55,398	53,520	51,499	49,801
17	61,329	61,286	61,431	60,695	59,766	57,875
18	67,491	66,397	65,440	64,617	64,910	64,337
19	69,792	71,026	68,842	67,917	67,664	68,050
20	69,385	71,513	71,780	68,826	69,091	68,920
Under 21	353,411	357,672	354,052	341,935	338,959	335,124
15 – 19	284,026	286,159	282,272	273,109	269,868	266,204
20 – 24	352,818	361,589	361,839	353,949	351,877	350,535
25 – 29	326,355	339,712	348,538	353,241	360,944	365,501
30 – 34	333,363	330,480	319,537	311,685	316,410	324,694
35 – 39	354,509	350,988	349,515	342,520	336,604	327,911
40 – 44	408,428	403,774	390,439	372,638	358,091	347,387
45 – 49	386,086	395,178	400,876	401,715	401,496	399,215
50 – 54	335,331	345,855	355,524	361,197	369,195	376,096
55 – 59	264,204	280,193	296,390	306,185	314,238	324,589
60 – 64	200,322	208,133	212,324	226,262	239,650	251,756
65 – 69	154,103	158,035	163,125	168,693	178,918	187,347
70 – 74	131,255	131,277	131,383	132,725	136,026	140,879
75 – 79	114,350	114,333	114,220	114,750	114,678	113,740
80 – 84	82,681	84,761	85,056	86,274	88,606	89,045
85 & Older	60,348	61,389	61,055	66,217	71,373	73,502
Total	3,788,179	3,851,856	3,872,093	3,871,160	3,907,974	3,938,401

\* 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, 2003 - 2008**

<b>Type of Vehicle*</b>	<b>2003</b>	<b>2004</b>	<b>2005</b>	<b>2006</b>	<b>2007</b>	<b>2008</b>
Passenger Vehicles	3,196,960	3,239,418	3,288,446	3,353,858	3,406,848	3,455,451
Pickup Trucks	895,409	902,941	894,230	883,623	872,057	849,627
Commercial Trucks	197,952	206,419	211,577	215,542	217,059	215,107
Recreational Vehicles	39,828	39,853	39,032	37,978	37,399	34,998
Motorcycles	161,793	174,195	185,087	197,735	209,591	224,625
Motorized Bicycles	7,493	8,670	9,432	10,726	12,343	15,601
School Buses	5,979	5,989	6,093	6,257	6,399	6,766
Buses	5,058	5,059	5,018	5,235	5,312	5,076
Van Pool	219	201	193	197	199	205
Tax Exempt Vehicles	44,316	47,919	49,845	49,721	51,483	51,045
<b>Motor Vehicle Subtotal</b>	<b>4,555,007</b>	<b>4,630,664</b>	<b>4,688,953</b>	<b>4,760,872</b>	<b>4,818,690</b>	<b>4,858,501</b>
<b>Other Registrations*</b>						
Trailers	1,357,019	1,388,642	1,448,877	1,445,556	1,508,157	1,564,054
Classic Motor Vehicles	139,784	146,541	153,383	153,594	160,195	166,472
Classic Motorcycles	5,110	5,703	6,266	6,855	7,511	8,124
<b>Other Subtotal</b>	<b>1,501,913</b>	<b>1,540,886</b>	<b>1,608,526</b>	<b>1,606,005</b>	<b>1,675,863</b>	<b>1,738,650</b>
<b>Total Registrations</b>	<b>6,056,920</b>	<b>6,171,550</b>	<b>6,297,479</b>	<b>6,366,877</b>	<b>6,494,553</b>	<b>6,597,151</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 80,000 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 2008:

- The population of Minnesota approached 5.3 million.
- More than 4.8 million motor vehicles were registered.
- There were more than 3.9 million licensed drivers.
- More than 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 and Fatalities Decrease in 2008

There were 79,095 traffic crashes reported to Public Safety in 2008, a decrease of 3.0% from 2007. And, there were 455 deaths on Minnesota roads, a large 10.8% decrease from the previous year. Many factors contributed to these decreases but it appears likely the worsening economy played a role. In addition, gasoline prices hit \$4 per gallon in early 2008 and it is likely that people drove less and traveled at lower speeds. Also, seat belt use has continued to rise since the mid-1980's when a 'secondary' seat belt law was passed. And, there is far more awareness today than in the past concerning drinking and driving. (The .08 law was passed in 2005).

### Traffic Crashes in 2008

The following facts give an overall picture of 2008 traffic crashes; In addition to the 455 killed...

- 33,379 were injured.
- 1,553 of these were severe injuries.
- 8,334 of these were moderate injuries.
- 23,492 of these were minor injuries.
- In all crashes, 192,235 people were involved.
- In all crashes, 141,756 motor vehicles were involved.
- There were 981 crashes that involved at least 1 bicyclist.
- There were 945 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, 6,739 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 3,938,401 licensed drivers in the state. People aged 15-24 make up 15.7% of the licensed drivers, yet they accounted for 26.4% of the crash-involved drivers. Teenage drivers are the worst, from this perspective. In 2008, they represented just 6.8% of the licensed drivers, but 12.4% of the crash-involved drivers. By contrast drivers over 65 made up 16% of the driving population, but accounted for just 7% of the crash-involved drivers in 2008. Crash-involved drivers are also more likely to be males: 74% of drivers in fatal crashes were male; 56% of drivers in all crashes were male.

Traffic crashes are the leading cause of death to young people. In the state last year, 161 people under age 30 died in crashes, representing 35% 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 7% of all traffic crashes in 2008 but accounted for 19% of the traffic fatalities.

Among people injured, young people especially pay the price. There were 14,904 people under age 30 who were injured, representing 46% 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 along side 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 second 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. For the under-65 drivers, two additional

contributing factors are also frequently cited; following too closely and illegal or unsafe speed.

### **WHAT the conditions were**

Victims of traffic crashes are mostly car, pickup, sport utility vehicle (SUV) or van occupants. Of the 455 traffic fatalities, 314 (69%) were from these 4 vehicle types. There were also 25 pedestrians, 72 motorcyclists, and 13 bicyclists who died in traffic crashes. There were 4 deaths among school bus occupants, and 10 fatalities among commercial truck occupants. There is a similar pattern among people who were injured: of the 33,379 injured, 87% were car, van, SUV, or pickup occupants, and the remainder were from several categories, mainly motorcycle riders, pedestrians, and bicyclists.

A collision with another vehicle is the leading crash type. Almost half (45%) of the fatal crashes and almost two-thirds (63%) 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 (16% of the total), collision with a parked motor vehicle (9% of the total), and collision with deer (4% of the total).

Most crashes occur in good driving conditions. Over half (54%) of fatal crashes, and 67% of nonfatal crashes occurred during daylight hours. A majority of crashes occur also in good weather conditions. Over half (61%) of fatal crashes, and 56% of nonfatal crashes occurred during “clear” weather. Road surface conditions where crashes occurred were usually good. For fatal crashes, 72% were on dry roads, 10% were on wet roads, and 15% were on snowy or icy roads. For nonfatal crashes, 60% were on dry roads, 13% on wet roads, and 25% 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. In the year 2008, 283 (67%) of all fatal crashes occurred in rural areas, which are defined as having a population of less than 5,000 people. And, 129 (31%) of all fatal crashes occurred on county state aid highways, and 98 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 30% of the fatal crashes, but 57% of all crashes.

### **WHEN they occurred**

In the year 2008, fatal crashes occurred most often in the 3-4 p.m. time period (31). In fact, a fatal traffic crash is most likely to occur during afternoon 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: 40% 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 199 of the 420 total fatal crashes (47%). Total crashes are more evenly distributed across days of the week, although Fridays had the most (17%) 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 2008 followed this axiom. Because of severe weather, December had the most crashes reported (almost 12,000) of any month. Warmer weather produces more fatalities. August had the most with 55. 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 550 people were killed and 40,000 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 engineering 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 - 2008

Year	Total Crashes	Persons		Licensed Drivers (million)	Motor Vehicles (MV) (million)	State Popu- lation (million)	Vehicle Miles Traveled (VMT) (billion)	Crash Rates			Fatality Rates		
		Killed	In- jured					Per 100,000 MV	Per 100,000 Popu- lation	Per 100 Mil VMT	Per 100,000 MV	Per 100,000 Popu- lation	Per 100 Mil VMT
(a)	(b)	(c)	(d)	(e)	(f)	(g)	(h)	(i)	(j)	(k)	(l)	(m)	(n)
1965	83,329	875	50,847	1.85	1.86	3.57	16.8	4,480	2,334	496	47.0	24.5	5.2
1970	99,404	987	38,538	2.05	2.24	3.80	22.4	4,438	2,616	444	44.1	26.0	4.4
1975	123,206	777	41,931	2.51	2.69	3.92	25.6	4,580	3,143	481	28.9	19.8	3.0
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

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) Estimates for 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**  
**2003 - 2008**

	2003	2004	2005	2006	2007	2008	Record High	
<b>Fatal Crashes</b>	<b>583</b>	<b>520</b>	<b>500</b>	<b>456</b>	<b>463</b>	<b>420</b>	<b>878</b>	<b>(1973)</b>
<b>Injury Crashes</b>	<b>N/A</b>	<b>28,066</b>	<b>26,618</b>	<b>24,663</b>	<b>24,978</b>	<b>23,914</b>	<b>33,686</b>	<b>(1978)</b>
Severe	N/A	1,937	1,660	1,528	1,441	1,248	5,109	(1984) <sup>1</sup>
Moderate	N/A	9,257	7,958	7,111	7,099	6,493	12,326	(1985) <sup>1</sup>
Minor	N/A	16,872	17,000	16,024	16,438	16,173	18,578	(1996) <sup>1</sup>
<b>PDO Crashes</b>	<b>N/A</b>	<b>62,688</b>	<b>60,695</b>	<b>53,626</b>	<b>56,064</b>	<b>54,761</b>	<b>94,810</b>	<b>(1975)</b>
<b>Total Crashes</b>	<b>N/A</b>	<b>91,274</b>	<b>87,813</b>	<b>78,745</b>	<b>81,505</b>	<b>79,095</b>	<b>123,106</b>	<b>(1975)</b>
<b>Total Injuries</b>	<b>N/A</b>	<b>40,073</b>	<b>37,686</b>	<b>35,025</b>	<b>35,318</b>	<b>33,379</b>	<b>50,332</b>	<b>(1978)</b>
Severe	N/A	2,424	2,019	1,844	1,736	1,553	6,573	(1984) <sup>1</sup>
Moderate	N/A	12,416	10,453	9,323	9,365	8,334	17,670	(1985) <sup>1</sup>
Minor	N/A	25,233	25,214	23,858	24,217	23,492	28,631	(1996) <sup>1</sup>
<b>Total Fatalities</b>	<b>655</b>	<b>567</b>	<b>559</b>	<b>494</b>	<b>510</b>	<b>455</b>	<b>1,060</b>	<b>(1968)</b>
Motor Vehicle Occupant	526	461	440	373	399	325	544	(2002) <sup>1</sup>
Motorcycle	62	50	59	70	61	72	121	(1980)
Pedestrian	52	37	44	38	33	25	157	(1971)
Bicycle	6	10	7	8	4	13	24	(1977)
All Terrain Vehicle	4	4	7	2	4	10	10	(2008)
Snowmobile	2	1	2	3	3	1	9	(1984)
Farm Equipment	0	2	0	0	3	0	N/A	N/A
Other Vehicle Type	3	2	0	0	3	9	N/A	N/A
<b>Minnesota Fatality Rate<sup>3</sup></b>	1.18	1.00	0.99	0.87	0.89	0.79	23.6	(1934)
<b>U.S. Fatality Rate<sup>3</sup></b>	1.48	1.44	1.46	1.42	1.37	1.28	18.0	(1925)
<b>Minnesota Economic Loss (millions)</b>	N/A	\$1,769	\$1,666	\$1,529	\$1,654	\$1,480	\$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

**2008 FATALITIES BY TRAFFIC ROLE, GENDER, AND AGE**

Type of Vehicle	Position in Vehicle	Gender	Age								Total
			0-9	10-19	20-29	30-39	40-49	50-59	60-69	70 & Older	
Car	Driver	Male	0	7	20	10	11	11	7	21	87
		Female	0	8	17	7	0	4	4	7	47
	Passenger	Male	3	3	8	4	1	1	1	2	23
		Female	6	3	5	2	2	3	4	7	32
Pickup	Driver	Male	0	3	8	8	3	3	4	5	34
		Female	0	0	0	0	0	0	0	0	0
	Passenger	Male	0	0	1	0	1	1	0	3	6
		Female	1	0	0	0	1	1	1	0	4
SUV	Driver	Male	0	2	7	2	3	4	3	1	22
		Female	0	1	2	6	3	2	1	1	16
	Passenger	Male	0	2	2	1	1	0	0	0	6
		Female	1	0	2	1	0	1	1	1	7
Van	Driver	Male	0	0	4	2	2	2	4	4	18
		Female	0	0	0	1	0	1	2	1	5
	Passenger	Male	0	1	1	1	0	1	0	0	4
		Female	1	0	1	0	0	0	0	2	4
Truck	Driver	Male	0	0	0	1	3	4	0	1	9
	Passenger	Female	0	0	0	1	0	0	0	0	1
Motorcycle	Driver	Male	0	2	14	12	17	8	6	2	61
		Female	0	0	0	1	1	1	0	1	4
	Passenger	Male	0	1	0	0	0	0	0	0	1
		Female	0	0	1	1	2	2	0	0	6
Other Motor Vehicle	Driver	Male	0	1	3	1	1	2	0	4	12
		Female	0	0	0	0	1	0	0	0	1
	Passenger	Male	1	2	0	0	1	0	0	0	4
		Female	1	2	0	0	0	0	0	0	3
Bicyclist		Male	1	3	0	0	1	1	2	2	10
		Female	0	0	0	0	0	2	0	1	3
Pedestrian		Male	2	1	4	0	4	1	1	3	16
		Female	1	0	1	0	2	2	1	2	9
Total Fatalities		Male	7	28	72	42	49	39	28	48	313
		Female	11	14	29	20	12	19	14	23	142
		Total	18	42	101	62	61	58	42	71	455

Note: The vehicle types for the 20 fatalities in the 'Other Motor Vehicle' category consisted of:  
One snowmobile, 10 ATV's, 4 school bus, 1 commercial bus, 1 golf cart, and 3 personal conveyance vehicles

TABLE 1.04

**AGE AND GENDER OF PERSONS KILLED OR INJURED IN 2008 CRASHES**

Age Group	Persons Killed			Persons Injured			
	Male	Female	Total	Male	Female	Unknown	Total
00 - 03	4	5	9	192	197	2	391
04 - 10	5	6	11	535	447	4	986
11 - 14	6	0	6	394	361	2	757
Total Under 15:	15	11	26	1,121	1,005	8	2,134
15	2	1	3	167	221	1	389
16	3	4	7	420	566	1	987
17	5	3	8	462	612	2	1,076
18	7	4	11	575	597	2	1,174
19	3	2	5	472	547	0	1,019
20	9	6	15	482	517	4	1,003
Total 15-20:	29	20	49	2,578	3,060	10	5,648
Total Under 21:	44	31	75	3,699	4,065	18	7,782
00 - 04	4	7	11	257	257	2	516
05 - 09	3	4	7	394	323	4	721
10 - 14	8	0	8	470	425	2	897
15 - 19	20	14	34	2,096	2,543	6	4,645
20 - 24	32	21	53	2,228	2,328	14	4,570
25 - 29	40	8	48	1,679	1,866	10	3,555
30 - 34	24	11	35	1,196	1,309	7	2,512
35 - 39	18	9	27	1,167	1,302	3	2,472
40 - 44	26	8	34	1,077	1,294	3	2,374
45 - 49	23	4	27	1,214	1,354	5	2,573
50 - 54	15	9	24	1,068	1,174	4	2,246
55 - 59	24	10	34	846	932	3	1,781
60 - 64	16	10	26	598	621	2	1,221
65 - 69	12	4	16	392	430	0	822
70 - 74	14	6	20	255	299	0	554
75 - 79	9	5	14	235	261	1	497
80 - 84	8	4	12	181	197	0	378
85 & Older	17	8	25	114	137	1	252
Not Stated	0	0	0	199	247	347	793
Total:	313	142	455	15,666	17,299	414	33,379

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 2008 CRASHES**

Age Group	Drivers in Fatal Crashes				Drivers in All Crashes			
	Male	Female	Not Stated	Total	Male	Female	Not Stated	Total
14 & Younger	1	1	0	2	53	27	2	82
15	4	0	0	4	123	85	0	208
16	5	5	0	10	1,768	1,748	2	3,518
17	7	8	0	15	2,197	2,046	5	4,248
18	8	8	0	16	2,464	2,109	7	4,580
19	6	2	0	8	2,286	1,936	7	4,229
20	9	8	0	17	2,147	1,821	7	3,975
Total Under 21	40	32	0	72	11,038	9,772	30	20,840
00 – 04	0	0	0	0	9	6	2	17
05 – 09	0	0	0	0	6	4	0	10
10 – 14	1	1	0	2	38	17	0	55
15 – 19	30	23	0	53	8,838	7,924	21	16,783
20 – 24	47	31	0	78	10,216	8,737	55	19,008
25 – 29	60	16	0	76	8,658	6,837	54	15,549
30 – 34	33	16	0	49	6,541	5,014	19	11,574
35 – 39	38	15	0	53	6,352	4,769	19	11,140
40 – 44	38	10	0	48	6,226	4,828	8	11,062
45 – 49	50	8	0	58	6,432	4,878	7	11,317
50 – 54	37	14	0	51	5,647	4,064	4	9,715
55 – 59	40	9	0	49	4,574	3,180	5	7,759
60 – 64	32	8	0	40	3,209	2,068	1	5,278
65 – 69	18	4	0	22	2,107	1,435	2	3,544
70 – 74	21	2	0	23	1,350	941	1	2,292
75 – 79	12	6	0	18	1,135	835	4	1,974
80 – 84	9	4	0	13	863	627	0	1,490
85 & Older	15	3	0	18	525	364	1	890
Not Stated	0	0	3	3	435	218	5,242	5,895
Total	481	170	3	654	73,161	56,746	5,445	135,352

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.)

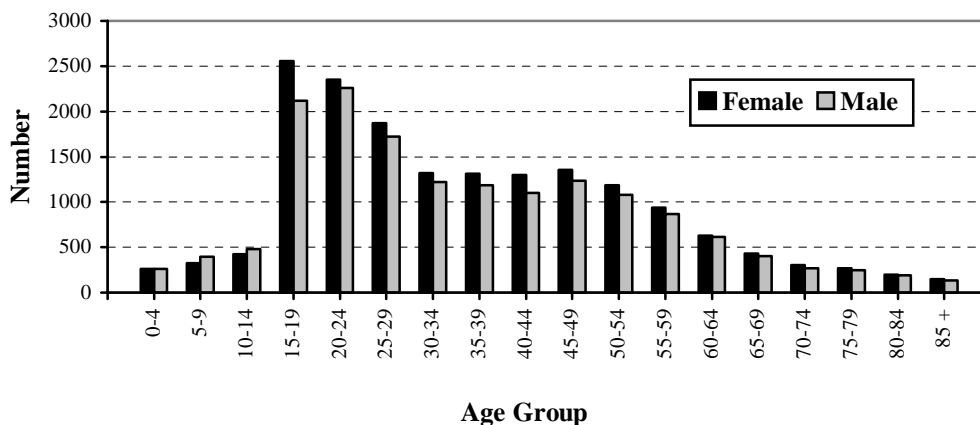
TABLE 1.06

**LICENSED VS. CRASH-INVOLVED DRIVERS BY AGE, 2008**

<b>Age Group</b>	<b>Percentage of All Licensed Drivers</b>	<b>Percentage of Drivers in</b>			
		<b>Fatal Crashes</b>	<b>Injury Crashes</b>	<b>Property Damage Crashes</b>	<b>All Crashes</b>
14 & Younger	0.0%	0.0%	0.1%	0.1%	0.1%
15	0.7	0.6	0.2	0.1	0.2
16	1.3	1.6	2.7	2.6	2.6
17	1.5	2.4	3.1	3.2	3.1
18	1.6	2.5	3.4	3.4	3.4
19	1.7	1.3	3.1	3.2	3.1
20	1.7	2.7	3.0	2.9	2.9
Total Under 21	8.5%	11.0%	15.5%	15.4%	15.4%
15 - 19	6.8%	8.3%	12.4%	12.4%	12.4%
20 - 24	8.9	11.9	14.0	14.1	14.0
25 - 29	9.3	11.6	11.8	11.3	11.5
30 - 34	8.2	7.5	8.6	8.5	8.6
35 - 39	8.3	8.1	8.6	8.1	8.2
40 - 44	8.8	7.3	8.4	8.1	8.2
45 - 49	10.1	8.9	8.7	8.2	8.4
50 - 54	9.5	7.8	7.4	7.1	7.2
55 - 59	8.2	7.5	5.9	5.6	5.7
60 - 64	6.4	6.1	4.1	3.8	3.9
65 - 69	4.8	3.4	2.7	2.6	2.6
70 - 74	3.6	3.5	1.7	1.7	1.7
75 - 79	2.9	2.8	1.5	1.4	1.5
80 - 84	2.3	2.0	1.2	1.0	1.1
85 & Older	1.9	2.6	0.7	0.6	0.7
Age Not Stated	0.0	0.5	2.3	5.3	4.4
Total Percent	100.0%	100.0%	100.0%	100.0%	100.0%
Total Number	3,938,401				

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, 2008**



**FIGURE 1.02**  
**Licensed vs Crash-Involved Drivers by Age, 2008**

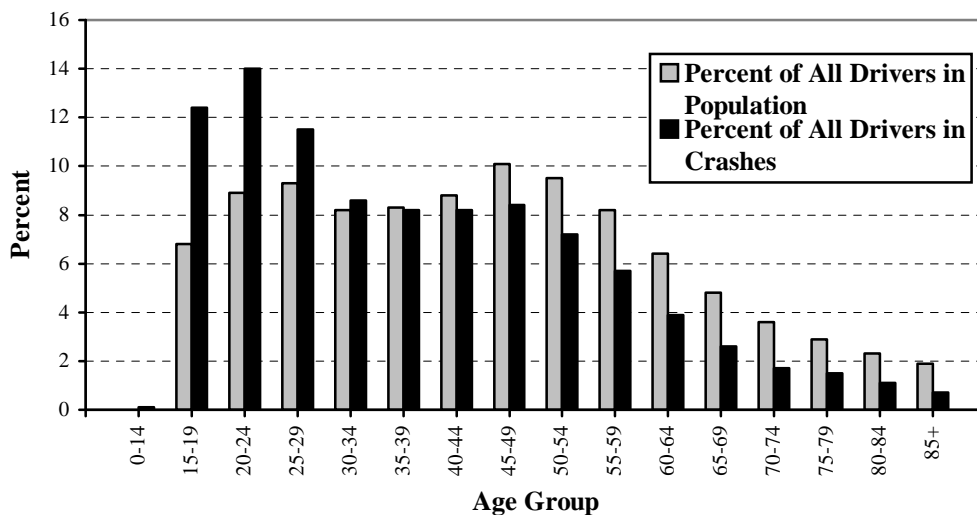


TABLE 1.07

**PERCENTAGE OF DRIVERS IN 2008 CRASHES  
BY AGE AND FIRST HARMFUL EVENT**

First Harmful Event	Age Group							All Age
	15-19	20-24	25-29	30-34	35-64	65-79	80 +	
<b>Collision With:</b>								
Other Motor Vehicle	75.5%	74.9%	77.5%	79.1%	80.1%	81.2%	82.0%	77.1%
Parked Motor Vehicle	4.0	3.6	3.3	3.3	2.8	3.2	5.5	4.4
Bicycle	0.4	0.6	0.6	0.6	0.8	0.8	1.0	0.7
Pedestrian	0.4	0.5	0.6	0.5	0.6	0.7	1.0	0.6
Deer	0.9	1.4	1.7	2.0	2.6	2.2	0.6	1.9
Other Animal	0.2	0.2	0.1	0.3	0.3	0.2	0.1	0.2
Railroad Train	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Fixed Object	12.6	11.8	10.4	8.7	7.4	6.8	6.7	9.1
Other Object	0.3	0.3	0.4	0.4	0.5	0.4	0.2	0.4
<b>Non-Collision:</b>								
Overtake	6.3	5.2	4.2	3.6	3.4	2.5	1.5	3.9
Other Non-Collision	0.3	0.4	0.4	0.4	0.5	0.6	0.4	0.4
<b>Other or Unknown</b>	1.1	1.2	1.0	1.1	1.1	1.3	0.9	1.2
Total Percent	100.0%	100.0%	100.0%	100.0%	100.0%	100.0%	100.0%	100.0%
Total Drivers	16,783	19,008	15,549	11,574	56,271	7,810	2,389	135,352

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 2008 CRASHES BY PHYSICAL CONDITION\***

Physical Condition	Drivers in Fatal Crashes	Drivers in Injury Crashes	Drivers in Property Damage Crashes	Drivers in All Crashes
Normal	360	34,052	72,402	106,814
Under the Influence	35	1,408	1,488	2,931
Had Been Drinking	43	590	575	1,208
Commercial Driver > .04	0	2	3	5
Had Been Using Drugs	1	59	56	116
Aggressive	0	9	39	48
Fatigued/Asleep	1	174	266	441
Physical Disability	0	39	41	80
Ill	3	85	47	135
Other	10	159	102	271
Unknown	201	5,104	17,998	23,303
Total	654	41,681	93,017	135,352

\* 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, 2008**

Contributing Factor	Age Group							All Ages
	15-19	20-24	25-29	30-34	35-64	65-79	80+	
Human Factors								
Illegal/Unsafe Speed	24.7%	29.6%	30.2%	25.6%	24.2%	16.1%	17.4%	26.0%
Driver Inattention/Distraction	12.4	11.1	10.7	11.6	11.4	15.8	16.5	11.6
Chemical Impairment	3.8	11.1	10.2	8.5	7.0	2.4	0.9	7.4
Overcorrecting	8.9	7.1	6.7	6.2	6.9	6.2	6.8	7.2
Driver Inexperience	14.8	3.9	2.0	2.5	1.8	0.6	0.0	4.8
Improper/Unsafe Lane Use	1.9	2.6	2.2	1.9	2.2	1.7	4.7	2.3
Improper Turn	0.6	0.7	0.6	0.7	0.8	1.2	0.4	0.8
Disregard for Traffic Control Device	0.4	0.6	0.5	0.8	0.5	1.0	2.1	0.6
Vision Obscured	0.4	0.4	0.3	0.5	0.7	1.8	4.2	0.6
Driving Left of Center-Not Passing	0.5	0.5	0.5	0.4	0.4	0.2	0.8	0.5
Following Too Closely	0.2	0.4	0.7	0.5	0.4	0.3	0.0	0.4
Improper Passing/Overtaking	0.3	0.3	0.4	0.2	0.2	0.2	0.0	0.3
Unsafe Backing	0.2	0.1	0.2	0.3	0.3	0.4	0.4	0.2
Failure to Yield Right of Way	0.1	0.2	0.2	0.1	0.2	0.2	0.4	0.2
Driver on Cell Phone or CB Radio	0.3	0.3	0.2	0.1	0.2	0.0	0.0	0.2
Improper Park, Start, or Stop	0.0	0.2	0.1	0.2	0.1	0.0	0.8	0.1
Other Human Factors	3.1	3.3	3.0	4.2	4.3	11.8	15.7	4.1
Vehicular Factors								
Skidding	8.7	8.6	10.2	10.3	11.2	10.2	7.6	9.9
Defective Equipment	1.2	0.8	1.0	1.2	1.5	0.6	2.1	1.2
Other Vehicular Factor	0.6	0.7	0.5	1.1	0.7	1.0	0.4	0.7
Miscellaneous Factors								
Weather	12.9	13.8	15.5	17.8	19.0	19.4	12.3	16.0
Other	3.4	3.8	3.9	5.4	5.9	8.8	6.4	4.9
Total Percent	100.0%	100.0%	100.0%	100.0%	100.0%	100.0%	100.0%	100.0%
Total Contributing Factors Cited	4,665	4,556	3,131	1,967	8,126	925	236	23,942
Drivers for Whom There Was								
"No Clear Contributing Factor"	266	352	307	258	1,341	153	21	2,725
Total Number of Drivers	3,430	3,627	2,595	1,725	7,884	964	229	21,343

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, 2008**

Contributing Factor	Age Group							All Age
	15-19	20-24	25-29	30-34	35-64	65-79	80 +	
Human Factors								
Driver Inattention or Distraction	23.8%	24.2%	23.5%	23.3%	23.4%	22.1%	22.7%	23.3%
Failure to Yield Right of Way	18.6	15.9	15.4	16.0	17.6	29.0	33.7	18.1
Following Too Closely	11.2	13.1	13.3	12.9	11.4	6.7	4.8	11.4
Illegal or Unsafe Speed	8.7	10.1	9.7	9.0	7.4	3.8	1.8	8.2
Improper or Unsafe Lane Use	3.3	4.0	4.6	5.1	5.2	5.4	4.9	5.0
Disregard of Traffic Control Device	3.6	4.5	4.6	4.0	4.5	6.0	7.8	4.6
Improper Turn	1.9	2.2	2.0	1.9	2.4	3.8	3.8	2.4
Vision Obscured	2.2	1.9	2.0	1.9	2.2	2.9	2.4	2.1
Chemical Impairment	0.9	2.7	3.2	2.6	2.3	0.6	0.2	2.0
Driver Inexperience	6.9	1.6	0.9	0.7	0.4	0.2	0.0	1.8
Unsafe Backing	1.0	1.2	1.5	1.6	1.8	2.1	2.2	1.6
Improper Passing or Overtaking	1.2	1.2	1.5	1.4	1.6	1.3	1.0	1.5
Improper Park, Start, or Stop	1.1	0.9	1.3	1.2	1.3	1.5	1.9	1.2
Driving Left of Center-Not Passing	0.6	0.5	0.7	0.8	0.7	0.9	1.0	0.7
Overcorrecting	0.8	0.7	0.9	0.7	0.6	0.5	0.3	0.7
Impeding Traffic	0.2	0.2	0.3	0.3	0.3	0.3	0.2	0.3
Improper or No Signal	0.2	0.1	0.2	0.1	0.3	0.5	0.3	0.2
Driver on Cell Phone or CB Radio	0.2	0.2	0.2	0.2	0.1	0.0	0.0	0.2
Failure To Use Lights	0.0	0.1	0.1	0.1	0.1	0.1	0.0	0.1
Other Human Factors	1.2	1.7	1.9	1.8	2.3	2.8	3.8	2.0
Vehicular Factors								
Skidding	4.0	4.0	3.4	4.0	3.6	2.2	1.5	3.5
Defective Equipment	0.6	0.7	0.6	0.6	0.5	0.3	0.2	0.6
Other Vehicular Factor	0.5	0.5	0.5	0.6	0.7	0.3	0.2	0.6
Miscellaneous Factors								
Weather	5.0	5.0	5.0	5.5	5.6	3.8	2.6	5.0
Other	2.0	2.6	2.8	3.6	3.5	3.1	2.8	3.0
Total Percent	100.0%	100.0%	100.0%	100.0%	100.0%	100.0%	100.0%	100.0%
Total Contributing Factors Cited	12,328	11,356	8,207	5,656	25,528	4,162	1,864	71,948
Drivers for Whom There Was								
"No Clear Contributing Factor"	3,736	5,532	5,555	4,491	23,725	2,812	545	46,785
Total Number of Drivers	13,351	15,378	12,947	9,843	48,365	6,845	2,160	114,365

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, 2008**

Vehicle Type	Killed	Injured				Not Injured	Total Persons
		Severe	Moderate	Minor	Total		
Automobile	188	647	4,146	13,258	18,051	82,229	100,468
Pickup Truck	44	152	828	2,108	3,088	18,033	21,165
Sport Utility Vehicle	51	173	1,101	3,672	4,946	26,384	31,381
Van	31	113	627	2,160	2,900	15,327	18,258
Motorhome/Camper	0	0	1	2	3	96	99
Taxi Cab	0	2	28	100	130	569	699
Police Vehicle	1	1	21	97	119	527	647
Fire Department Vehicle	0	0	1	1	2	80	82
School Bus	4	9	18	58	85	3,525	3,614
Other Bus	1	2	14	70	86	967	1,054
Ambulance	0	1	1	4	6	71	77
Military Vehicle	0	0	0	1	1	15	16
Snowmobile	1	4	5	3	12	15	28
All Terrain Vehicle	10	11	13	17	41	15	66
Farm Tractor or Equipment	0	1	5	7	13	120	133
Motorcycle*	69	223	687	497	1,407	269	1,745
Motor Scooter/Motorbike*	3	14	41	37	92	8	103
Motorized Bicycle (Moped)*	0	1	23	16	40	2	42
Hit and Run Vehicle	0	2	16	70	88	2,883	2,971
Road Maintenance Vehicle	0	1	10	23	34	627	661
Other Public Owned Vehicle	0	1	9	20	30	176	206
Single Truck (2-axle, 6-tire)	3	1	16	36	53	808	864
Single Truck (3 or more axles)	2	2	8	24	34	317	353
Single Truck with Trailer	0	1	4	7	12	284	296
Truck Tractor with No Trailer	1	0	3	3	6	78	85
Truck Tractor with Semi Trailer	4	6	54	108	168	2,114	2,286
Truck Tractor with Double Trailers	0	0	2	1	3	40	43
Other or Unknown Truck Type	0	1	4	7	12	334	346
Other Vehicle Type	4	7	12	21	40	327	368
Unknown Vehicle Type	0	5	15	48	68	2,019	2,087
Bicycle	13	59	334	549	942	50	1,005
Pedestrian	25	113	287	467	867	92	987
Total	455	1,553	8,334	23,492	33,379	158,401	192,235

\* 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 2008 CRASHES

Motor Vehicle Type*	Vehicles in			
	Fatal Crashes	Injury Crashes	Property Damage Crashes	All Crashes
Automobile	260	23,275	53,802	77,337
Pickup Truck	97	4,712	11,871	16,680
Sport Utility Vehicle	91	6,841	15,540	22,472
Van	50	3,581	7,822	11,453
Motorhome/Camper	0	15	47	62
Taxicab	0	168	325	493
Police Vehicle	2	154	440	596
Fire Department Vehicle	0	6	34	40
School Bus	1	111	558	670
Other Bus	2	93	257	352
Ambulance	0	11	30	41
Military Vehicle	0	2	13	15
Snowmobile*	1	13	10	24
All Terrain Vehicle*	11	34	8	53
Farm Tractor or Equipment	2	43	82	127
Motorcycle**	69	1,301	212	1,582
Motor scooter/Motorbike**	3	85	6	94
Motorized Bicycle (Moped)**	0	41	1	42
Hit and Run Vehicle	3	417	2,310	2,730
Road Maintenance Vehicle	5	114	517	636
Other Public Owned Vehicle	0	47	120	167
Single Truck (2-axle, 6-tire)	7	191	578	776
Single Truck (3 or more axles)	8	112	217	337
Single Truck with Trailer	1	54	201	256
Truck Tractor with No Trailer	3	28	51	82
Truck Tractor with Semi Trailer	37	561	1,594	2,192
Truck Tractor with Double Trailers	1	10	31	42
Other or Unknown Truck Type	2	66	251	319
Other Vehicle Type	2	72	208	282
Unknown Vehicle Type	0	307	1,497	1,804
Total***	658	42,465	98,633	141,756

\* 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

## 2008 CRASHES BY FIRST HARMFUL EVENT

First Harmful Event	Fatal Crashes	Personal Injury Crashes	Property Damage Crashes	Total Crashes	Killed	Injured	Fatality Rate Per 1,000 Crashes
<b>Collision With:</b>							
Another Motor Vehicle	186	14,759	34,726	49,671	207	22,216	4.2
Parked Motor Vehicle	6	580	4,850	5,436	9	771	1.7
Bicycle	13	898	40	951	13	941	13.7
Pedestrian	25	778	0	803	27	836	33.5
Deer	9	302	2,227	2,538	9	360	3.5
Other Animal	1	75	204	280	1	89	3.6
Railroad Train	3	17	20	40	4	20	100.0
Fixed Object	80	3,241	8,786	12,107	84	3,942	6.9
Non-Fixed Object	2	77	326	405	2	97	4.9
Other Collision Type	5	201	344	550	5	257	9.1
Unkn Collision Type	1	15	30	46	1	19	21.7
<b>Non-Collision:</b>							
Overturn	79	2,580	2,560	5,219	82	3,389	15.7
Fire/Explosion	0	5	49	54	0	6	0.0
Submersion	2	14	43	59	3	18	50.8
Other Non-Collision	2	175	229	406	2	194	4.9
<b>Unknown Crash Type</b>	6	197	327	530	6	224	11.3
Total	420	23,914	54,761	79,095	455	33,379	5.8

TABLE 1.14

## 2008 "HIT-AND-RUN" CRASHES BY FIRST HARMFUL EVENT

First Harmful Event	Fatal Crashes	Personal Injury Crashes	Property Damage Crashes	Total Crashes	Killed	Injured
<b>Collision With:</b>						
Other Motor Vehicle	5	704	2,370	3,079	5	953
Parked Motor Vehicle	2	91	2,148	2,241	2	119
Bicycle	2	98	7	107	2	100
Pedestrian	4	133	0	137	4	143
Deer	0	1	2	3	0	1
Other Animal	0	0	0	0	0	0
Railroad Train	0	0	2	2	0	0
Fixed Object	0	126	834	960	0	160
Non-Fixed Object	0	5	32	37	0	5
Other Collision Type	0	9	43	52	0	10
Unkn Collision Type	0	0	4	4	0	0
<b>Non-Collision:</b>						
Overturn	0	33	26	59	0	44
Other Non-Collision	0	1	5	6	0	1
<b>Unknown Crash Type</b>	0	8	44	52	0	10
Total	13	1,209	5,517	6,739	13	1,546

TABLE 1.15

## 2008 CRASHES BY TRAFFIC CONTROL DEVICE

<b>Traffic Control Device</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>
Not Applicable	291	13,060	33,052	46,403	317	17,719
Traffic Signal	29	5,871	11,229	17,129	29	8,321
Overhead Flashers	1	17	54	72	1	23
Stop Sign-All Approaches	7	448	1,033	1,488	7	604
Other Stop Sign	67	3,377	6,417	9,861	74	5,142
Yield Sign	3	407	908	1,318	4	556
Flagman, Officer, or School Patrol	1	28	29	58	1	42
School Bus Stop Arm	0	22	27	49	0	27
School Zone Sign	0	9	16	25	0	11
No Passing Zone	12	173	210	395	12	266
RR Crossing Gate	0	12	38	50	0	12
RR Flashing Lights	0	6	27	33	0	7
RR Crossing Stop Sign	1	4	4	9	1	5
RR Overhead Flashing Lights	0	1	3	4	0	1
RR Overhead Lights and Gate	0	11	23	34	0	18
RR Crossbuck	1	9	16	26	2	10
Other Device	3	243	713	959	3	338
Unknown	4	216	962	1,182	4	277
<b>Total</b>	<b>420</b>	<b>23,914</b>	<b>54,761</b>	<b>79,095</b>	<b>455</b>	<b>33,379</b>

TABLE 1.16

## 2008 CRASHES BY WEATHER CONDITION

<b>Weather 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>
Clear	258	14,179	29,725	44,162	281	19,810
Cloudy	96	5,609	12,971	18,676	102	7,893
Rain	15	1,075	2,336	3,426	17	1,531
Snow	23	1,944	6,496	8,463	25	2,572
Sleet/Hail/Freezing Rain	10	326	834	1,170	10	475
Fog/Smog/Smoke	3	101	204	308	4	164
Blowing Sand/Dust/Snow	4	392	968	1,364	4	546
Severe Crosswinds	1	46	102	149	1	59
Other	1	57	152	210	2	80
Not Stated/Unknown	9	185	973	1,167	9	249
<b>Total</b>	<b>420</b>	<b>23,914</b>	<b>54,761</b>	<b>79,095</b>	<b>455</b>	<b>33,379</b>

TABLE 1.17

**CONTRIBUTING FACTORS IN 2008 CRASHES**

<b>Contributing Factors</b>	<b>Percent of Factors Cited in Crashes by Severity of Crash</b>			<b>Number of Crashes in which the Factor was Cited</b>			<b>Number of People Affected</b>	
	<b>Fatal Crashes</b>	<b>Injury Crashes</b>	<b>Property Damage Crashes</b>	<b>Fatal Crashes</b>	<b>Injury Crashes</b>	<b>Property Damage Crashes</b>	<b>Killed</b>	<b>Injured</b>
<b>Human Factors</b>								
Driver Inattention/Distraction	10.7%	20.3%	20.1%	65	6,300	12,428	74	8,999
Failure to Yield Right of Way	11.8	15.3	12.9	72	4,691	7,859	81	7,155
Illegal/Unsafe Speed	19.0	12.1	12.6	113	3,790	7,904	125	5,473
Following Too Closely	1.3	7.4	9.1	3	2,188	5,430	3	3,037
Improper/Unsafe Lane Use	3.5	3.1	4.9	22	968	3,057	23	1,359
Disregard Traf Contr Device	4.6	5.2	2.9	29	1,611	1,802	35	2,573
Driver Inexperience	2.2	2.8	2.4	14	869	1,540	14	1,241
Chemical Impairment	8.8	5.0	2.5	55	1,566	1,574	58	2,162
Improper Turn	1.0	1.4	2.3	6	427	1,460	6	630
Vision Obscured	1.9	1.7	1.7	10	508	990	10	701
Unsafe Backing	0.0	0.3	1.7	0	97	1,056	0	115
Improper Passing/Overtaking	1.3	0.8	1.4	7	257	886	8	396
Overcorrecting	5.0	2.9	2.0	31	917	1,250	31	1,279
Improper Park/Start/Stop	0.2	0.8	1.1	1	252	712	1	347
Driving Left of Center (Not Passing)	4.8	0.9	0.5	28	269	319	31	459
Improper or No Signal	0.0	0.1	0.2	0	29	153	0	35
Impeding Traffic	0.2	0.2	0.2	1	74	116	1	115
Driver on Phone or CB Radio	0.3	0.2	0.2	2	73	104	2	97
Failure to Use Lights	0.0	0.1	0.1	0	33	23	0	56
Non-Motorist Error	1.3	0.9	0.2	7	264	119	7	294
Other Human Factor	4.8	3.2	2.2	30	989	1,345	32	1,337
<b>Vehicular Factors</b>								
Skidding	4.2	4.2	5.5	26	1,287	3,352	26	1,713
Defective Equipment	0.6	0.7	0.6	4	224	390	4	323
Other Vehicular Factor	0.3	0.6	0.7	2	173	440	2	262
<b>Miscellaneous Factors</b>								
Weather	5.6	6.2	8.4	28	1,738	4,800	29	2,335
Other	6.7	3.8	3.5	39	1,049	1,898	41	1,443
Total Percent	100.0%	100.0%	100.0%					
Total Contributing Factors	626	32,323	64,572					
Vehicles Where There Was "No								
Clear Contributing Factor"	256	17,116	35,251					
Total Number of Vehicles	702	44,280	98,764					

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

**2008 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	226	16,704	36,451	53,381	251	23,365
Dawn (Morning)	13	535	1,412	1,960	15	698
Dusk (Evening)	13	628	1,407	2,048	13	889
Dark/Street Lights On	52	3,626	9,519	13,197	53	5,007
Dark/No Street Lights	108	2,294	5,049	7,451	115	3,232
Other/Unknown	8	127	923	1,058	8	188
Total	420	23,914	54,761	79,095	455	33,379

TABLE 1.19

**2008 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	304	15,822	31,271	47,397	331	22,283
Wet	42	3,016	6,939	9,997	44	4,288
Snow/Slush	26	2,023	6,884	8,933	29	2,691
Ice or Packed Snow	37	2,642	8,538	11,217	40	3,568
Other	5	295	516	816	5	387
Not Stated/Unknown	6	116	613	735	6	162
Total	420	23,914	54,761	79,095	455	33,379

TABLE 1.20

**2008 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)	67	3,473	9,717	13,257	77	4,755
Other Divided Highway	38	3,573	6,435	10,046	40	5,296
One-Way Street	6	525	1,176	1,707	6	705
4-6 Lanes Undivided	31	4,137	8,271	12,439	32	5,767
3 Lanes Undivided	3	257	485	745	3	369
2-Lane--2-Way	267	9,249	19,456	28,972	289	12,911
Alley/Driveway	1	87	268	356	1	95
Other Road Design	3	760	1,718	2,481	3	1,043
Not Stated/Unknown	4	1,853	7,235	9,092	4	2,438
Total	420	23,914	54,761	79,095	455	33,379

TABLE 1.21

**2008 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	32	6,742	15,151	21,925	36	9,531
Sideswipe Passing	3	983	7,024	8,010	3	1,301
Left Turn -- Oncoming Traffic	5	1,215	2,676	3,896	5	1,734
Ran Off Road - Left	63	2,219	3,930	6,212	66	2,842
Right Angle	95	5,058	8,682	13,835	106	7,721
Right Turn -- Cross Street Traffic	4	252	771	1,027	5	299
Ran Off Road - Right	81	2,725	5,290	8,096	85	3,427
Head On	81	1,380	2,546	4,007	93	2,199
Sideswipe Opposing	8	439	1,386	1,833	8	647
Other Diagram	36	1,992	4,453	6,481	36	2,544
Not Applicable	6	641	1,494	2,141	6	778
Unknown / Incomplete	6	268	1,358	1,632	6	356
<b>Total</b>	<b>420</b>	<b>23,914</b>	<b>54,761</b>	<b>79,095</b>	<b>455</b>	<b>33,379</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

**2008 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	28	4,237	12,082	16,347	30	5,677
100,000-249,999	1	517	1,189	1,707	1	723
50,000 - 99,999	31	4,255	8,855	13,141	31	5,845
25,000 - 49,999	21	2,739	6,747	9,507	23	3,707
10,000 - 24,999	40	3,664	8,827	12,531	45	5,063
5,000 - 9,999	16	1,209	3,111	4,336	19	1,732
2,500 - 4,999	19	778	2,128	2,925	20	1,070
1,000 - 2,499	10	393	1,147	1,550	10	531
Under 1,000	254	6,122	10,675	17,051	276	9,031
<b>Total</b>	<b>420</b>	<b>23,914</b>	<b>54,761</b>	<b>79,095</b>	<b>455</b>	<b>33,379</b>

TABLE 1.23

**2008 CRASHES BY TYPE OF ROADWAY**

<b>Type of Roadway</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>Urban</b>						
Interstate	25	2,101	6,402	8,528	30	2,831
US Trunk Highway	17	1,519	3,538	5,074	19	2,191
MN Trunk Highway	29	2,476	5,419	7,924	30	3,495
County State Aid Highway	31	4,848	9,578	14,457	32	6,741
County Road	0	131	210	341	0	188
Township Road	0	0	9	9	0	0
Local Street	34	5,503	15,415	20,952	37	7,247
Other Road	1	43	240	284	1	54
Urban Total	137	16,621	40,811	57,569	149	22,747
<b>Rural</b>						
Interstate	25	741	1,960	2,726	28	1,079
US Trunk Highway	46	1,399	2,587	4,032	52	2,162
MN Trunk Highway	70	1,679	3,040	4,789	79	2,550
County State Aid Highway	98	2,434	3,838	6,370	102	3,416
County Road	20	289	498	807	20	395
Township Road	15	436	721	1,172	16	618
Local Street	8	297	1,213	1,518	8	385
Other Road	1	18	93	112	1	27
Rural Total	283	7,293	13,950	21,526	306	10,632
<b>All Roadways</b>						
Interstate	50	2,842	8,362	11,254	58	3,910
US Trunk Highway	63	2,918	6,125	9,106	71	4,353
MN Trunk Highway	99	4,155	8,459	12,713	109	6,045
County State Aid Highway	129	7,282	13,416	20,827	134	10,157
County Road	20	420	708	1,148	20	583
Township Road	15	436	730	1,181	16	618
Local Street	42	5,800	16,628	22,470	45	7,632
Other Road	2	61	333	396	2	81
Total	420	23,914	54,761	79,095	455	33,379

("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

## 2008 COUNTY CRASH REPORT

County	2008 Crashes				Total Crashes 2007	Number Killed 2008	Number Killed 2007	Number Injured 2008	Number Injured 2007
	Fatal	Injury	Property Damage	Total					
Aitkin	5	70	128	203	195	6	2	112	96
Anoka	18	1,328	2,330	3,676	4,013	18	17	1,892	2,063
Becker	5	126	169	300	294	6	5	179	203
Beltrami	4	200	369	573	528	4	4	296	250
Benton	3	188	421	612	622	3	4	266	313
Big Stone	0	26	45	71	62	0	1	36	33
Blue Earth	6	323	944	1,273	1,363	6	3	438	493
Brown	3	100	234	337	320	3	3	138	147
Carlton	1	109	200	310	334	1	3	166	191
Carver	10	330	806	1,146	1,241	10	13	459	497
Cass	7	102	155	264	347	8	7	149	185
Chippewa	2	42	79	123	118	2	2	60	68
Chisago	7	241	381	629	665	7	8	353	366
Clay	4	246	663	913	788	4	6	319	292
Clearwater	1	29	58	88	86	1	1	48	39
Cook	1	34	61	96	90	1	2	46	36
Cottonwood	1	44	68	113	113	2	3	83	56
Crow Wing	5	285	466	756	769	5	11	398	443
Dakota	17	1,546	3,353	4,916	4,954	20	26	2,120	2,152
Dodge	2	77	147	226	218	2	2	104	107
Douglas	6	223	528	757	663	9	9	342	275
Faribault	2	53	102	157	193	2	5	72	93
Fillmore	11	69	164	244	236	11	0	93	92
Freeborn	11	181	410	602	531	12	4	276	185
Goodhue	3	234	580	817	793	4	12	347	315
Grant	1	30	45	76	62	1	1	44	35
Hennepin	49	6,357	14,424	20,830	22,337	53	52	8,580	9,510
Houston	2	59	210	271	275	2	0	90	91
Hubbard	3	85	90	178	188	3	3	107	132
Isanti	3	133	199	335	430	4	8	194	251
Itasca	5	194	346	545	574	5	10	304	355
Jackson	1	35	99	135	147	1	1	45	65
Kanabec	4	50	80	134	196	4	2	81	127
Kandiyohi	3	216	399	618	676	3	4	356	397

TABLE 1.24 CONTINUED

## 2008 COUNTY CRASH REPORT

County	2008 Crashes				Total Crashes 2007	Number Killed 2008	Number Killed 2007	Number Injured 2008	Number Injured 2007
	Fatal	Injury	Property Damage	Total					
Kittson	0	13	10	23	37	0	2	26	14
Koochiching	1	39	80	120	146	1	2	67	64
Lac Qui Parle	2	19	34	55	54	2	0	24	22
Lake	0	39	78	117	140	0	3	52	63
Lake of the Woods	2	7	22	31	35	2	1	14	16
Le Sueur	4	108	278	390	408	4	3	149	193
Lincoln	2	21	56	79	91	2	3	31	29
Lyon	4	97	203	304	333	7	2	158	157
McLeod	1	138	378	517	551	1	2	188	210
Mahnomen	2	18	36	56	40	2	3	30	29
Marshall	0	20	32	52	68	0	1	21	44
Martin	3	80	221	304	346	3	4	113	174
Meeker	4	92	151	247	229	4	1	125	130
Mille Lacs	5	130	169	304	256	5	6	218	136
Morrison	8	148	241	397	361	10	4	220	186
Mower	4	150	467	621	549	4	2	195	204
Murray	0	29	41	70	74	0	3	38	41
Nicollet	1	112	326	439	464	1	4	157	180
Nobles	4	106	271	381	319	4	4	170	159
Norman	2	25	31	58	57	2	1	33	40
Olmsted	7	729	1,594	2,330	2,187	7	14	1,025	997
Otter Tail	5	254	554	813	668	5	7	373	275
Pennington	3	67	98	168	179	4	1	83	98
Pine	6	131	173	310	307	7	6	205	237
Pipestone	0	47	49	96	139	0	4	79	69
Polk	7	100	255	362	335	8	7	139	152
Pope	2	41	63	106	116	2	2	60	59
Ramsey	16	2,580	8,343	10,939	11,751	17	21	3,455	3,818
Red Lake	1	12	10	23	20	1	2	15	7
Redwood	2	47	85	134	154	2	4	82	116
Renville	1	52	105	158	145	1	4	80	98
Rice	11	268	464	743	640	12	4	382	336
Rock	3	58	112	173	151	3	4	88	65

TABLE 1.24 CONTINUED

## 2008 COUNTY CRASH REPORT

County	2008 Crashes				Total Crashes 2007	Number Killed 2008	Number Killed 2007	Number Injured 2008	Number Injured 2007
	Fatal	Injury	Property Damage	Total					
Roseau	1	32	65	98	102	1	2	48	62
St. Louis	21	929	2,506	3,456	3,456	22	23	1,276	1,409
Scott	9	429	754	1,192	1,391	9	19	627	717
Sherburne	8	355	829	1,192	1,122	8	10	493	452
Sibley	3	58	125	186	150	3	1	80	61
Stearns	12	792	1,767	2,571	2,550	12	10	1,123	1,176
Steele	1	157	383	541	493	1	7	217	227
Stevens	0	34	78	112	92	0	3	46	41
Swift	2	23	42	67	85	3	3	32	41
Todd	3	92	130	225	215	3	3	129	110
Traverse	0	14	20	34	34	0	0	16	16
Wabasha	3	97	150	250	270	3	2	148	145
Wadena	1	52	85	138	134	1	1	75	69
Waseca	3	62	152	217	226	3	4	93	119
Washington	7	838	1,888	2,733	2,854	9	20	1,179	1,218
Watsonwan	0	44	89	133	146	0	3	50	64
Wilkin	1	35	90	126	93	1	6	44	36
Winona	9	231	664	904	874	10	6	312	355
Wright	14	462	1,088	1,564	1,361	17	20	650	583
Yellow Medicine	3	36	70	109	83	3	2	53	46
Unknown	0	0	3	3	3	0	0	0	0
Minnesota Totals	420	23,914	54,761	79,095	81,505	455	510	33,379	35,318

TABLE 1.25

**2008 CRASHES IN CITIES OF 2,500 OR MORE POPULATION**

City	Crashes				Persons	
	Fatal	Personal Injury	Property Damage	Total	Killed	Injured
Afton	0	11	35	46	0	13
Albert Lea	1	72	225	298	1	108
Albertville	1	31	105	137	1	41
Alexandria	1	93	245	339	3	138
Andover	0	76	76	152	0	124
Annandale	1	2	20	23	1	2
Anoka	1	126	327	454	1	165
Apple Valley	2	152	334	488	2	209
Arden Hills	1	108	371	480	1	148
Aurora	0	2	12	14	0	2
Austin	1	75	319	395	1	94
Baxter	1	53	62	116	1	75
Bayport	0	8	9	17	0	9
Becker	1	8	33	42	1	11
Belle Plaine	0	9	27	36	0	16
Bemidji	0	89	220	309	0	127
Benson	0	5	21	26	0	6
Big Lake	0	14	67	81	0	19
Blaine	2	247	330	579	2	351
Bloomington	3	624	1,274	1,901	3	862
Blue Earth	1	8	31	40	1	14
Brainerd	0	82	180	262	0	107
Breckenridge	0	4	32	36	0	4
Brooklyn Center	4	210	457	671	4	282
Brooklyn Park	2	352	226	580	2	520
Buffalo	0	48	88	136	0	64
Burnsville	1	271	594	866	1	371
Byron	0	11	15	26	0	15
Caledonia	0	11	31	42	0	18
Cambridge	0	35	75	110	0	43
Cannon Falls	1	17	37	55	1	24
Centerville	0	6	13	19	0	12
Champlin	1	49	77	127	1	68
Chanhassen	0	83	240	323	0	111
Chaska	1	61	187	249	1	80
Chisago City	0	13	20	33	0	16
Chisholm	1	3	34	38	1	3
Circle Pines	0	10	17	27	0	12
Cloquet	1	44	55	100	1	72
Cokato	0	3	5	8	0	4
Cold Spring	0	11	31	42	0	16
Columbia Heights	0	52	106	158	0	75
Columbus	0	32	56	88	0	39
Coon Rapids	1	326	634	961	1	450
Corcoran	0	16	46	62	0	22
Cottage Grove	0	78	248	326	0	105

TABLE 1.25

**2008 CRASHES IN CITIES OF 2,500 OR MORE POPULATION**

City	Crashes				Persons	
	Fatal	Personal Injury	Property Damage	Total	Killed	Injured
Crookston	1	18	70	89	1	25
Crystal	1	95	143	239	2	135
Dayton	0	20	52	72	0	24
Deephaven	0	4	19	23	0	4
Delano	1	15	27	43	2	20
Detroit Lakes	1	45	58	104	1	61
Dilworth	0	11	29	40	0	17
Duluth	6	473	1,533	2,012	6	639
Eagan	2	309	673	984	2	419
East Bethel	3	27	30	60	3	35
East Grand Forks	1	23	70	94	1	30
Eden Prairie	3	191	469	663	3	245
Edina	1	163	356	520	1	207
Elko/New Market	0	1	5	6	0	2
Elk River	1	120	236	357	1	168
Ely	1	4	19	24	1	4
Eveleth	0	10	36	46	0	10
Fairmont	3	42	130	175	3	63
Falcon Heights	0	28	71	99	0	35
Faribault	0	90	97	187	0	114
Farmington	0	30	84	114	0	39
Fergus Falls	0	47	168	215	0	57
Forest Lake	1	95	189	285	1	133
Fridley	1	146	232	379	1	205
Gilbert	0	3	14	17	0	4
Glencoe	0	12	36	48	0	16
Glenwood	0	11	21	32	0	15
Golden Valley	0	151	362	513	0	185
Goodview	0	8	17	25	0	11
Grand Rapids	0	67	171	238	0	117
Granite Falls	0	1	33	34	0	2
Grant	0	13	20	33	0	20
Greenfield	1	15	22	38	1	21
Ham Lake	0	47	57	104	0	65
Hastings	1	71	191	263	1	94
Hermantown	0	43	64	107	0	57
Hibbing	0	71	196	267	0	100
Hopkins	2	67	142	211	2	86
Hugo	0	22	28	50	0	45
Hutchinson	0	43	157	200	0	55
Independence	0	23	50	73	0	39
International Falls	0	28	48	76	0	54
Inver Grove Heights	3	115	250	368	5	157
Jackson	0	2	24	26	0	2
Jordan	0	12	31	43	0	14

TABLE 1.25

**2008 CRASHES IN CITIES OF 2,500 OR MORE POPULATION**

City	Crashes				Persons	
	Fatal	Personal Injury	Property Damage	Total	Killed	Injured
Kasson	0	11	21	32	0	12
La Crescent	0	13	50	63	0	19
Lake City	1	15	60	76	1	23
Lake Elmo	1	49	95	145	2	76
Lakeville	2	113	138	253	2	160
Le Sueur	1	10	33	44	1	10
Lindstrom	0	14	21	35	0	17
Lino Lakes	2	65	216	283	2	81
Litchfield	0	12	43	55	0	22
Little Canada	2	103	270	375	2	144
Little Falls	0	40	85	125	0	54
Long Prairie	0	9	21	30	0	14
Luverne	0	9	37	46	0	9
Mahtomedi	0	13	25	38	0	15
Mankato	2	221	687	910	2	293
Maple Grove	2	258	627	887	2	327
Maplewood	0	268	610	878	0	353
Marshall	0	45	124	169	0	60
Medina	2	14	64	80	2	22
Melrose	0	6	40	46	0	9
Mendota Heights	0	54	145	199	0	63
Minneapolis	21	2,898	6,988	9,907	23	3,906
Minnetonka	1	168	313	482	1	228
Minnetrista	0	22	49	71	0	30
Montevideo	0	15	36	51	0	24
Monticello	0	56	167	223	0	78
Moorhead	0	141	408	549	0	181
Mora	0	7	15	22	0	9
Morris	0	12	47	59	0	15
Mound	0	14	35	49	0	14
Mounds View	0	47	59	106	0	69
Mountain Iron	0	12	41	53	0	13
New Brighton	2	68	233	303	2	100
New Hope	1	36	85	122	1	47
Newport	0	24	90	114	0	29
New Prague	0	15	30	45	0	18
New Ulm	1	52	135	188	1	72
North Branch	0	42	77	119	0	62
Northfield	1	39	73	113	1	60
North Mankato	0	24	92	116	0	33
North Oaks	0	8	19	27	0	8
North St. Paul	1	48	102	151	1	65
Oakdale	0	88	189	277	0	123

TABLE 1.25

**2008 CRASHES IN CITIES OF 2,500 OR MORE POPULATION**

City	Crashes				Persons	
	Fatal	Personal Injury	Property Damage	Total	Killed	Injured
Oak Park Heights	0	18	73	91	0	22
Olivia	1	8	13	22	1	12
Orono	0	25	93	118	0	34
Osseo	0	31	55	86	0	51
Otsego	0	25	53	78	0	26
Owatonna	0	70	198	268	0	92
Park Rapids	0	10	10	20	0	13
Pine City	0	11	16	27	0	14
Pipestone	0	19	17	36	0	27
Plainview	0	5	9	14	0	10
Plymouth	1	185	453	639	1	234
Princeton	0	20	34	54	0	30
Prior Lake	1	36	27	64	1	56
Proctor	0	5	21	26	0	5
Ramsey	3	69	93	165	3	120
Red Wing	0	80	249	329	0	109
Redwood Falls	0	12	28	40	0	23
Richfield	1	180	477	658	1	231
Robbinsdale	0	69	106	175	0	93
Rochester	1	517	1,189	1,707	1	723
Rockford	1	5	15	21	1	6
Rogers	2	59	165	226	3	91
Roseau	0	2	13	15	0	3
Rosemount	0	75	160	235	0	102
Roseville	1	184	594	779	1	248
St. Anthony	0	13	43	56	0	17
St. Augusta	1	36	77	114	1	45
St. Charles	0	5	25	30	0	6
St. Cloud	3	466	1,021	1,490	3	665
St. Francis	0	16	14	30	0	30
St. James	0	11	26	37	0	12
St. Joseph	0	19	26	45	0	28
St. Louis Park	0	233	641	874	0	317
St. Michael	0	24	76	100	0	35
St. Paul	7	1,339	5,094	6,440	7	1,771
St. Paul Park	0	8	27	35	0	10
St. Peter	0	24	80	104	0	35
Sartell	0	23	80	103	0	24
Sauk Centre	0	12	58	70	0	32
Sauk Rapids	0	29	61	90	0	38
Savage	0	91	169	260	0	122
Scandia	1	16	26	43	1	24
Shakopee	4	136	323	463	4	194
Shoreview	0	85	225	310	0	121
Shorewood	0	17	54	71	0	32
Sleepy Eye	0	8	29	37	0	13

TABLE 1.25

**2008 CRASHES IN CITIES OF 2,500 OR MORE POPULATION**

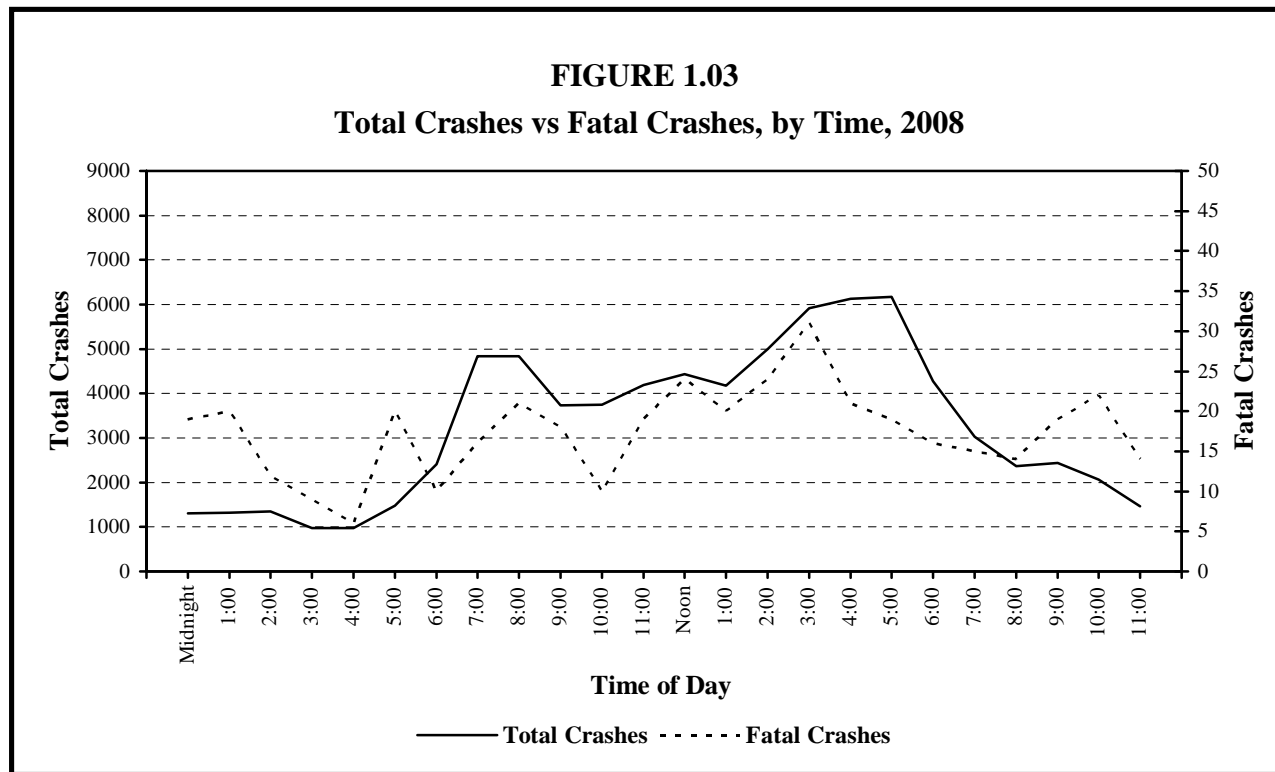
City	Crashes				Persons	
	Fatal	Personal Injury	Property Damage	Total	Killed	Injured
South St. Paul	2	89	246	337	3	122
Spring Lake Park	1	26	49	76	1	40
Spring Valley	0	11	33	44	0	14
Staples	0	5	20	25	0	6
Stewartville	0	9	31	40	0	14
Stillwater	1	50	170	221	2	75
Thief River Falls	0	37	77	114	0	47
Two Harbors	0	8	33	41	0	8
Vadnais Heights	0	88	195	283	0	123
Victoria	0	25	50	75	0	29
Virginia	0	51	150	201	0	66
Waconia	1	23	44	68	1	40
Wadena	1	15	27	43	1	21
Waite Park	0	43	146	189	0	59
Waseca	1	15	73	89	1	22
Watertown	0	4	22	26	0	4
Wayzata	0	51	126	177	0	63
West St. Paul	0	105	210	315	0	149
White Bear Lake	1	166	366	533	1	223
Willmar	2	100	251	353	2	160
Windom	0	13	30	43	0	22
Winona	2	102	273	377	2	143
Woodbury	2	238	457	697	2	337
Worthington	1	41	147	189	1	56
Wyoming	1	22	50	73	1	36
Zimmerman	0	20	42	62	0	32



TABLE 1.26

**2008 CRASHES BY TIME AND DAY**

<b>Hour Begin- Ning</b>	<b>All Days</b>		<b>Sunday</b>		<b>Monday</b>		<b>Tuesday</b>		<b>Wednesday</b>		<b>Thursday</b>		<b>Friday</b>		<b>Saturday</b>	
	<b>Total</b>	<b>Fatal</b>	<b>Total</b>	<b>Fatal</b>	<b>Total</b>	<b>Fatal</b>	<b>Total</b>	<b>Fatal</b>	<b>Total</b>	<b>Fatal</b>	<b>Total</b>	<b>Fatal</b>	<b>Total</b>	<b>Fatal</b>	<b>Total</b>	<b>Fatal</b>
Midnight	1,312	19	270	6	129	1	160	4	156	2	132	3	153	2	312	1
1:00	1,314	20	299	5	114	0	153	3	109	1	145	3	163	2	331	6
2:00	1,347	12	314	3	119	1	137	2	91	4	143	0	193	1	350	1
3:00	973	9	205	3	106	1	119	1	100	0	108	1	113	0	222	3
4:00	972	6	161	1	126	0	159	0	100	0	114	1	133	3	179	1
5:00	1,472	20	150	2	240	1	252	5	204	2	208	2	208	3	210	5
6:00	2,410	10	180	0	410	2	448	2	383	1	374	1	380	4	235	0
7:00	4,832	16	200	3	841	2	977	2	933	5	834	1	776	2	271	1
8:00	4,838	21	277	2	854	3	947	4	851	5	738	4	783	2	388	1
9:00	3,729	18	323	0	596	4	632	3	591	3	503	0	560	6	524	2
10:00	3,752	10	441	1	629	2	550	3	500	0	467	0	549	2	616	2
11:00	4,197	19	502	1	663	3	578	2	548	5	522	2	673	3	711	3
Noon	4,442	24	537	4	731	3	636	3	577	2	550	5	706	5	705	2
1:00	4,182	20	529	3	652	5	586	3	547	4	586	1	679	2	603	2
2:00	4,994	24	567	4	773	4	721	3	673	2	741	6	849	2	670	3
3:00	5,913	31	568	9	953	5	901	3	899	2	880	3	1,103	6	609	3
4:00	6,125	21	539	2	948	5	943	3	958	2	1,029	4	1,129	3	579	2
5:00	6,175	19	480	1	980	3	1,012	6	1,032	2	1,057	3	1,083	1	531	3
6:00	4,283	16	436	6	616	1	652	3	670	1	660	0	781	2	468	3
7:00	3,027	15	391	4	461	0	403	0	391	3	461	1	549	2	371	5
8:00	2,362	14	281	3	356	2	323	0	342	1	343	1	399	3	318	4
9:00	2,434	19	258	2	315	0	315	1	311	5	345	4	520	3	370	4
10:00	2,066	22	195	3	258	4	246	1	252	2	304	4	452	6	359	2
11:00	1,459	14	148	0	178	1	149	2	180	2	196	2	332	4	276	3
Unknown	485	1	57	0	75	0	71	0	64	0	70	1	78	0	70	0
Total	79,095	420	8,308	68	12,123	53	12,070	59	11,462	56	11,510	53	13,344	69	10,278	62



*TABLE 1.27*  
**2008 CRASHES, FATALITIES, AND INJURIES BY MONTH**

Month	Fatal Crashes	Injury Crashes	Property Damage Crashes	Total Crashes	Killed	Injured
January	24	2,031	5,695	7,750	25	2,733
February	27	2,082	5,758	7,867	31	2,891
March	26	1,735	4,430	6,191	28	2,390
April	32	1,509	3,432	4,973	39	2,114
May	38	1,817	3,530	5,385	40	2,574
June	32	2,007	3,378	5,417	38	2,863
July	46	2,029	3,392	5,467	47	2,909
August	53	2,053	3,427	5,533	55	2,918
September	31	1,900	3,427	5,358	33	2,650
October	45	2,045	4,235	6,325	49	2,826
November	34	1,995	4,856	6,885	34	2,837
December	32	2,711	9,201	11,944	36	3,674
Total	420	23,914	54,761	79,095	455	33,379

TABLE 1.28

**HOLIDAY CRASH SUMMARY, 2003 - 2008**

<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 2008, the holiday period was 6 PM Fri., May 23 -- midnight Monday, May 26.)	2003	78	6	NA	NA	NA	6	NA
	2004	78	6	194	362	562	9	283
	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
<b>July 4<sup>th</sup></b> (For 2008, the holiday period was 6 PM Thur., July 3 -- midnight Sunday, July 6.)	2003	78	3	NA	NA	NA	3	NA
	2004	78	9	235	420	664	9	379
	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
<b>Labor Day</b> (For 2008, the holiday period was 6 PM Fri., August 29 -- midnight Monday, Sept 1.)	2003	78	7	NA	NA	NA	9	NA
	2004	78	4	213	357	574	4	358
	2005	78	8	187	315	510	8	289
	2006	78	1	182	325	508	1	272
	2007	78	6	204	320	530	6	300
	2008	78	4	197	252	453	4	286
<b>Thanksgiving</b> (For 2008, the holiday period was 6 PM Wed., Nov 26 -- midnight Sunday, Nov 30.)	2003	102	5	NA	NA	NA	6	NA
	2004	102	10	419	981	1,410	13	646
	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
<b>Christmas</b> (For 2008, the holiday period was 6 PM Wed., Dec 24—midnight Sunday, Dec 28.)	2003	102	4	NA	NA	NA	4	NA
	2004	78	9	178	511	698	9	284
	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
<b>New Year's</b> (For 2008, the holiday period was 6 PM Wed., Dec 31 -- Midnight Sunday, January 4, 2009.)	2003/04	102	7	NA	NA	NA	10	NA
	2004/05	78	3	219	598	820	3	333
	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

\* 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 2008, six drinking pedestrians died after colliding with a vehicle driven by a non-drinking driver. (Four 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 2008**

Drinking and driving remains a serious problem in Minnesota and across the nation. For 2008, the National Safety Council has made a conservative estimate of \$261 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, 7% of minor injuries, 12% of moderate injuries, 22% of severe injuries, and 36% of deaths were alcohol-related. In all, 163 known people died and 2,896 known people were injured in crashes classified as alcohol-related. (NHTSA estimates will be higher).

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

There were 35,736 impaired driving incidents last year in Minnesota. This number represents an 8% 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**

Males made up 68% of the DWI offenders last year, however, females are getting arrested more often. In 2008, they accounted for 24% of the incidents. (10 years ago, they were 18% 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 53% of the incidents on record. Drivers under age 21 accounted for 8%.

### **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 37% of all traffic deaths, and for fully 53% 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, 121 (74%) of the 163 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 42 people who died in the alcohol crashes were non-drinking drivers, pedestrians, or bicyclists, or were drinking or non-drinking vehicle passengers.

### **When the crashes occur: weekends, late night**

Most alcohol-related crashes occur on Fridays, Saturdays, and Sundays. Combined, these three days accounted for 40% of all traffic crashes, but 60% of the alcohol-related crashes. The late night hours 9 p.m.-3 a.m. accounted for 13% of all crashes, but 50% of the alcohol crashes.

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

Of the 152 alcohol-related fatal crashes in 2008, 112 (74%) involved just one motor vehicle in transport. Of the 112 single vehicle alcohol-related fatal crashes, 39 involved a single vehicle colliding with a fixed object, and 45 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 2008, there were 316 motor vehicle drivers who were killed. (Note that this total does not include pedestrians or bicyclists). Of the 316 killed drivers, the Department of Public Safety was able to get alcohol test results for 286 (90%). Of the 286 tested, 176 (62%) tested negative, 15 (5%) tested between .01 and .07, 6 (2%) tested between .08 and .09, and 89 (31%) tested .10 or greater.

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

The 163 alcohol-related fatalities in 2008 consisted of 85 car or truck drivers, 27 car or truck passengers, 29 motorcycle drivers, three motorcycle passengers, five ATV drivers, 12 pedestrians, one bicyclist, and one snowmobiler. Of the 163, the Department of Public Safety was able to get alcohol test results for 150. Of these, 117 (78%) 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 35% 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 also help this downward trend continue.

*TABLE 2.01*  
**ALCOHOL-RELATED FATAL CRASH SUMMARY, 1980 - 2008**

Year	Alcohol Concentration Test Results on Fatally Injured Drivers Only									All Traffic Fatalities						
	Drivers Killed			Results on Drivers Tested						Total	Alcohol-Related Fatalities					
	Total	Tested for Alcohol		Negative for Alcohol		.01 to .09 Alcohol		.10 or Higher Alcohol			Known *		Estimated **			
		num- ber	% of total	num- ber	% of tested	num- ber	% of tested	num- ber	% of tested		num- ber	% of total	num- ber	% of total		
1980	519	337	65	103	31	37	11	197	58	863	305	52	322	56		
1981	437	288	66	110	38	28	10	150	52	763						
1982	321	232	72	106	46	14	6	112	48	581						
1983	345	258	75	113	44	28	11	117	45	558						
1984	383	318	83	133	42	36	11	149	47	584						
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		
1990	334	260	78	129	50	.01 to .07		.08 to .09		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	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, 1992 - 2008**

Year	Total	Gender						Area of State			
		Male		Female		Not Stated		Metro		Non-Metro	
		Num- ber	Per- cent	Num- ber	Per- cent	Num- ber	Per- cent	Num- ber	Per- cent	Num- ber	Per- cent
1992	30,834	24,760	80.3	5,581	18.1	493	1.6	16,311	52.9	14,523	47.1
1993	30,111	24,149	80.2	5,480	18.2	482	1.6	15,597	51.8	14,514	48.2
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

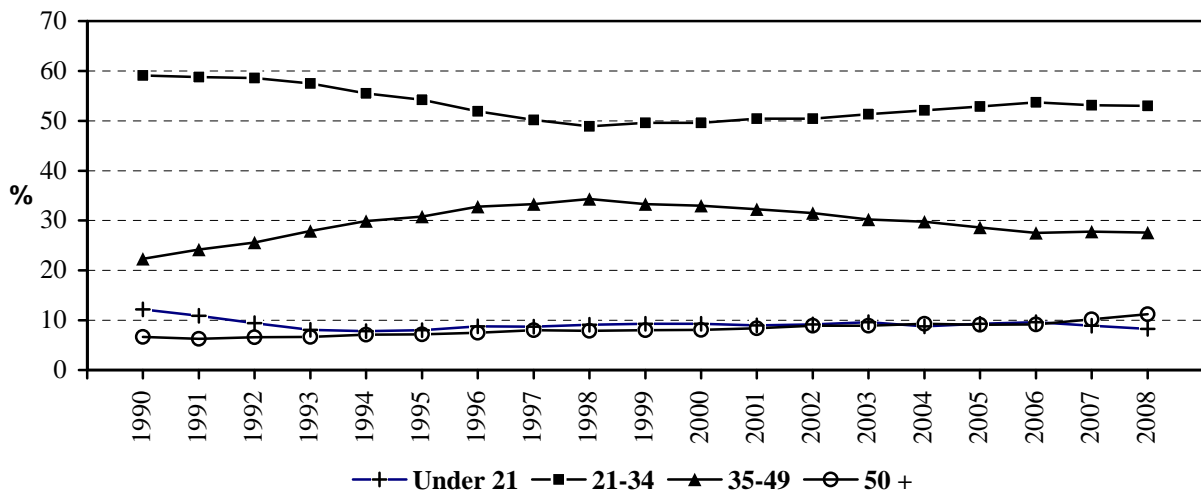
\* Note: The table above creates the impression that the proportion of violators with gender “not stated” is increasing over time. This is *not* so. If a person arrested for impaired driving does not have a Minnesota driver’s license, then a record is created, but the new record does *not* show the person’s 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, 1992 - 2008**

Year	Total	Age								Total Under 21	21-34	35-49	50 & Older
		0-14	15	16	17	18	19	20					
1992	30,834	3	12	111	290	594	830	1,036	2,876		18,055	7,887	2,016
1993	30,111	2	8	89	254	500	744	837	2,434		17,299	8,379	1,999
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

**FIGURE 2.01**  
**PERCENT OF IMPAIRED DRIVING INCIDENTS ("DWIs")**  
**COMMITTED BY OFFENDERS IN FOUR AGE GROUPS, 1990 - 2008**



*TABLE 2.04*  
**IMPAIRED DRIVING INCIDENTS ("DWIs") BY AGE, 1992 - 2008**

Year	Age Group																Total
	0-14	15-19	20-24	25-29	30-34	35-39	40-44	45-49	50-54	55-59	60-64	65-69	70-74	75-79	80-84	85+	
1992	3	1,837	6,940	6,284	5,867	3,916	2,498	1,473	828	510	357	173	100	35	9	4	30,834
1993	2	1,595	6,377	5,944	5,815	4,295	2,577	1,507	870	512	296	184	94	35	5	3	30,111
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



**TABLE 2.05**  
**AGE OF PERSONS KILLED AND INJURED IN ALL CRASHES**  
**AND IN ALCOHOL - RELATED CRASHES, 2008**

Age Group	Persons Killed		Persons Injured by Severity						Total Persons Injured	
			Severe		Moderate		Minor			
	All	Alcohol-Related <sup>1</sup>	All	Alcohol-Related <sup>2</sup>	All	Alcohol-Related <sup>2</sup>	All	Alcohol-Related <sup>2</sup>	All	Alcohol-Related <sup>2</sup>
00 - 04	11	1	13	1	80	4	423	12	516	17
05 - 09	7	1	23	1	143	4	555	18	721	23
10 - 14	8	2	51	5	218	11	628	20	897	36
15	3	0	16	1	103	8	270	9	389	18
16	7	0	38	4	240	14	709	29	987	47
17	8	1	55	8	261	24	760	38	1,076	70
18	11	2	64	17	317	29	793	71	1,174	117
19	5	0	45	13	257	37	717	51	1,019	101
20	15	11	45	11	291	43	667	69	1,003	123
Under 21:	75	18	350	61	1,910	174	5,522	317	7,782	552
00 - 14	26	4	87	7	441	19	1,606	50	2,134	76
15 - 19	34	3	218	43	1,178	112	3,249	198	4,645	353
20 - 24	53	37	210	69	1,223	247	3,137	367	4,570	683
25 - 29	48	26	146	50	887	157	2,522	248	3,555	455
30 - 34	35	21	99	32	624	80	1,789	133	2,512	245
35 - 39	27	13	107	31	632	95	1,733	113	2,472	239
40 - 44	34	19	124	32	583	79	1,667	116	2,374	227
45 - 49	27	11	149	41	634	87	1,790	111	2,573	239
50 - 54	24	5	116	12	575	41	1,555	79	2,246	132
55 - 59	34	13	82	6	461	25	1,238	50	1,781	81
60 - 64	26	2	62	6	304	20	855	26	1,221	52
65 - 69	16	2	42	1	208	9	572	22	822	32
70 - 74	20	3	23	1	148	11	383	11	554	23
75 - 79	14	2	25	1	130	4	342	9	497	14
80 - 84	12	1	16	1	100	6	262	4	378	11
85 & Older	25	1	21	0	62	2	169	1	252	3
Not Stated	0	0	26	4	144	8	623	19	793	31
Total	455	163	1,553	337	8,334	1,002	23,492	1,557	33,379	2,896

<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 163 alcohol-related traffic deaths in the year 2008. Twelve of those deaths were to pedestrians, and 10 of those 12 pedestrians were drinking. In 4 of the 10 fatal crashes involving a drinking pedestrian, the motor vehicle driver had also been drinking. Additionally, one bicyclist was among the 163 alcohol-related deaths. In that crash, the bicyclist was not drinking but the motor vehicle driver was.

**TABLE 2.06**  
**2008 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	85	84	7	10	4	63
Car or Truck Passenger	27	18	7	0	3	8
Motorcycle Driver	29	29	1	3	2	23
Motorcycle Passenger	3	3	0	1	0	2
Snowmobile Driver	1	1	0	1	0	0
ATV Driver	5	4	0	1	0	3
Pedestrian	12	10	1	0	0	9
Bicyclist	1	1	1	0	0	0
<b>Total</b>	<b>163</b>	<b>150</b>	<b>17</b>	<b>16</b>	<b>9</b>	<b>108</b>

**TABLE 2.07**  
**PERCENT OF DEATHS, INJURIES, AND PROPERTY DAMAGE CRASHES**  
**DETERMINED TO BE ALCOHOL - RELATED, 1999 - 2008**

	<b>1999</b>	<b>2000</b>	<b>2001</b>	<b>2002</b>	<b>2003</b>	<b>2004</b>	<b>2005</b>	<b>2006</b>	<b>2007</b>	<b>2008</b>
Deaths* (Known)	31%	39%	37%	36%	39%	31%	35%	34%	37%	36%
(Estimated)	33%	41%	40%	39%	41%	32%	36%	37%	39%	NA
Injuries**	10%	10%	10%	10%	NA	9%	9%	10%	9%	9%
PDO Crashes**	4%	4%	4%	4%	NA	3%	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, 2008**

<b>First Harmful Event</b>	<b>All Fatal Crashes</b>		<b>Alcohol-Related Fatal Crashes *</b>	
	<b>Number</b>	<b>Percent</b>	<b>Number</b>	<b>Percent</b>
<b>Collision with:</b>				
Another Motor Vehicle	187	44.5%	40	26.3%
Parked Motor Vehicle	6	1.4	4	2.6
Railroad Train	3	0.7	0	0.0
Bicycle	13	3.1	1	0.7
Pedestrian	25	6.0	12	7.9
Deer	9	2.1	2	1.3
Fixed Object	80	19.0	39	25.7
Other Collision Type	13	3.1	8	5.3
<b>Non-Collision:</b>				
Overturn	79	18.8	45	29.6
Submersion	2	0.5	0	0.0
Other Type Non-Collision	2	0.5	0	0.0
<b>Unknown</b>	1	0.2	1	0.7
<b>Total</b>	<b>420</b>	<b>100.0%</b>	<b>152</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, 1999 - 2008**

<b>Year</b>	<b>Killed</b>	<b>Tested</b>	<b>.00</b>	<b>.01 - .07</b>	<b>.08 - .09</b>	<b>.10 +</b>
1999	426	370	254 (69%)	9 (2%)	7 (2%)	100 (27%)
2000	403	375	226 (60%)	16 (4%)	6 (2%)	127 (34%)
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%)

\* Percents based on drivers tested.

*TABLE 2.10*  
**DRIVERS KILLED WHO TESTED .01 OR HIGHER, 1999 - 2008**  
**("Any Alcohol")**

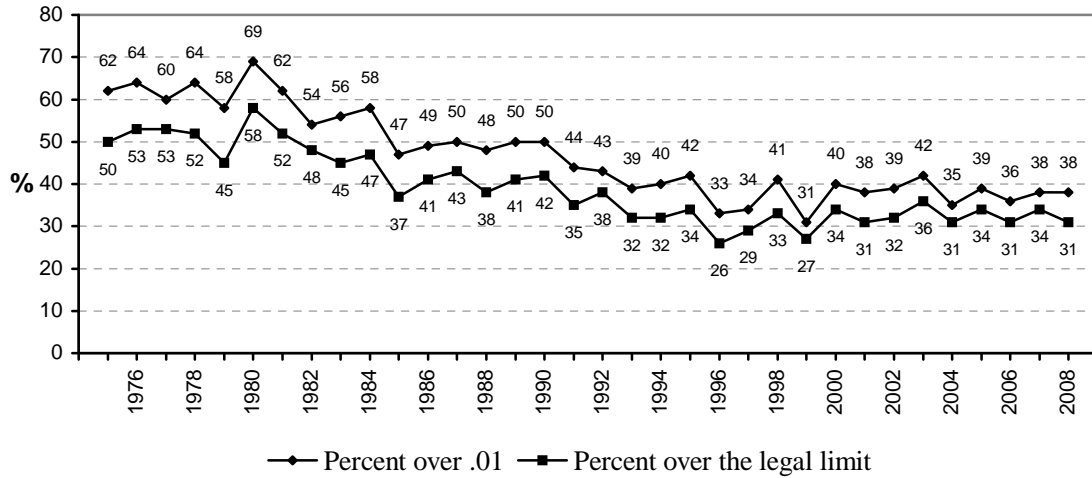
<b>Year</b>	<b>Total</b>	<b>Male</b>		<b>Female</b>		<b>Occurred Between Midnight - 3 AM</b>		<b>Under Legal Age</b>	
1999	116	98	(84%)	16	(16%)	30	(26%)	16	(14%)
2000	149	125	(84%)	24	(16%)	47	(32%)	15	(10%)
2001	124	104	(84%)	20	(16%)	37	(30%)	17	(14%)
2002	142	124	(87%)	18	(13%)	41	(29%)	23	(16%)
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%)

*TABLE 2.11*  
**DRIVERS KILLED WHO TESTED OVER THE LEGAL LIMIT, 1999 - 2008**  
**(The legal limit in Minnesota was lowered to .08 in mid-2005)**

<b>Year</b>	<b>Total</b>	<b>Male</b>		<b>Female</b>		<b>Occurred Between Midnight - 3 AM</b>		<b>Under Legal Age</b>	
1999	100	87	(87%)	13	(13%)	26	(26%)	14	(14%)
2000	127	105	(83%)	22	(17%)	43	(34%)	14	(11%)
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%)

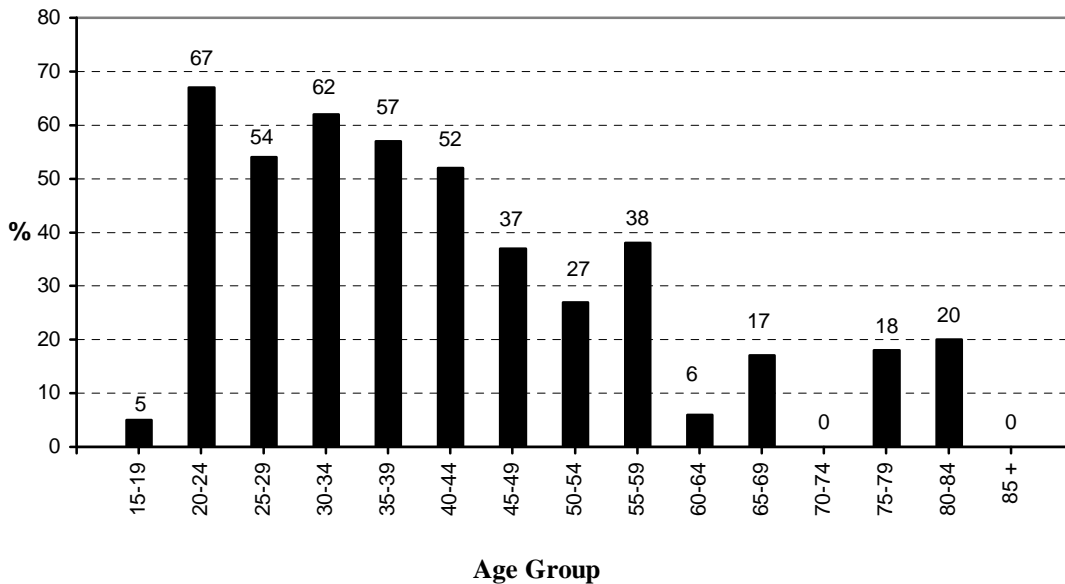
**FIGURE 2.02**

**Killed Drivers Tested for Alcohol: 1975 - 2008**  
**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, 2008**



*TABLE 2.12*  
**2008 DRIVER FATALITIES' LEVEL OF ALCOHOL CONCENTRATION BY AGE**

Age      Killed    Tested			Alcohol Concentration								Alcohol Concentration							
			.00		.01 - .07		.08 - .09		.10 +									
			num- ber	per- cent	num- ber	per- cent	num- ber	per- cent	num- ber	per- cent	.00	.01- .04	.05- .09	.10- .14	.15- .19	.20- .24	.25 +	
00 - 14	1	1	1		0		0		0		1	0	0	0	0	0	0	
15	2	2	2		0		0		0		2	0	0	0	0	0	0	
16	5	4	4		0		0		0		4	0	0	0	0	0	0	
17	7	7	7		0		0		0		7	0	0	0	0	0	0	
18	5	5	4		1		0		0		4	1	0	0	0	0	0	
19	4	3	3		0		0		0		3	0	0	0	0	0	0	
20	10	10	2		0		1		7		2	0	1	2	3	2	0	
Under 21	34	32	23		1		1		7		23	1	1	2	3	2	0	
00 - 14	1	1	1	100.0	0	0.0	0	0.0	0	0.0	1	0	0	0	0	0	0	
15 - 19	23	21	20	95.2	1	4.8	0	0.0	0	0.0	20	1	0	0	0	0	0	
20 - 24	36	36	12	33.3	1	2.8	1	2.8	22	61.1	12	0	2	4	8	6	4	
25 - 29	39	35	16	45.7	1	2.9	0	0.0	18	51.4	16	0	1	2	7	6	3	
30 - 34	27	26	10	38.5	1	3.8	3	11.5	12	46.2	10	0	4	2	1	5	4	
35 - 39	24	21	9	42.9	1	4.8	0	0.0	11	52.4	9	1	0	4	5	1	1	
40 - 44	25	23	11	47.8	3	13.0	0	0.0	9	39.1	11	2	1	1	5	2	1	
45 - 49	20	19	12	63.2	0	0.0	1	5.3	6	31.6	12	0	1	0	4	1	1	
50 - 54	17	15	11	73.3	1	6.7	0	0.0	3	20.0	11	1	0	2	1	0	0	
55 - 59	25	24	15	62.5	2	8.3	1	4.2	6	25.0	15	1	2	0	3	2	1	
60 - 64	19	17	16	94.1	0	0.0	0	0.0	1	5.9	16	0	0	0	0	1	0	
65 - 69	12	12	10	83.3	1	8.3	0	0.0	1	8.3	10	1	0	0	0	0	1	
70 - 74	15	8	8	100.0	0	0.0	0	0.0	0	0.0	8	0	0	0	0	0	0	
75 - 79	11	11	9	81.8	2	18.2	0	0.0	0	0.0	9	2	0	0	0	0	0	
80 - 84	7	5	4	80.0	1	20.0	0	0.0	0	0.0	4	1	0	0	0	0	0	
85 +	15	12	12	100.0	0	0.0	0	0.0	0	0.0	12	0	0	0	0	0	0	
Total	316	286	176	61.5	15	5.2	6	2.1	89	31.1	176	10	11	15	34	24	16	

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

TABLE 2.13

**2008 ALCOHOL - RELATED CRASHES BY MONTH**

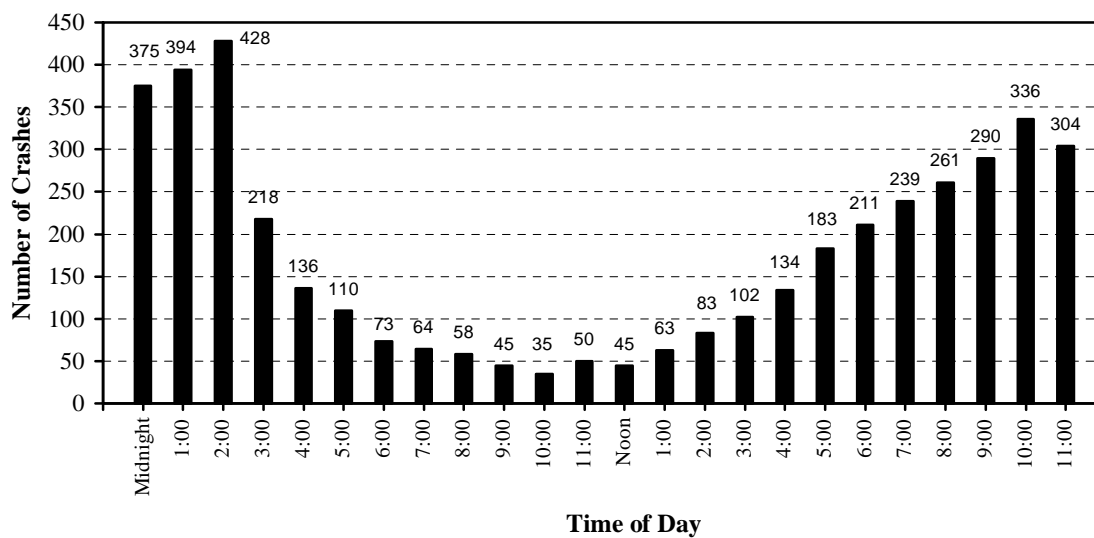
<b>Month</b>	<b>Fatal Crashes</b>	<b>Injury Crashes</b>	<b>Property Damage Crashes</b>	<b>Total Crashes</b>	<b>Killed</b>	<b>Injured</b>
January	9	162	206	377	9	225
February	8	137	177	322	8	181
March	9	147	184	340	11	210
April	7	146	130	283	10	208
May	11	183	163	357	11	253
June	15	183	163	361	16	274
July	20	188	143	351	21	272
August	21	209	149	379	21	304
September	9	172	129	310	9	243
October	20	176	156	352	23	242
November	12	186	190	388	12	262
December	11	157	257	425	12	222
Total	152	2,046	2,047	4,245	163	2,896

TABLE 2.14

**2008 ALCOHOL - RELATED CRASHES BY ROADWAY TYPE**

<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>
Urban Interstate	9	168	261	438	12	256
Rural Interstate	5	35	36	76	5	52
Urban US Trunk Hwy	4	102	105	211	4	141
Rural US Trunk Hwy	13	116	83	212	14	175
Urban MN Trunk Hwy	14	168	191	373	14	265
Rural MN Trunk Hwy	20	169	129	318	23	245
County State Aid Hwy	62	663	482	1,207	66	939
County Road	8	66	34	108	8	97
Township Road	9	93	51	153	9	122
Local Street	8	459	661	1,128	8	596
Other	0	7	14	21	0	8
Total	152	2,046	2,047	4,245	163	2,896

**FIGURE 2.04**  
**2008 Alcohol-Related Crashes by Time of Day**



**FIGURE 2.05**  
**2008 Alcohol-Related Crashes by Day of Week**

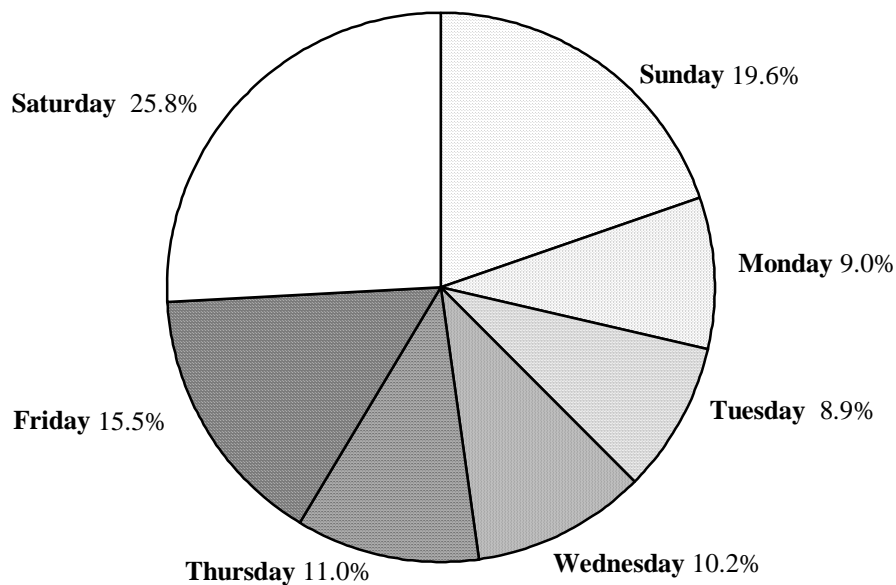


TABLE 2.15

**2008 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	95	28	35	40	36	43	98	375	17	234
1:00 AM	112	21	33	23	40	48	117	394	16	269
2:00 AM	111	20	24	29	38	65	141	428	12	267
3:00 AM	71	11	15	13	16	24	68	218	8	133
4:00 AM	46	7	9	5	8	15	46	136	3	82
5:00 AM	35	8	14	6	8	7	32	110	13	77
6:00 AM	16	4	9	6	3	8	27	73	3	47
7:00 AM	15	5	9	6	6	7	16	64	2	40
8:00 AM	9	5	7	4	9	8	16	58	2	36
9:00 AM	10	3	4	5	6	4	13	45	2	33
10:00 AM	10	4	4	0	1	5	11	35	1	23
11:00 AM	10	3	7	7	3	10	10	50	2	45
Noon	9	7	3	8	4	7	7	45	1	37
1:00 PM	12	9	4	6	9	9	14	63	3	50
2:00 PM	15	11	11	7	12	11	16	83	3	51
3:00 PM	25	7	9	7	12	18	24	102	4	86
4:00 PM	17	20	11	15	21	18	32	134	4	116
5:00 PM	28	28	10	25	21	34	37	183	3	124
6:00 PM	29	24	28	25	27	31	47	211	7	154
7:00 PM	32	30	25	35	28	35	54	239	7	183
8:00 PM	40	28	20	35	33	39	66	261	8	190
9:00 PM	32	27	32	37	40	64	58	290	12	194
10:00 PM	32	37	31	48	50	68	70	336	19	211
11:00 PM	22	34	22	40	36	78	72	304	11	205
Unknown	0	2	0	0	1	3	2	8	0	9
<b>Total</b>	<b>833</b>	<b>383</b>	<b>376</b>	<b>432</b>	<b>468</b>	<b>659</b>	<b>1,094</b>	<b>4,245</b>	<b>163</b>	<b>2,896</b>



### III: SAFETY EQUIPMENT USE BY VEHICLE OCCUPANTS IN 2008 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'.

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 8.6% of the persons killed and 11.6% of the persons injured in 2008. However, these percentages of 'unknowns' have been decreasing over the past few years as data collection improves.

#### **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 use 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 use percentage in Minnesota. During the 1990's, other states with primary seat belt laws had higher usage rates, with some reaching 90%. It is likely that Minnesota's belt use will also reach 90% after the 'Primary' law takes effect on June 9<sup>th</sup>, 2009.

#### **Occupant fatalities decrease in 2008**

In 2008, 325 motor vehicle occupants died in crashes, a 19% decrease from the previous year. And, vehicle occupants injured (29,667) decreased 5% from 2007. High gasoline prices and the worsening economy were likely factors, as people drove less (and probably slower). 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 2008, that number decreased to 1,104. 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 severe and 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, 21% were not using a restraint. This is the highest rate of non-use of any region. The southwest region was second highest: 18%. The seven-county metro area had the lowest rate of non-use: just 7%. Concerning types of roadway, 'Township Roads' had the highest percentage of non-seat belt use (25%).

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

Of the 325 occupants killed in 2008, nearly one-third were ejected from the vehicles they were riding in. And, 96% of these ejected fatalities were not wearing a seat belt.

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

In 2008, airbag deployment was reported 14,037 times when the occupant was also wearing a seat belt. Fifty-four percent of these incidents resulted in no apparent injury. Airbags deployed 1,120 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
<b>June 1986</b>	20%	30%	15%	23%	17%
<b>August 1986</b>	33	43	26	35	31
<b>August 1987</b>	32	40	28	35	29
<b>August 1988</b>	47	51	45	48	46
<b>August 1989</b>	44	52	40	44	45
<b>August 1990</b>	47	54	42	49	46
<b>August 1991</b>	53	62	47	53	52
<b>August 1992</b>	51	62	46	55	48
<b>August 1993</b>	55	59	52	57	53
<b>August 1994*</b>	57	58	54	65	54
<b>August 1995</b>	65	68	56	68	64
<b>August 1996</b>	64	67	58	68	62
<b>August 1997</b>	65	67	59	69	63
<b>August 1998</b>	64	67	56	68	63
<b>August 1999</b>	72	73	68	72	68
<b>August 2000</b>	73	74	69	75	71
<b>August 2001</b>	74	75	72	75	69
<b>August 2002</b>	80	83	72	81	76

Date of Survey	Overall	Vehicle Type				Gender	
		Car	SUV	Van	Pickup	Male	Female
<b>August 2003</b>	79%	82%	79%	83%	69%	76%	83%
<b>August 2004</b>	82	83	87	87	71	78	88
<b>August 2005</b>	84	86	87	83	75	80	89
<b>August 2006</b>	83	83	87	88	76	79	88
<b>August 2007**</b>	88	89	90	90	81	84	92
<b>August 2008</b>	87	88	92	88	76	83	92

\* 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

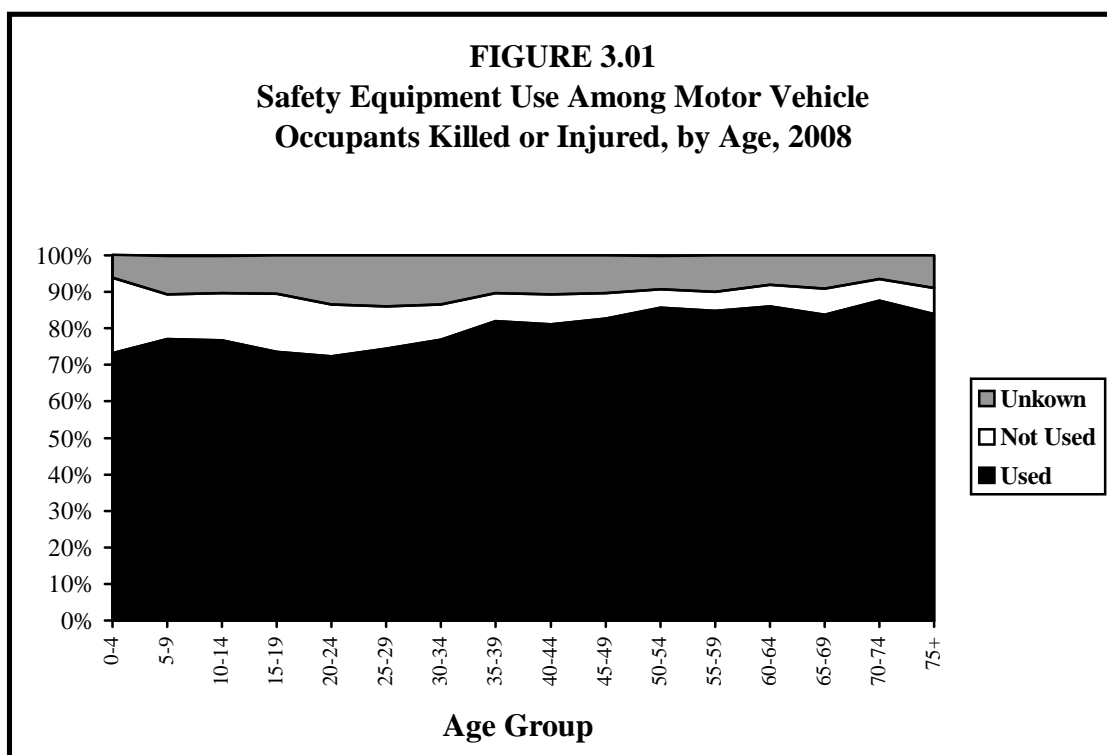
**MOTOR VEHICLE OCCUPANTS KILLED OR INJURED  
BY EJECTION STATUS AND INJURY SEVERITY, 2008**

Ejection Status	Killed		Severe Injury		Moderate Injury		Minor Injury		Total Persons Killed or Injured	
	Num- ber	Per- cent	Num- ber	Per- cent	Num- ber	Per- cent	Num- ber	Per- cent	Num- ber	Per- cent
Not Ejected	226	0.8	893	3.2	6,369	22.8	20,415	73.2	27,903	100.0%
Partly Ejected	24	22.6	33	31.1	26	24.5	23	21.7	106	100.0
Ejected	67	14.4	119	25.6	156	33.6	123	26.4	465	100.0
Not Stated	8	0.5	59	3.9	322	21.2	1,129	74.4	1,518	100.0
<b>Total</b>	<b>325</b>	<b>1.1</b>	<b>1,104</b>	<b>3.7</b>	<b>6,873</b>	<b>22.9</b>	<b>21,690</b>	<b>72.3</b>	<b>29,992</b>	<b>100.0%</b>

TABLE 3.03

**MOTOR VEHICLE OCCUPANTS KILLED OR INJURED,  
BY AGE AND INJURY SEVERITY, 2008**

Age Group	Killed	Injured			Total
		Severe	Moderate	Minor	
00 - 04	8	10	66	404	480
05 - 09	4	8	107	482	597
10 - 14	2	26	123	468	617
15 - 19	28	190	1,028	3,028	4,246
20 - 24	46	165	1,008	2,901	4,074
25 - 29	32	100	750	2,363	3,213
30 - 34	25	77	531	1,669	2,277
35 - 39	22	69	512	1,623	2,204
40 - 44	16	83	481	1,526	2,090
45 - 49	15	93	503	1,639	2,235
50 - 54	13	71	451	1,436	1,958
55 - 59	26	57	367	1,153	1,577
60 - 64	20	41	236	800	1,077
65 - 69	12	34	181	539	754
70 - 74	15	17	135	363	515
75 - 79	9	19	120	332	471
80 - 84	11	13	93	257	363
85 & Older	21	16	58	162	236
Not Stated	0	15	123	545	683
<b>Total</b>	<b>325</b>	<b>1,104</b>	<b>6,873</b>	<b>21,690</b>	<b>29,667</b>



*TABLE 3.04*

**SAFETY EQUIPMENT USE BY VEHICLE OCCUPANTS,  
 BY GENDER AND INJURY SEVERITY, 2008**

	<b>Killed</b>			<b>Injured</b>						<b>Total</b>
	<b>Female</b>	<b>Male</b>	<b>Total</b>	<b>Severe</b>	<b>Moderate</b>	<b>Minor</b>	<b>Severe</b>	<b>Moderate</b>	<b>Minor</b>	
Used	55	92	147	300	267	2,785	2,167	10,325	7,286	23,284
Not Used	51	99	150	129	199	418	591	729	863	2,952
Unknown	10	18	28	85	120	394	466	1,074	1,132	3,431
<b>Total</b>	<b>116</b>	<b>209</b>	<b>325</b>	<b>514</b>	<b>586</b>	<b>3,597</b>	<b>3,224</b>	<b>12,128</b>	<b>9,281</b>	<b>29,667</b>

Note: Gender was not reported for 337 persons injured (mostly those with minor injuries), causing the “Total” to be 337 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, 2008**

Age Group	Restraint Use	Injured									
		<u>Killed</u>		<u>Severe</u>		<u>Moderate</u>		<u>Minor</u>		<u>Total</u>	
		#	%	#	%	#	%	#	%	#	%
00 - 03 Years	Used	3	50.0	3	42.9	31	62.0	235	74.6	269	72.3
	Not Used	3	50.0	4	57.1	16	32.0	60	19.0	80	21.5
	Unknown	<u>0</u>	<u>0.0</u>	<u>0</u>	<u>0.0</u>	<u>3</u>	<u>6.0</u>	<u>20</u>	<u>6.4</u>	<u>23</u>	<u>6.2</u>
	Subtotal	6	100.0	7	100.0	50	100.0	315	100.0	372	100.0
04 - 10 Years	Used	2	28.6	7	58.3	103	70.6	519	80.0	629	77.9
	Not Used	5	71.4	3	25.0	25	17.1	68	10.5	96	11.9
	Unknown	<u>0</u>	<u>0.0</u>	<u>2</u>	<u>16.7</u>	<u>18</u>	<u>12.3</u>	<u>62</u>	<u>9.6</u>	<u>82</u>	<u>10.2</u>
	Subtotal	7	100.0	12	100.0	146	100.0	649	100.0	807	100.0
Total	Used	5	38.5	10	52.6	134	68.4	754	78.2	898	76.2
00 - 10 Years	Not Used	8	61.5	7	36.8	41	20.9	128	13.3	176	14.9
	Unknown	<u>0</u>	<u>0.0</u>	<u>2</u>	<u>10.5</u>	<u>21</u>	<u>10.7</u>	<u>82</u>	<u>8.5</u>	<u>105</u>	<u>8.9</u>
	Subtotal	13	100.0	19	100.0	196	100.0	964	100.0	1,179	100.0
00 - 04 Years	Used	4	50.0	5	50.0	41	62.1	307	76.0	355	73.5
	Not Used	4	50.0	5	50.0	21	31.8	71	17.6	97	20.2
	Unknown	<u>0</u>	<u>0.0</u>	<u>0</u>	<u>0.0</u>	<u>4</u>	<u>6.1</u>	<u>26</u>	<u>6.4</u>	<u>30</u>	<u>6.2</u>
	Subtotal	8	100.0	10	100.0	66	100.0	404	100.0	480	100.0
05 - 09 Years	Used	1	25.0	5	62.5	75	70.1	382	79.2	462	77.4
	Not Used	3	75.0	1	12.5	18	16.8	52	10.8	71	11.9
	Unknown	<u>0</u>	<u>0.0</u>	<u>2</u>	<u>25.0</u>	<u>14</u>	<u>13.1</u>	<u>48</u>	<u>10.0</u>	<u>64</u>	<u>10.7</u>
	Subtotal	4	100.0	8	100.0	107	100.0	482	100.0	597	100.0
10 - 14 Years	Used	1	50.0	10	38.5	87	70.7	377	80.6	474	76.8
	Not Used	1	50.0	11	42.3	24	19.5	44	9.4	79	12.8
	Unknown	<u>0</u>	<u>0.0</u>	<u>5</u>	<u>19.2</u>	<u>12</u>	<u>9.8</u>	<u>47</u>	<u>10.0</u>	<u>64</u>	<u>10.4</u>
	Subtotal	2	100.0	26	100.0	123	100.0	468	100.0	617	100.0
15 - 19 Years	Used	16	57.1	75	39.5	693	67.4	2,359	77.9	3,127	73.6
	Not Used	10	35.7	77	40.5	225	21.9	372	12.3	674	15.9
	Unknown	<u>2</u>	<u>7.1</u>	<u>38</u>	<u>20.0</u>	<u>110</u>	<u>10.7</u>	<u>297</u>	<u>9.8</u>	<u>445</u>	<u>10.5</u>
	Subtotal	28	100.0	190	100.0	1,028	100.0	3,028	100.0	4,246	100.0
20 - 24 Years	Used	17	37.0	73	44.2	662	65.7	2,230	76.9	2,965	72.8
	Not Used	23	50.0	56	33.9	210	20.8	297	10.2	563	13.8
	Unknown	<u>6</u>	<u>13.0</u>	<u>36</u>	<u>21.8</u>	<u>136</u>	<u>13.5</u>	<u>374</u>	<u>12.9</u>	<u>546</u>	<u>13.4</u>
	Subtotal	46	100.0	165	100.0	1,008	100.0	2,901	100.0	4,074	100.0
25 - 29 Years	Used	10	31.2	39	39.0	510	68.0	1,857	78.6	2,406	74.9
	Not Used	20	62.5	34	34.0	119	15.9	203	8.6	356	11.1
	Unknown	<u>2</u>	<u>6.2</u>	<u>27</u>	<u>27.0</u>	<u>121</u>	<u>16.1</u>	<u>303</u>	<u>12.8</u>	<u>451</u>	<u>14.0</u>
	Subtotal	32	100.0	100	100.0	750	100.0	2,363	100.0	3,213	100.0
30 - 34 Years	Used	5	20.0	31	40.3	385	72.5	1,347	80.7	1,763	77.4
	Not Used	18	72.0	34	44.2	63	11.9	108	6.5	205	9.0
	Unknown	<u>2</u>	<u>8.0</u>	<u>12</u>	<u>15.6</u>	<u>83</u>	<u>15.6</u>	<u>214</u>	<u>12.8</u>	<u>309</u>	<u>13.6</u>
	Subtotal	25	100.0	77	100.0	531	100.0	1,669	100.0	2,277	100.0
35 - 39 Years	Used	9	40.9	38	55.1	387	75.6	1,390	85.6	1,815	82.4
	Not Used	13	59.1	25	36.2	58	11.3	77	4.7	160	7.3
	Unknown	<u>0</u>	<u>0.0</u>	<u>6</u>	<u>8.7</u>	<u>67</u>	<u>13.1</u>	<u>156</u>	<u>9.6</u>	<u>229</u>	<u>10.4</u>
	Subtotal	22	100.0	69	100.0	512	100.0	1,623	100.0	2,204	100.0

TABLE 3.05 CONTINUED

**SAFETY EQUIPMENT USE BY VEHICLE OCCUPANTS KILLED  
OR INJURED, BY AGE AND INJURY SEVERITY, 2008**

Age Group	Restraint Use	<u>Killed</u>		<u>Severe</u>		<u>Moderate</u>		<u>Minor</u>		<u>Total</u>	
		#	%	#	%	#	%	#	%	#	%
40 - 44 Years	Used	5	31.2	44	53.0	355	73.8	1,303	85.4	1,702	81.4
	Not Used	8	50.0	22	26.5	61	12.7	85	5.6	168	8.0
	Unknown	<u>3</u>	<u>18.8</u>	<u>17</u>	<u>20.5</u>	<u>65</u>	<u>13.5</u>	<u>138</u>	<u>9.0</u>	<u>220</u>	<u>10.5</u>
	Subtotal	16	100.0	83	100.0	481	100.0	1,526	100.0	2,090	100.0
45 - 49 Years	Used	6	40.0	53	57.0	377	75.0	1,424	86.9	1,854	83.0
	Not Used	8	53.3	21	22.6	54	10.7	72	4.4	147	6.6
	Unknown	<u>1</u>	<u>6.7</u>	<u>19</u>	<u>20.4</u>	<u>72</u>	<u>14.3</u>	<u>143</u>	<u>8.7</u>	<u>234</u>	<u>10.5</u>
	Subtotal	15	100.0	93	100.0	503	100.0	1,639	100.0	2,235	100.0
50 - 54 Years	Used	6	46.2	47	66.2	370	82.0	1,265	88.1	1,682	85.9
	Not Used	6	46.2	10	14.1	40	8.9	47	3.3	97	5.0
	Unknown	<u>1</u>	<u>7.7</u>	<u>14</u>	<u>19.7</u>	<u>41</u>	<u>9.1</u>	<u>124</u>	<u>8.6</u>	<u>179</u>	<u>9.1</u>
	Subtotal	13	100.0	71	100.0	451	100.0	1,436	100.0	1,958	100.0
55 - 59 Years	Used	11	42.3	38	66.7	294	80.1	1,016	88.1	1,348	85.5
	Not Used	12	46.2	10	17.5	28	7.6	34	3.0	72	4.6
	Unknown	<u>3</u>	<u>11.5</u>	<u>9</u>	<u>15.8</u>	<u>45</u>	<u>12.3</u>	<u>103</u>	<u>8.9</u>	<u>157</u>	<u>10.0</u>
	Subtotal	26	100.0	57	100.0	367	100.0	1,153	100.0	1,577	100.0
60 - 64 Years	Used	16	80.0	28	68.3	188	79.7	711	88.9	927	86.1
	Not Used	3	15.0	8	19.5	27	11.4	27	3.4	62	5.8
	Unknown	<u>1</u>	<u>5.0</u>	<u>5</u>	<u>12.2</u>	<u>21</u>	<u>8.9</u>	<u>62</u>	<u>7.8</u>	<u>88</u>	<u>8.2</u>
	Subtotal	20	100.0	41	100.0	236	100.0	800	100.0	1,077	100.0
65 - 69 Years	Used	5	41.7	21	61.8	147	81.2	468	86.8	636	84.4
	Not Used	5	41.7	6	17.6	16	8.8	28	5.2	50	6.6
	Unknown	<u>2</u>	<u>16.7</u>	<u>7</u>	<u>20.6</u>	<u>18</u>	<u>9.9</u>	<u>43</u>	<u>8.0</u>	<u>68</u>	<u>9.0</u>
	Subtotal	12	100.0	34	100.0	181	100.0	539	100.0	754	100.0
70 - 74 Years	Used	10	66.7	12	70.6	113	83.7	329	90.6	454	88.2
	Not Used	5	33.3	4	23.5	12	8.9	11	3.0	27	5.2
	Unknown	<u>0</u>	<u>0.0</u>	<u>1</u>	<u>5.9</u>	<u>10</u>	<u>7.4</u>	<u>23</u>	<u>6.3</u>	<u>34</u>	<u>6.6</u>
	Subtotal	15	100.0	17	100.0	135	100.0	363	100.0	515	100.0
75 & Older	Used	25	61.0	43	89.6	216	79.7	648	86.3	907	84.8
	Not Used	11	26.8	2	4.2	28	10.3	38	5.1	68	6.4
	Unknown	<u>5</u>	<u>12.2</u>	<u>3</u>	<u>6.2</u>	<u>27</u>	<u>10.0</u>	<u>65</u>	<u>8.7</u>	<u>95</u>	<u>8.9</u>
	Subtotal	41	100.0	48	100.0	271	100.0	751	100.0	1,070	100.0
Age Not Stated	Used	0	0.0	6	40.0	79	64.2	324	59.4	409	59.9
	Not Used	0	0.0	3	20.0	11	8.9	42	7.7	56	8.2
	Unknown	<u>0</u>	<u>0.0</u>	<u>6</u>	<u>40.0</u>	<u>33</u>	<u>26.8</u>	<u>179</u>	<u>32.8</u>	<u>218</u>	<u>31.9</u>
	Subtotal	0	0.0	15	100.0	123	100.0	545	100.0	683	100.0
All Ages	Used	147	45.2	568	51.4	4,979	72.4	17,737	81.8	23,284	78.5
	Not Used	150	46.2	329	29.8	1,015	14.8	1,608	7.4	2,952	10.0
	Unknown	<u>28</u>	<u>8.6</u>	<u>207</u>	<u>18.8</u>	<u>879</u>	<u>12.8</u>	<u>2,345</u>	<u>10.8</u>	<u>3,431</u>	<u>11.6</u>
	Subtotal	325	100.0	1,104	100.0	6,873	100.0	21,690	100.0	29,667	100.0

(Persons aged 0 through 3 and 4 through 10 years old are categorized in separate groups because Minnesota law makes special provisions for these age groups. Percentages may not sum to 100.0% due to rounding.)

TABLE 3.06

**PERCENT OF KILLED OR INJURED MOTOR VEHICLE OCCUPANTS WHO  
USED SAFETY EQUIPMENT, BY INJURY SEVERITY AND YEAR, 1999 - 2008**

	1999	2000	2001	2002	2003	2004	2005	2006	2007	2008
<b>Killed</b>										
Used	31.6	29.4	31.1	37.9	39.4	39.5	40.2	40.0	41.4	45.2
Not Used	50.0	54.4	54.8	55.0	48.9	51.8	51.2	52.0	48.9	46.2
Unknown	18.4	16.2	14.1	7.2	11.8	8.7	8.6	8.0	9.8	8.6
<b>Injured</b>										
<b>Severe Injuries</b>										
Used	44.9	45.7	47.1	46.0	NA	49.3	49.6	49.9	52.2	51.4
Not Used	34.2	33.5	34.4	34.5	NA	32.8	30.8	32.8	31.6	29.8
Unknown	20.9	20.8	18.5	19.5	NA	17.9	19.6	17.3	16.2	18.8
<b>Moderate Injuries</b>										
Used	61.0	63.1	65.3	65.1	NA	70.3	70.9	69.0	71.6	72.4
Not Used	24.6	22.9	21.1	21.1	NA	17.4	15.9	16.8	15.4	14.8
Unknown	14.4	14.0	13.5	13.8	NA	12.4	13.2	14.2	13.0	12.8
<b>Minor Injuries</b>										
Used	71.1	72.6	73.6	73.7	NA	78.8	80.6	80.2	81.6	81.8
Not Used	12.7	11.9	11.2	10.6	NA	9.7	8.8	8.6	7.6	7.4
Unknown	16.2	15.5	15.2	15.7	NA	11.4	10.6	11.3	10.8	10.8
<b>Total Injured</b>										
Used	65.7	67.6	69.2	69.0	NA	74.8	76.6	76.1	78.0	78.5
Not Used	18.4	17.1	16.0	15.7	NA	13.2	11.7	11.6	10.4	10.0
Unknown	15.9	15.3	14.8	15.3	NA	12.0	11.7	12.3	11.6	11.6

TABLE 3.07

**SAFETY EQUIPMENT USE BY MOTOR VEHICLE OCCUPANTS  
KILLED OR INJURED, BY ROADWAY TYPE, 2008**

<b>Roadway Type</b>	<b>Used</b>		<b>Not Used</b>		<b>Unknown</b>		<b>Total</b>	
	<b>Number</b>	<b>Percent</b>	<b>Number</b>	<b>Percent</b>	<b>Number</b>	<b>Percent</b>	<b>Number</b>	<b>Percent</b>
Interstate	3,237	84.9	353	9.3	222	5.8	3,812	100.0%
US Trunk Hwy	3,393	82.3	461	11.2	269	6.5	4,123	100.0%
MN Trunk Hwy	4,563	81.7	540	9.7	482	8.6	5,585	100.0%
CSAH	6,826	75.8	937	10.4	1,247	13.8	9,010	100.0%
County Road	376	70.5	82	15.4	75	14.1	533	100.0%
Township Road	338	58.8	142	24.7	95	16.5	575	100.0%
Local Street	4,655	74.0	580	9.2	1,051	16.7	6,286	100.0%
Other Road	43	63.2	7	10.3	18	26.5	68	100.0%
<b>Total</b>	<b>23,431</b>	<b>78.1</b>	<b>3,102</b>	<b>10.3</b>	<b>3,459</b>	<b>11.5</b>	<b>29,992</b>	<b>100.0%</b>

CSAH = County State Aid Highway

TABLE 3.08

**SAFETY EQUIPMENT USE BY MOTOR VEHICLE OCCUPANTS  
KILLED OR INJURED, BY REGION OF THE STATE, 2008**

<b>EMS Region</b>	<b>Percent Used</b>	<b>Percent Not Used</b>	<b>Percent Unknown</b>	<b>Number of People</b>
Metropolitan	79.9	7.2	13.0	16,218
Central	78.7	12.0	9.3	4,184
Northeast	78.7	11.4	9.9	1,856
Northwest	64.3	20.5	15.2	810
South Central	75.0	14.2	10.9	1,150
Southeast	77.6	13.9	8.5	2,884
Southwest	70.1	18.2	11.7	1,579
West Central	76.1	15.8	8.1	1,311
Statewide	78.1	10.3	11.5	29,992

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





TABLE 3.09

**AIRBAG DEPLOYMENTS, 2001 - 2008**

Year	Injury Severity	<u>Airbag Deployed</u>		<u>Deployment Not Indicated</u>		Belt Use Unknown	Total
		Belt Used	Belt Not Used	Belt Used	Belt Not Used		
2001	Killed	22	23	121	229	65	460
	Severe Injury	149	51	960	760	436	2,356
	Moderate Injury	915	119	7,563	2,624	1,756	12,977
	Minor Injury	976	102	15,664	2,421	3,433	22,596
	No Apparent Injury	<u>2,141</u>	<u>105</u>	<u>105,404</u>	<u>5,519</u>	<u>82,566</u>	<u>195,735</u>
	Total	4,203	400	129,712	11,553	88,256	234,124
2002	Killed	41	28	165	271	39	544
	Severe Injury	140	57	882	710	433	2,222
	Moderate Injury	955	180	7,332	2,508	1,757	12,732
	Minor Injury	1,198	114	14,707	2,173	3,389	21,581
	No Apparent Injury	<u>2,441</u>	<u>130</u>	<u>101,861</u>	<u>5,022</u>	<u>79,687</u>	<u>189,141</u>
	Total	4,775	509	124,947	10,684	85,305	226,220
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	<u>7,480</u>	<u>419</u>	<u>110,451</u>	<u>5,523</u>	<u>57,101</u>	<u>180,974</u>
	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	<u>7,529</u>	<u>390</u>	<u>109,215</u>	<u>4,714</u>	<u>50,655</u>	<u>172,503</u>
	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	<u>7,130</u>	<u>375</u>	<u>96,018</u>	<u>3,779</u>	<u>44,881</u>	<u>152,183</u>
	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	<u>7,535</u>	<u>361</u>	<u>104,297</u>	<u>3,783</u>	<u>43,270</u>	<u>159,246</u>
	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	<u>7,594</u>	<u>323</u>	<u>102,417</u>	<u>3,345</u>	<u>36,239</u>	<u>149,918</u>
	Total	14,037	1,120	119,405	5,650	39,698	179,910

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**

### **Motorcycle crashes on the rise**

In 2008, there were 1,633 crashes that involved at least one motorcycle. This is the highest number of motorcycle crashes observed in Minnesota in the past eighteen years. In 1990, there were 1,735 motorcycle crashes, but then the number of crashes decreased throughout the decade.

In 2008, 1,505 motorcyclists were injured. This is also the highest number of motorcyclist injuries since 1990 when 1,605 motorcyclists were injured.

### **Fatalities increase**

Motorcyclist fatalities increased in 2008. There were 72 killed motorcyclists recorded. This number is an 18% increase from the previous year. Of the 72 killed motorcyclists, 65 were drivers and 7 were passengers. This increase is worrisome because the number of overall motorcyclist crashes, fatalities, and injuries have been rapidly increasing this decade. There is some evidence for the increase in motorcycle crashes; the number of registered motorcycles has doubled since 1996 with older people returning to motorcycling. In fact, 56% of the killed and 50% of the injured motorcyclists in 2008 were 40 years or older.

### **Alcohol use among fatalities skyrocket**

State law requires that drivers who die in traffic crashes be tested for blood alcohol level. In 2008, 65 motorcycle drivers were killed and 59 of them were tested. Twenty-eight (47%) of the 59 drivers tested positive for alcohol, and 25 of the 59 (42%) tested at .08 or greater.

### **Greater crash severity**

When a motorcycle is involved in a traffic crash, the chances of severe injury are greatly increased. In fact, 4.3 of every 100 motorcycle crashes in 2008 were fatal and nearly one out of every five motorcyclists injured was injured severely.

### **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 2008, only 12 (17%) of the 72 motorcycle riders killed were known to be wearing a helmet. Of the 1,505 motorcyclists injured, only 539 (36%) 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 2008, 57% 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. This surely indicates 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 2008, 62 of the 72 motorcyclists killed, and 1,235 of the 1,505 injured, were male. Males account for 82% of all motorcyclists killed or injured.

### **Speeding motorcyclists and failing to yield by other vehicles**

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 (22%) and driver inexperience (17%). In crashes that do involve another motor vehicle, the reporting officers more often associate contributing factors with the other driver than with the motorcyclist. For other drivers, failure to yield right of way (39%) and driver inattention or distraction (21%) are cited most frequently.

TABLE 4.01

**MOTORCYCLE CRASH SUMMARY, 1980 - 2008**

Year	Motorcycle Crashes				Killed		Injured		Licensed Oper- ators	Regis- tered Motor- cycles	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

Record

High*	112	2,728	537	3,308	121	9	3,359	207	380,232	224,625	7.7	4.7	0.8
(year)	(1980)	(1980)	(1976)	(1980)	(1980)	(1975)	(1980)	(1984)	(2008)	(2008)	(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

## 2008 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	31	536	139	706	32	602
Parked Motor Vehicle	0	16	20	36	0	17
Bicycle	0	7	1	8	0	8
Pedestrian	0	3	0	3	0	3
Deer	7	100	4	111	7	120
Other Animal	1	17	2	20	1	20
Train	0	0	0	0	0	0
Fixed Object	14	199	12	225	14	221
<b>Non-Collision:</b>						
Overturn/Rollover	8	222	7	237	8	244
Fire/Explosion	0	0	1	1	0	0
Submersion	0	0	0	0	0	0
<b>Other / Unknown</b>	10	250	26	286	10	270
Total	71	1,350	212	1,633	72	1,505

TABLE 4.03

## 2008 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	5	152	44	201	5	160
100,000 - 249,999	1	29	0	30	1	33
50,000 - 99,999	7	197	27	231	7	216
25,000 - 49,999	2	132	26	160	2	143
10,000 - 24,999	6	195	35	236	6	203
5,000 - 9,999	3	84	18	105	4	95
2,500 - 4,999	7	61	9	77	7	71
1,000 - 2,499	2	34	6	42	2	39
Under 1,000	38	466	47	551	38	545
Total	71	1,350	212	1,633	72	1,505

TABLE 4.04

**2008 MOTORCYCLE CRASHES BY MONTH**

<b>Month</b>	<b>Fatal Crashes</b>	<b>Injury Crashes</b>	<b>Property Damage Crashes</b>	<b>Total Crashes</b>	<b>Motorcyclists Killed</b>	<b>Motorcyclists Injured</b>
January	0	1	1	2	0	1
February	0	0	0	0	0	0
March	1	5	1	7	1	6
April	3	55	11	69	3	63
May	7	166	28	201	7	178
June	10	235	36	281	10	272
July	15	283	42	340	15	320
August	21	280	41	342	21	313
September	5	190	29	224	5	205
October	7	97	16	120	8	106
November	2	38	6	46	2	41
December	0	0	1	1	0	0
<b>Total</b>	<b>71</b>	<b>1,350</b>	<b>212</b>	<b>1,633</b>	<b>72</b>	<b>1,505</b>

**FIGURE 4.01**  
**2008 Motorcycle Crashes by Time of Day**

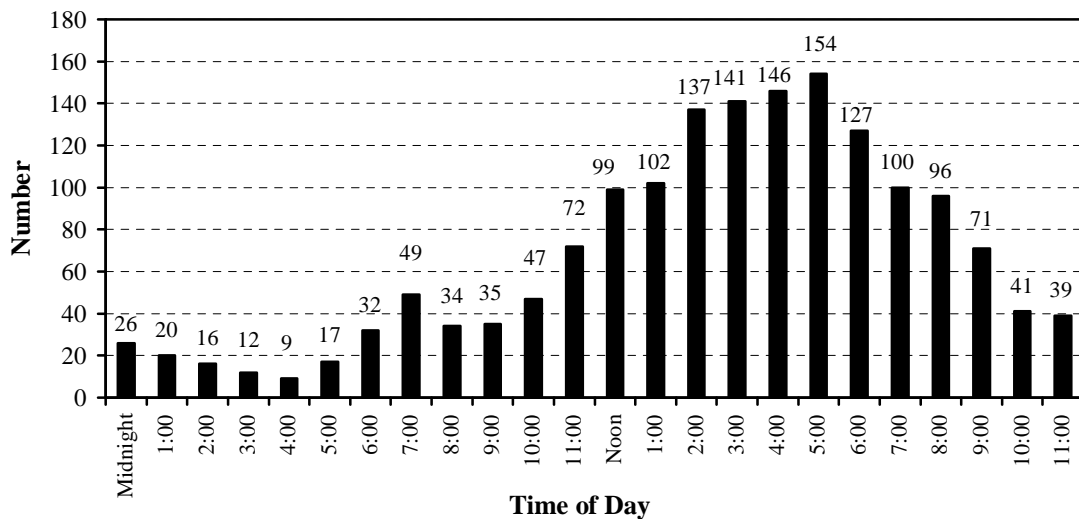


TABLE 4.05

**2008 MOTORCYCLE CRASHES BY TIME AND DAY**

Hour Begin- ning	Total Crashes	Fatal Crashes	Sunday		Monday		Tuesday		Wednesday		Thursday		Friday		Saturday	
			All	Fatal	All	Fatal	All	Fatal	All	Fatal	All	Fatal	All	Fatal	All	Fatal
Midnight	26	3	6	1	5	0	4	0	2	1	1	0	1	0	7	1
1:00	20	1	3	0	0	0	2	0	0	0	5	0	4	0	6	1
2:00	16	0	7	0	2	0	0	0	0	0	2	0	2	0	3	0
3:00	12	1	3	0	1	1	2	0	1	0	1	0	1	0	3	0
4:00	9	2	1	1	1	0	3	0	1	0	0	0	2	1	1	0
5:00	17	3	1	0	3	0	2	0	1	0	5	2	2	0	3	1
6:00	32	0	1	0	4	0	6	0	7	0	5	0	6	0	3	0
7:00	49	1	2	0	7	0	11	0	8	0	9	0	7	1	5	0
8:00	34	0	1	0	6	0	3	0	6	0	3	0	12	0	3	0
9:00	35	2	4	0	4	1	3	0	5	0	4	0	7	1	8	0
10:00	47	1	9	0	6	0	3	0	3	0	4	0	6	0	16	1
11:00	72	3	15	0	6	0	9	1	2	0	6	1	16	0	18	1
Noon	99	4	15	0	10	1	13	0	9	0	11	2	17	0	24	1
1:00	102	3	22	1	15	0	5	1	7	1	18	0	21	0	14	0
2:00	137	6	23	1	12	0	16	1	17	0	19	3	24	0	26	1
3:00	141	5	30	1	12	0	21	1	13	0	11	0	21	1	33	2
4:00	146	5	25	1	23	1	17	0	13	1	16	0	20	1	32	1
5:00	154	4	14	0	21	1	17	1	28	0	21	0	24	1	29	1
6:00	127	4	29	2	14	0	17	1	20	0	16	0	19	1	12	0
7:00	100	2	19	0	15	0	6	0	14	0	11	0	14	0	21	2
8:00	96	7	13	3	9	1	11	0	14	0	10	1	18	1	21	1
9:00	71	5	4	0	8	0	9	1	15	1	6	1	19	1	10	1
10:00	41	3	4	1	6	1	3	0	6	0	2	0	8	0	12	1
11:00	39	5	1	0	6	1	3	0	6	1	5	1	9	2	9	0
Unknown	11	1	0	0	3	0	0	0	0	0	2	1	4	0	2	0
Total	1,633	71	252	12	199	8	186	7	198	5	193	12	284	11	321	16

TABLE 4.06

**MOTORCYCLISTS KILLED OR INJURED BY AGE AND GENDER, 2008**

Age Group	<u>Killed</u>			<u>Injured</u>									<u>Total</u>		
			Total	<u>Severe</u>			<u>Moderate</u>			<u>Minor</u>					Total*
	M	F		M	F	Total	M	F	Total	M	F	Total	M	F	
00 - 04	0	0	0	0	0	0	0	0	0	0	1	1	0	1	1
05 - 09	0	0	0	0	1	1	0	0	0	2	1	3	2	2	4
10 - 14	0	0	0	1	2	3	1	3	4	3	2	5	5	7	12
15 - 19	3	0	3	7	1	8	41	10	51	26	11	37	74	22	96
20 - 24	4	0	4	17	3	20	95	14	109	81	9	90	193	26	219
25 - 29	10	1	11	19	4	23	70	10	80	48	5	53	137	19	156
30 - 34	8	2	10	12	3	15	50	8	58	40	9	49	102	20	122
35 - 39	4	0	4	21	4	25	58	17	75	37	8	45	116	29	145
40 - 44	10	2	12	16	10	26	43	19	62	48	15	63	107	44	151
45 - 49	7	1	8	35	7	42	68	17	85	50	18	68	153	42	195
50 - 54	5	3	8	24	8	32	66	13	79	42	6	48	132	27	159
55 - 59	3	0	3	17	2	19	47	10	57	24	7	31	88	19	107
60 - 64	4	0	4	12	1	13	39	6	45	21	1	22	72	8	80
65 - 69	2	0	2	3	0	3	12	2	14	13	0	13	28	2	30
70 & Older	2	1	3	5	0	5	8	0	8	5	0	5	18	0	18
Not Stated	0	0	0	2	0	2	4	2	6	2	0	2	8	2	10
Total	62	10	72	191	46	237	602	131	733	442	93	535	1,235	270	1,505

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

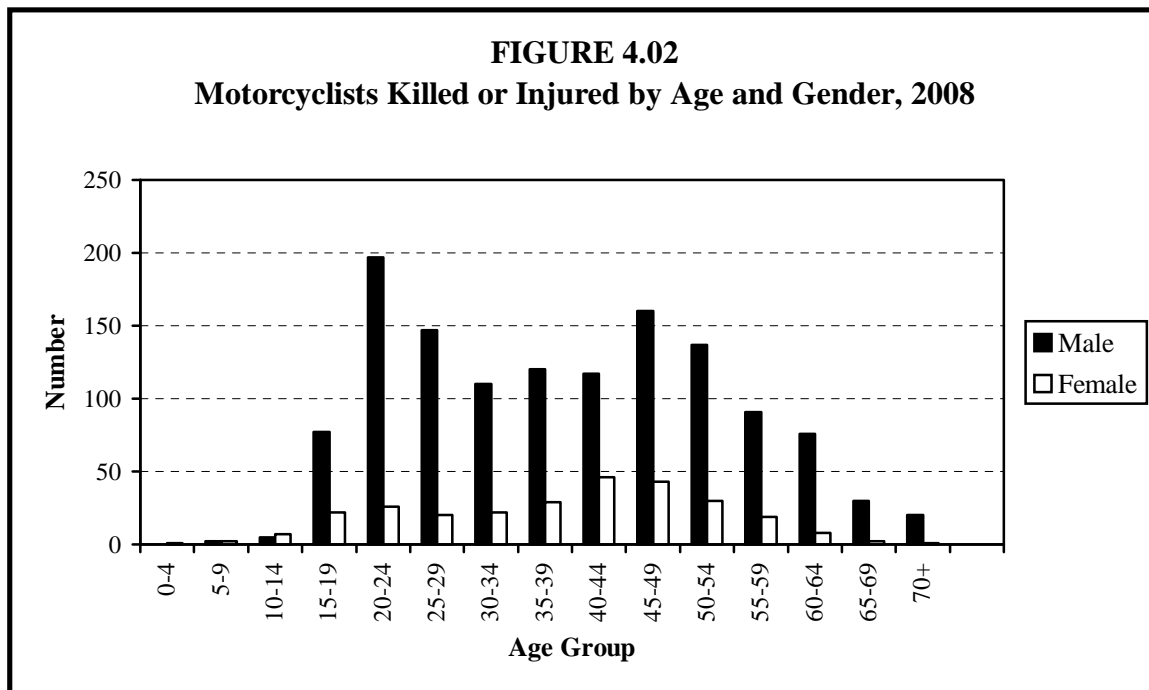


TABLE 4.07

**HELMET USE BY MOTORCYCLISTS KILLED OR INJURED, 1999 - 2008**

	<u>Helmet Used</u>		<u>Helmet Not Used</u>		<u>Helmet Use Unknown</u>		<u>Total</u>	
	Number	Percent	Number	Percent	Number	Percent	Number	Percent
<b>Killed</b>								
1999	8	27.6	18	62.1	3	10.3	29	100.0
2000	6	17.1	27	77.1	2	5.7	35	100.0
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
<b>Injured</b>								
1999	282	28.4	533	53.8	176	17.8	991	100.0
2000	317	30.5	519	50.0	203	19.5	1,039	100.0
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	NA	NA	NA	NA	NA	NA	NA	NA
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

TABLE 4.08

**ENDORSEMENT STATUS OF MOTORCYCLE OPERATORS INVOLVED IN FATAL CRASHES, 1999 - 2008**

<b>Year</b>	<u>Valid Endorsement*</u>		<u>Permit Only</u>		<u>Canceled, Suspended, Revoked</u>		<u>No Endorsement</u>		<u>Total** For Year</u>	
	Number	Percent	Number	Percent	Number	Percent	Number	Percent	Number	Percent
1999	28	90.3	0	0.0	0	0.0	3	9.7	31	100.0
2000	30	83.3	0	0.0	2	5.6	4	11.1	36	100.0
2001	32	78.0	0	0.0	4	9.8	5	12.2	41	100.0
2002	38	79.2	0	0.0	5	10.4	5	10.4	48	100.0
2003	45	73.8	2	3.3	5	8.2	9	14.8	61	100.0
2004	45	83.3	1	1.9	0	0.0	8	14.8	54	100.0
2005	51	81.0	2	3.2	5	7.9	4	6.3	63	100.0
2006	59	83.1	1	1.4	3	4.2	4	5.6	71	100.0
2007	49	81.7	0	0.0	4	6.7	5	8.3	60	100.0
2008	57	79.2	0	0.0	5	6.9	8	11.1	72	100.0

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

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



TABLE 4.09

**ALCOHOL USE BY KILLED MOTORCYCLE DRIVERS, 1999 – 2008**

Year	Killed	Tested	Alcohol Concentration*			
			(.00)	(.01 - .07)	(.08-.09)	(.10 or more)
1999	28	22	12 (55%)	0 (0%)	2 (9%)	8 (36%)
2000	32	32	22 (69%)	1 (3%)	0 (0%)	9 (28%)
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%)

\*Percentages are based on those motorcycle drivers tested.

TABLE 4.10

**2008 MOTORCYCLE DRIVER FATALITIES'  
LEVEL OF ALCOHOL CONCENTRATION BY AGE**

Age	Killed	Tested	Alcohol Concentration*				Alcohol Concentration						
			(.01 - .07)	(.08-.09)	(.10 +)		.00	.01-.04	.05-.09	.10-.14	.15-.19	.20-.24	.25 & Over
14 & Younger	0	0	0	0	0		0	0	0	0	0	0	0
15	0	0	0	0	0		0	0	0	0	0	0	0
16	0	0	0	0	0		0	0	0	0	0	0	0
17	1	1	0	0	0		1	0	0	0	0	0	0
18	0	0	0	0	0		0	0	0	0	0	0	0
19	1	0	0	0	0		0	0	0	0	0	0	0
20	0	0	0	0	0		0	0	0	0	0	0	0
<b>Under 21</b>	<b>2</b>	<b>1</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>	<b>0</b>	<b>0</b>
14 & Younger	0	0	0	0	0		0	0	0	0	0	0	0
15 – 19	2	1	0	0	0		1	0	0	0	0	0	0
20 – 24	4	4	0	0	2		2	0	0	1	1	0	0
25 – 29	10	8	0	0	3		5	0	0	1	1	1	0
30 – 34	9	8	0	2	4		2	0	2	2	0	2	0
35 – 39	4	4	0	0	4		0	0	0	2	2	0	0
40 – 44	11	11	2	0	5		4	1	1	1	3	1	0
45 – 49	7	7	0	0	3		4	0	0	0	2	1	0
50 – 54	6	6	1	0	2		3	1	0	1	1	0	0
55 – 59	3	3	0	0	0		3	0	0	0	0	0	0
60 & Older	9	7	0	0	0		7	0	0	0	0	0	0
<b>Total</b>	<b>65</b>	<b>59</b>	<b>3</b>	<b>2</b>	<b>23</b>		<b>31</b>	<b>2</b>	<b>3</b>	<b>8</b>	<b>10</b>	<b>5</b>	<b>0</b>

TABLE 4.11

## CONTRIBUTING FACTORS IN 2008 MOTORCYCLE CRASHES

Contributing Factors	<i>Single Vehicle Crashes</i>		<i>Multi-Vehicle Crashes</i>			
	Attributed to		Attributed to		Attributed to	
	<u>Motorcycle Drivers</u>		<u>Motorcycle Drivers</u>		<u>Other Drivers</u>	
	Number	Percent	Number	Percent	Number	Percent
<b>Human Factors:</b>						
Illegal/Unsafe Speed	177	20.3%	68	15.6%	10	1.8%
Driver Inexperience	152	17.4	15	3.4	6	1.1
Driver Inattention/Distracted	91	10.4	84	19.2	118	21.3
Chemical Impairment	72	8.3	16	3.7	12	2.2
Overcorrecting	36	4.1	5	1.1	1	0.2
Improper/Unsafe Lane Use	24	2.8	23	5.3	34	6.1
Following Too Closely	13	1.5	63	14.4	27	4.9
Improper Turn	10	1.1	8	1.8	32	5.8
Vision Obscured	7	0.8	4	0.9	20	3.6
Improper Park/Start/Stop	6	0.7	5	1.1	7	1.3
Driving Left of Center	6	0.7	10	2.3	8	1.4
Improper Passing/Overtaking	5	0.6	35	8.0	3	0.5
Disregard Traffic Cntrl Device	3	0.3	8	1.8	19	3.4
Failure To Yield Right of Way	3	0.3	41	9.4	215	38.8
Impeding Traffic	0	0.0	2	0.5	4	0.7
Improper/No Signal	0	0.0	2	0.5	2	0.4
Driver on Phone/CB	0	0.0	0	0.0	2	0.4
Unsafe Backing	0	0.0	0	0.0	5	0.9
Failure To Use Lights	0	0.0	1	0.2	1	0.2
Other Human Factor	35	4.0	8	1.8	10	1.8
<b>Vehicular Factors:</b>						
Skidding	69	7.9	14	3.2	1	0.2
Defective Tires	14	1.6	1	0.2	0	0.0
Defective Brakes	8	0.9	1	0.2	0	0.0
Defective Lights	0	0.0	0	0.0	1	0.2
Other Vehicular Factors	14	1.6	2	0.5	0	0.0
<b>Miscellaneous Factors:</b>						
Weather Conditions	19	2.2	3	0.7	1	0.2
Other	108	12.4	18	4.2	15	2.7
Total	872	100.0%	437	100.0%	554	100.0%
Vehicles for Which There Was						
“No Clear Contributing Factor”	260		382		253	
Total Number Drivers	935		751		694	

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 decrease**

In 2008, there were 4,344 truck-involved traffic crashes reported to the Department of Public Safety. This represents a 6% decrease from the previous year. There were 64 fatal truck crashes, killing a total of 74 people. In addition, there were 1,425 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 ten of the 74 people killed in truck-involved crashes were in trucks. The other 64 deaths included two pedestrians, three motorcyclists, two bicyclists, and 57 persons in cars, SUVs, pickups, or vans. Of the 1,425 people injured, only 288 (20%) 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 (19% 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 14% of the other vehicles but only 10% of the trucks. And, failure to yield was reported for 13% 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 2008, only 454 (10%) of truck crashes occurred on either a Saturday or Sunday. And, Figure 5.01 in this Section reveals that a vast majority of truck crashes occur during daytime work hours.

### **Driving conditions**

Driving conditions can vary from day to day in Minnesota, but most truck crashes occurred on dry roads in clear weather. However, 31% of the fatal crashes and 37% 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. 65% of fatal and 45% of truck-related injury crashes occurred in the rural areas of Minnesota.

TABLE 5.01

**TRUCK CRASH SUMMARY, 1999 - 2008**

	1999	2000	2001	2002	2003	2004	2005	2006	2007	2008
<b>Total Crashes</b>	<b>5,156</b>	<b>5,306</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>
Fatal Crashes	84	73	61	76	71	70	66	62	71	64
Persons Killed	94	90	67	87	78	79	78	65	90	74
Injury Crashes	1,400	1,371	1,287	1,179	NA	1,401	1,315	1,156	1,144	1,056
Severe	150	134	127	82	NA	107	96	89	83	72
Moderate	567	490	479	449	NA	443	377	323	334	295
Minor	683	747	681	648	NA	851	842	744	727	689
Persons Injured	2,026	1,903	1,785	1,674	NA	1,935	1,753	1,544	1,745	1,425
Severe	212	173	157	115	NA	131	116	104	130	89
Moderate	782	659	632	597	NA	585	481	415	508	388
Minor	1,032	1,071	996	962	NA	1,219	1,156	1,025	1,107	948
Property Damage Crashes	3,672	3,862	3,628	3,154	NA	4,050	3,932	3,340	3,416	3,224

TABLE 5.02

**PERSONS KILLED OR INJURED IN 2008 TRUCK CRASHES  
BY VEHICLE OCCUPIED**

Vehicle Type	Killed	Injured			Total
		Severe	Moderate	Minor	
Automobile	30	38	152	452	642
Pickup Truck	9	12	46	83	141
SUV	7	14	32	106	152
Van	11	5	28	77	110
Pedestrian	2	3	5	5	13
Bicycle	2	0	3	2	5
Motorcycle	3	2	4	4	10
Ambulance	0	0	0	2	2
Police/Fire Vehicle	0	0	1	1	2
Roadway Maintenance Vehicle	0	1	7	7	15
School Bus	0	1	5	3	9
Bus-Non School	0	2	6	10	18
Two-Axle, Six-Tire, Single Unit Truck	3	1	16	36	53
Three or More Axle Single Unit Truck	2	2	8	24	34
Single Unit Truck with Trailer	0	1	4	7	12
Truck Tractor with No Trailer	1	0	3	3	6
Truck Tractor with Semi Trailer	4	6	54	108	168
Truck Tractor with Twin Trailers	0	0	2	1	3
Heavy Truck--Other or Unknown Type	0	1	4	7	12
Other or Unknown Vehicle Type	0	0	8	10	18
Total	74	89	388	948	1,425

TABLE 5.03

**CONTRIBUTING FACTORS IN 2008 TRUCK CRASHES**

<b>Contributing Factors</b>	<b>Attributed to Truck Vehicles</b>		<b>Attributed to Non-Truck Vehicles</b>	
	<b>Number</b>	<b>Percent</b>	<b>Number</b>	<b>Percent</b>
<b>Human Factors</b>				
Driver Inattention/Distracted	617	20.0%	571	19.4%
Illegal/Unsafe Speed	305	9.9	418	14.2
Improper or Unsafe Lane Use	303	9.8	268	9.1
Failure to Yield Right of Way	259	8.4	380	12.9
Following Too Closely	240	7.8	193	6.6
Improper Turn	170	5.5	52	1.8
Unsafe Backing	131	4.2	13	0.4
Vision Obscured-Windshield	79	2.6	43	1.5
Improper Passing or Overtaking	61	2.0	132	4.5
Disregarding Traffic Control Device	52	1.7	90	3.1
Driver Inexperience	43	1.4	73	2.5
Overcorrecting	34	1.1	51	1.7
Driving Left of Center (Not Passing)	31	1.0	42	1.4
Improper Parking, Starting, or Stopping	28	0.9	35	1.2
Impeding Traffic	10	0.3	10	0.3
Improper/No Signal	9	0.3	8	0.3
Chemical Impairment	6	0.2	63	2.1
Driver on Phone/CB/2-Way Radio	3	0.1	7	0.2
Failure to Use Lights	1	0.0	0	0.0
Non-Motorist Error	0	0.0	3	0.1
Other Human Factors	93	3.0	62	2.1
<b>Vehicular Factors</b>				
Skidding	79	2.6	128	4.3
Defective Brakes	54	1.7	13	0.4
Oversize/Overweight Vehicle	42	1.4	2	0.1
Other Vehicular Factor	59	1.9	14	0.5
<b>Miscellaneous Factors</b>				
Weather	209	6.8	193	6.6
Other	170	5.5	79	2.7
Total Contributing Factors Cited	3,088	100.0%	2,943	100.0%
Vehicles for Which There Was				
"No Clear Contributing Factor"	1,956		1,686	
Total Number of Vehicles	4,534		4,000	

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 2008 CRASHES**

<b>Driver Age</b>	<b>Truck or Tractor</b>	<b>Truck with Semi-Trailer</b>	<b>Truck with Twin Trailer</b>	<b>Truck with Other Trailer</b>	<b>Total</b>
10 - 14	0	1	0	0	1
15 - 19	22	13	0	9	44
20 - 24	134	86	1	32	253
25 - 29	219	170	0	24	413
30 - 34	196	205	1	18	420
35 - 39	213	235	3	33	484
40 - 44	234	275	4	28	541
45 - 49	260	319	10	34	623
50 - 54	228	310	10	32	580
55 - 59	144	237	4	25	410
60 - 64	90	155	4	20	269
65 & Older	58	135	0	4	197
Not Stated	52	84	4	8	148
Total*	1,850	2,225	41	267	4,383

\* There were 4,534 trucks involved in 2008 crashes. Table 5.04 tabulates the ages of drivers for the remaining 4,383 trucks where it was possible to identify a driver.

TABLE 5.05

**DRIVERS IN 2008 TRUCK CRASHES  
BY PHYSICAL CONDITION\***

<b>Physical Condition</b>	<b>Truck Driver</b>		<b>Other Driver</b>	
	<b>Number</b>	<b>Percent</b>	<b>Number</b>	<b>Percent</b>
Normal	3,969	90.6%	3,362	89.4%
Under the Influence	5	0.1	54	1.4
Had Been Drinking	5	0.1	22	0.6
Driver >.04 BAC	2	0.1	0	0.0
Had Been Using Drugs	0	0.0	1	0.0
Aggressive	2	0.1	3	0.1
Fatigued/Asleep	17	0.4	11	0.3
Physical Disability	0	0.0	3	0.1
Ill	7	0.2	4	0.1
Other	5	0.1	9	0.2
Unknown	371	8.5	291	7.7
Total **	4,383	100.0%	3,760	100.0%

\* As noted by police officer on accident report.

\*\* There were 4,534 trucks involved in 2008 crashes. This table tabulates the apparent physical condition of drivers for the remaining 4,383 trucks where it was possible to identify a driver. Similarly, there were 3,971 non-truck motor vehicles involved in 2008 truck crashes. The condition of the identifiable 3,760 non-truck drivers is presented here.

TABLE 5.06

## 2008 TRUCK CRASHES BY FIRST HARMFUL EVENT

<b>First Harmful Event</b>	<b>Fatal Crashes</b>	<b>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	49	817	2,347	3,213	56	1,158
Parked Motor Vehicle	1	37	260	298	3	48
Bicycle	2	5	0	7	2	5
Pedestrian	2	12	0	14	2	12
Deer	0	1	12	13	0	2
Other Animal	0	1	11	12	0	1
Fixed Object	2	44	301	347	3	50
Train	1	2	4	7	1	2
<b>Non-Collision:</b>						
Overturn	5	110	110	225	5	117
Jackknife	0	7	69	76	0	8
Fire or Explosion	0	1	7	8	0	1
Other Non-Collision	0	5	23	28	0	5
<b>Other/Unknown</b>	2	14	80	96	2	16
<b>Total</b>	<b>64</b>	<b>1,056</b>	<b>3,224</b>	<b>4,344</b>	<b>74</b>	<b>1,425</b>

TABLE 5.07

## 2008 TRUCK CRASHES BY MONTH

<b>Month</b>	<b>Fatal Crashes</b>	<b>Injury Crashes</b>	<b>Property Damage Crashes</b>	<b>Total Crashes</b>	<b>Killed</b>	<b>Injured</b>
January	6	90	312	408	7	125
February	6	87	302	395	6	124
March	5	66	230	301	6	88
April	2	58	215	275	2	72
May	8	69	194	271	9	90
June	4	77	268	349	6	106
July	5	89	244	338	6	133
August	3	86	235	324	3	119
September	6	87	234	327	7	120
October	8	107	251	366	9	140
November	3	84	238	325	3	110
December	8	156	501	665	10	198
<b>Total</b>	<b>64</b>	<b>1,056</b>	<b>3,224</b>	<b>4,344</b>	<b>74</b>	<b>1,425</b>

TABLE 5.08

**2008 TRUCK CRASHES BY TIME AND DAY**

<b>Time of Day</b>	<b>Sunday</b>	<b>Monday</b>	<b>Tuesday</b>	<b>Wednesday</b>	<b>Thursday</b>	<b>Friday</b>	<b>Saturday</b>	<b>Total</b>
Midnight - 2:59 AM	12	13	22	16	16	24	13	116
3:00 - 5:59 AM	13	26	29	25	19	23	12	147
6:00 - 8:59 AM	17	141	142	146	137	141	42	766
9:00 - 11:59 AM	32	209	219	194	157	178	83	1,072
Noon - 2:59 PM	39	215	177	138	172	162	61	964
3:00 - 5:59 PM	33	159	153	124	132	151	30	782
6:00 - 8:59 PM	21	55	64	46	52	59	18	315
9:00 - 11:59 PM	18	33	22	28	28	33	9	171
Unknown	1	2	1	2	4	1	0	11
<b>Total</b>	<b>186</b>	<b>853</b>	<b>829</b>	<b>719</b>	<b>717</b>	<b>772</b>	<b>268</b>	<b>4,344</b>

**FIGURE 5.01**  
**2008 Truck Crashes by Time of Day**

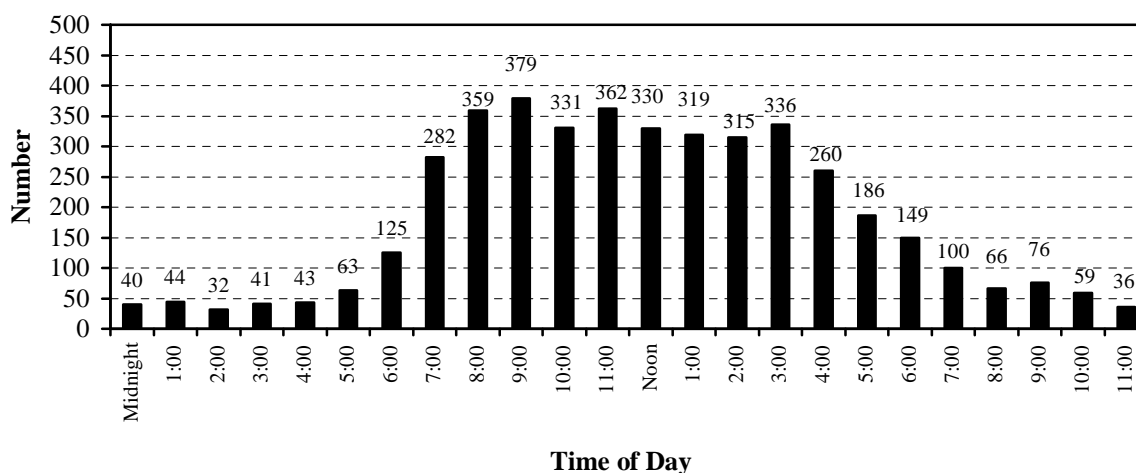




TABLE 5.09

**2008 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	44	650	2,002	2,696	50	896
Wet	6	151	363	520	7	205
Snow	6	87	298	391	6	113
Slush	0	26	92	118	0	32
Ice or Packed Snow	8	130	434	572	11	164
Debris	0	2	2	4	0	4
Muddy	0	1	4	5	0	1
Other	0	8	13	21	0	9
Unknown	0	1	16	17	0	1
<b>Total</b>	<b>64</b>	<b>1,056</b>	<b>3,224</b>	<b>4,344</b>	<b>74</b>	<b>1,425</b>

TABLE 5.10

**2008 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	38	560	1,791	2,389	45	766
Cloudy	18	273	786	1,077	19	359
Rain	2	49	113	164	3	67
Snow	4	116	383	503	4	146
Sleet/Hail/Freezing Rain	1	11	49	61	1	15
Fog/Smog/Smoke	0	6	14	20	0	13
Blowing Sand/Dust/Snow	0	26	69	95	0	37
Severe Cross Winds	0	10	7	17	0	14
Other	1	1	3	5	2	3
Unknown	0	4	9	13	0	5
<b>Total</b>	<b>64</b>	<b>1,056</b>	<b>3,224</b>	<b>4,344</b>	<b>74</b>	<b>1,425</b>

TABLE 5.11

**2008 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	4	131	643	778	4	169
100,000 – 249,999	0	19	66	85	0	22
50,000 - 99,999	4	157	478	639	4	220
25,000 - 49,999	1	88	341	430	1	115
10,000 - 24,999	11	135	493	639	15	180
5,000 - 9,999	2	55	208	265	2	74
2,500 - 4,999	3	47	129	179	3	67
1,000 - 2,499	3	23	97	123	3	28
Under 1,000	36	401	769	1,206	42	550
Total	64	1,056	3,224	4,344	74	1,425

TABLE 5.12

**2008 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	13	285	854	1,152	17	415
US Trunk Highway	14	195	482	691	15	258
State Trunk Highway	18	195	518	731	21	271
County State-Aid Highway	14	218	576	808	15	294
County Road	0	9	21	30	0	9
Township Road	0	15	34	49	0	19
Local Street	5	138	725	868	6	158
Other Road	0	1	14	15	0	1
Total	64	1,056	3,224	4,344	74	1,425

## **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 2007, there were 957 crashes in which a pedestrian was injured or killed by a motor vehicle. In 2008, that number fell to 860, a ten percent decrease from the previous year.

### **Deaths and injuries decrease**

In 2007, 33 pedestrians were killed and 975 pedestrians were injured. In 2008, 25 pedestrians were killed and 867 pedestrians were injured. Three 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 28% of the pedestrians killed and 41% of pedestrians injured. Male pedestrians were nearly two times more likely than females to be killed: Males accounted for 64% of all pedestrian fatalities.

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

In 2008, 61% of pedestrian crashes occurred in urban areas (defined as areas with populations over 5,000). In 2008, one out of three (34%) pedestrian crashes and 35% of fatal 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. Conversely, 19% of all pedestrian crashes and 42% of fatal pedestrian crashes occurred during the evening hours 9:00-6:00am.

### **Prior actions of vehicles**

Nearly half (49%) of all motor vehicles involved in pedestrian crashes and nearly three out of four (73%) involved in fatal pedestrian crashes in 2008 were going straight ahead on the roadway prior to the crash. Nearly three out of ten (29%) of all motor vehicles involved in pedestrian crashes were making a right or left turn.

### **Prior actions of pedestrians**

Forty-four 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, 4% of pedestrians killed and 13% of pedestrians injured were crossing the road at a signaled intersection and were crossing with the signal.

### **Contributing factors**

For 28% 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 (24%). Illegal or unsafe driver speed was a factor in 5% of all pedestrian crashes.

### **Drinking pedestrian fatalities**

Of the 25 pedestrians killed, 20 were tested for the presence of alcohol in their blood system. Of those tested, 44% had blood alcohol concentrations (BACs) of .10 or higher. Forty-four percent of killed pedestrians with BACs .10 or higher were 20-29-years-old. One out of three (33%) killed pedestrians with BACs .10 or higher were 40-49-years-old. Sixty-seven percent of pedestrians killed with BACs of .10 or higher were killed Midnight-6:00am.

TABLE 6.01

**PEDESTRIAN CRASH SUMMARY, 1999 - 2008**

	1999	2000	2001	2002	2003	2004	2005	2006	2007	2008
Pedestrian Crashes	1,329	1,253	1,175	1,151	NA	963	938	915	957	860
Pedestrians Killed	51	41	46	50	52	37	44	38	33	25
Pedestrians Injured	1,330	1,269	1,184	1,149	NA	976	936	906	975	867

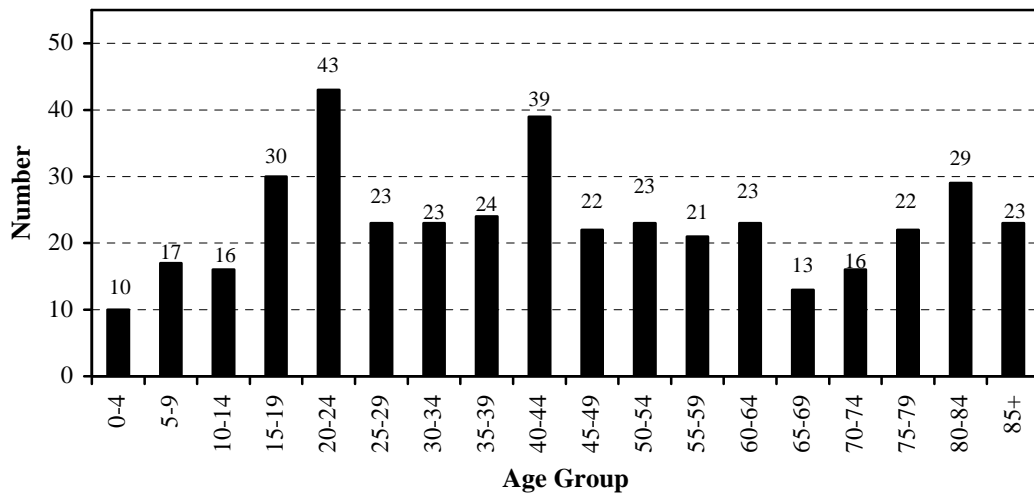
TABLE 6.02

**PEDESTRIANS KILLED OR INJURED BY AGE AND GENDER, 2008**

Age Group	<u>Killed</u>			<u>Severe</u>			<u>Moderate</u>			<u>Minor</u>			<u>Total</u>		
	M	F	Total	M	F	Total	M	F	Total	M	F	Total	M	F	Total*
00 - 04	1	1	2	1	1	2	6	4	10	9	8	17	16	13	29
05 - 09	1	0	1	7	1	8	7	5	12	17	11	28	31	17	48
10 - 14	1	0	1	3	1	4	17	9	27	18	17	35	38	27	66
15 - 19	0	0	0	8	3	11	14	22	36	36	26	62	58	51	109
20 - 24	2	1	3	9	6	15	20	15	35	27	22	50	56	43	100
25 - 29	2	0	2	7	6	13	9	13	22	15	31	46	31	50	81
30 - 34	0	0	0	3	0	3	6	10	16	13	12	25	22	22	44
35 - 39	0	0	0	2	2	4	9	9	18	7	16	23	18	27	45
40 - 44	1	1	2	4	2	6	11	6	17	15	9	24	30	17	47
45 - 49	3	1	4	3	5	8	11	11	22	20	16	37	34	32	67
50 - 54	0	1	1	2	4	6	6	8	15	19	12	32	27	24	53
55 - 59	1	1	2	3	2	5	8	7	15	12	16	28	23	25	48
60 - 64	1	0	1	3	2	5	7	2	9	3	6	9	13	10	23
65 - 69	0	1	1	3	1	4	2	4	6	5	2	7	10	7	17
70 - 74	1	1	2	2	1	3	4	4	8	5	4	9	11	9	20
75 - 79	0	1	1	2	1	3	2	3	5	2	3	5	6	7	13
80 - 84	0	0	0	1	2	3	2	5	7	1	2	3	4	9	13
85 & Older	2	0	2	1	4	5	1	2	3	2	4	6	4	10	14
Not Stated	0	0	0	2	0	5	1	1	4	7	3	21	10	4	30
Total	16	9	25	66	44	113	143	140	287	233	220	467	442	404	867

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

**FIGURE 6.01**  
**Pedestrian Fatalities by Age Group, 1999-2008 Combined**



**FIGURE 6.02**  
**Pedestrians Killed or Injured by Age and Gender, 2008**

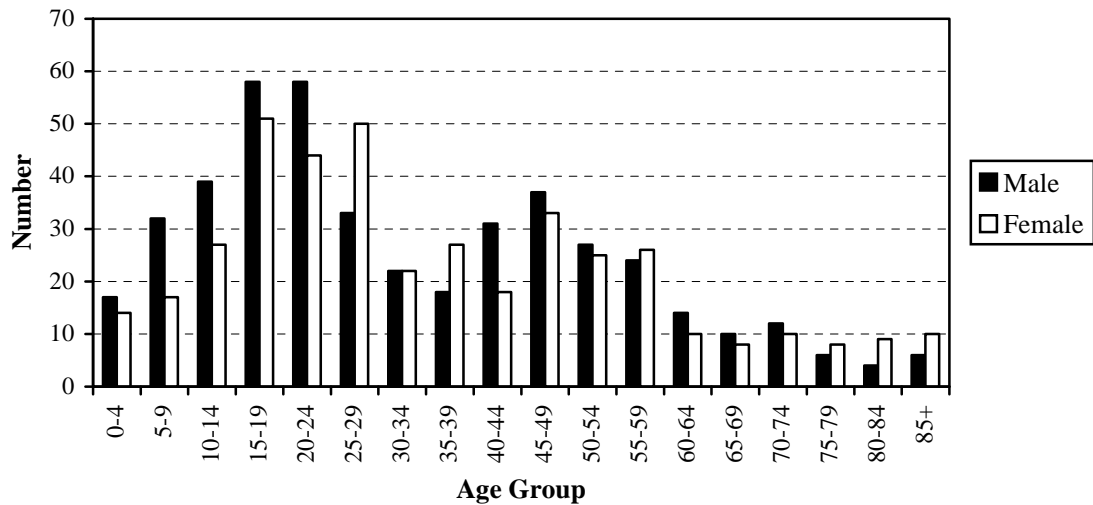


TABLE 6.03

**2008 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	86	87	1	87
February	2	56	58	2	58
March	0	66	66	0	73
April	2	49	51	2	54
May	1	66	67	1	67
June	2	80	82	2	83
July	3	62	65	3	64
August	4	66	70	3	70
September	2	71	73	2	74
October	4	80	84	4	84
November	2	86	88	2	88
December	3	66	69	3	65
Total	26	834	860	25	867

TABLE 6.04

**2008 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	3	402	405	3	420
100,000 - 249,999	0	24	24	0	22
50,000 - 99,999	1	99	100	1	102
25,000 - 49,999	3	87	90	3	86
10,000 - 24,999	6	110	116	6	113
5,000 - 9,999	1	36	37	1	38
2,500 - 4,999	2	25	27	2	29
1,000 - 2,499	1	17	18	1	17
Under 1,000	9	34	43	8	40
Total	26	834	860	25	867

TABLE 6.05

2008 PEDESTRIAN CRASHES BY TIME AND DAY

Time of Day	Fatal Crashes	Sunday	Monday	Tuesday	Wednesday	Thursday	Friday	Saturday	Total
Midnight - 2:59 AM	5	21	1	3	1	7	6	14	53
3:00 - 5:59 AM	3	1	2	2	4	3	2	4	18
6:00 - 8:59 AM	5	2	15	22	26	17	22	6	110
9:00 - 11:59 AM	1	6	7	12	15	12	16	11	79
Noon - 2:59 PM	1	8	24	21	22	15	23	17	130
3:00 - 5:59 PM	4	17	34	43	34	36	42	18	224
6:00 - 8:59 PM	4	18	23	22	25	27	17	24	156
9:00 - 11:59 PM	3	8	5	7	12	8	30	19	89
Unknown	0	0	0	0	0	0	1	0	1
Total	26	81	111	132	139	125	159	113	860

FIGURE 6.03  
2008 Pedestrian Crashes by Time of Day

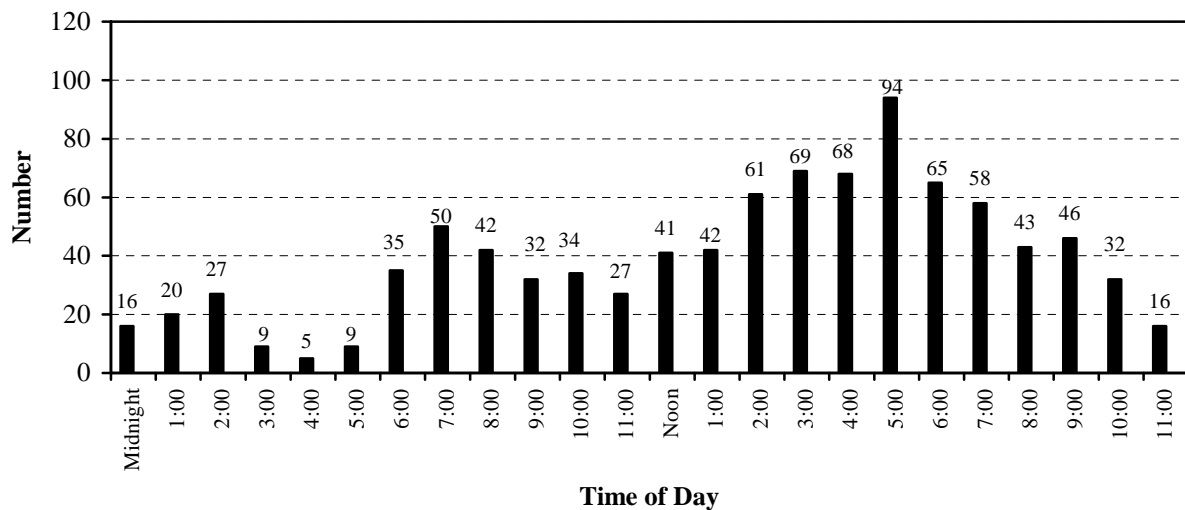


TABLE 6.06

**PRIOR ACTION OF VEHICLES IN 2008 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	22	418	440
Wrong Way Opposing Traffic	0	3	3
Turning Right on Red	0	23	23
Turning Left on Red	0	1	1
Turning Right	1	77	78
Turning Left	1	183	184
Making U Turn	0	3	3
Starting From Parked	1	9	10
Starting in Traffic	0	10	10
Slowing in Traffic	0	9	9
Parking	0	1	1
Avoiding Object in Road	0	6	6
Changing Lanes	0	3	3
Passing	1	5	6
Backing	1	30	31
All Others	3	77	80
Unknown	0	16	16
Total	30	874	904

\* 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 2008**

<b>Action</b>	<b><u>Pedestrians Killed</u></b>		<b><u>Pedestrians Injured</u></b>	
	<b>Number</b>	<b>Percent</b>	<b>Number</b>	<b>Percent</b>
Crossing Road (No Crosswalk and No Signal)	11	44.0%	225	26.0%
Crossing Against Signal	0	0.0	31	3.6
Crossing With Signal	1	4.0	114	13.1
Crossing In Crosswalk (No Signal)	3	12.0	121	14.0
Walking In Road With Traffic	1	4.0	32	3.7
Walking In Road Against Traffic	1	4.0	24	2.8
Standing In Road	4	16.0	36	4.2
Emerging From Front/Behind Parked Vehicle	0	0.0	13	1.5
Pushing/Working On Vehicle	0	0.0	4	0.5
Working In Road	1	4.0	5	0.6
Getting On/Off Vehicle	0	0.0	6	0.7
Playing In Road	0	0.0	3	0.3
Not In Road	0	0.0	17	2.0
Other Pedestrian Action	0	0.0	39	4.5
Unknown	0	0.0	197	22.7
Total*	25	100.0%	867	100.0%

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



TABLE 6.08

**CONTRIBUTING FACTORS IN 2008 PEDESTRIAN CRASHES**

<b>Contributing Factors</b>	<b>Attributed to Motor Vehicle Drivers</b>	
	<b>Number</b>	<b>Percent</b>
<b>Human Factors</b>		
Failure to Yield Right of Way	209	28.5%
Driver Inattention / Distraction	173	23.6
Vision Obscured	78	10.6
Illegal or Unsafe Speed	38	5.2
Chemical Impairment	26	3.5
Disregard for Traffic Control Device	25	3.4
Unsafe Backing	20	2.7
Improper / Unsafe Lane Use	19	2.6
Driver Inexperience	10	1.4
Improper Turn	7	1.0
Improper Parking/Starting/Stopping	6	0.8
Improper Passing / Overtaking	5	0.7
Overcorrecting	4	0.5
Following Too Closely	3	0.4
Driving Left of Center	3	0.4
Failure To Use Lights	2	0.3
Other Human Factors	31	4.2
<b>Vehicular Factors</b>		
Skidding	9	1.2
Defective Brakes	2	0.3
Other Vehicular Factors	2	0.3
<b>Miscellaneous Factors</b>		
Weather Conditions	21	2.9
Other	40	5.5
Total Contributing Factors Cited	733	100.0%
Vehicles for Which There Was "No Clear Contributing Factor"	62	
Total Number of Drivers	904	

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, 1999 - 2008**

Year	Killed	Tested	Alcohol Concentration*			
			(.00)	(.01 - .07)	(.08 - .09)	(.10 or more)
1999	51	37	23 (62%)	3 (8%)	0 (0%)	11 (30%)
2000	41	27	16 (59%)	1 (4%)	0 (0%)	10 (37%)
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%)

\* 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

**2008 PEDESTRIAN FATALITIES'  
LEVEL OF ALCOHOL CONCENTRATION BY AGE**

Age Group	Killed	Tested	Alcohol Concentration			
			(.00)	(.01 - .07)	(.08 - .09)	(.10 or more)
14 & Younger	4	3	3	0	0	0
15 - 19	0	0	0	0	0	0
20 - 24	3	2	0	0	0	2
25 - 29	2	2	0	0	0	2
30 - 34	0	0	0	0	0	0
35 - 39	0	0	0	0	0	0
40 - 44	2	1	0	0	0	1
45 - 49	4	3	1	0	0	2
50 - 54	1	1	1	0	0	0
55 - 59	2	2	1	0	0	1
60 - 64	1	1	0	0	0	1
65 - 69	1	1	1	0	0	0
70 - 74	2	1	1	0	0	0
75 - 79	1	1	1	0	0	0
80 - 84	0	0	0	0	0	0
85 & Older	2	2	2	0	0	0
Total	25	20	11	0	0	9

TABLE 6.11

**2008 PEDESTRIAN FATALITIES' LEVEL OF ALCOHOL  
CONCENTRATION BY TIME OF DAY**

<b>Time of Day</b>	<b>Killed</b>	<b>Tested</b>	<b>(.00)</b>	<b>Alcohol Concentration</b>		
				<b>(.01 - .07)</b>	<b>(.08 - .09)</b>	<b>(.10 or more)</b>
Midnight - 2:59 AM	5	5	0	0	0	5
3:00 - 5:59 AM	3	1	0	0	0	1
6:00 - 8:59 AM	4	4	3	0	0	1
9:00 - 11:59 AM	1	1	1	0	0	0
Noon - 2:59 PM	1	0	0	0	0	0
3:00 - 5:59 PM	4	3	3	0	0	0
6:00 - 8:59 PM	4	4	3	0	0	1
9:00 - 11:59 PM	3	2	1	0	0	1
Total	25	20	11	0	0	9

## 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 2008, there was a 3.8% decrease in bicycle crashes from the previous year. In 2008, there were 981 bicycle crashes compared to 1,020 bicycle crashes the previous year.

### **Injuries decrease, Fatalities increase dramatically**

The number of bicyclists injured decreased in 2008. In 2008, 942 bicyclists were injured compared to 979 injured bicyclists in 2007, a 3.8% decrease. Conversely, there were 13 bicyclist fatalities in 2008, more than three times as many bicyclist fatalities than 2007.

### **Warm weather**

Bicycle crashes are mostly a warm weather occurrence. In 2008, three out of four (76.9%) fatalities, and nearly two out of three (64.3%) injuries occurred during the four-month period June-September.

### **Time and day**

Nearly one-third (32.5%) of all weekday bicycle crashes occurred during the afternoon rush hours 3:00-6:00pm. Nearly thirty percent (29.2%) of weekend bicycle crashes occurred Noon-3:00pm.

### **Big cities**

Generally, traffic crashes involving a bicycle and a motor vehicle tend to occur in areas with larger populations. Nearly three out of five (57.6%) bicycle crashes and seven out of ten (69.2%) of fatal crashes occurred in cities where the population was over 50,000 people.

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

Males were more than three times more likely than females to be killed in bicycle crashes. Ten male bicyclists (76.9%) were killed compared to 3 (23.1%) female bicyclists. Males were also nearly three times more likely than females to be injured in a bicycle crash. Six hundred seventy-nine (72.1%) male bicyclists were injured compared to 243 (25.8%) female bicyclists.

### **Age and injury severity**

Of the 13 bicyclists fatally injured in 2008, nearly seven out of ten (69.2%) were 40 years of age or older. Conversely, of the 942 bicyclists injured 512 (54.4%) were 24 years of age or younger.

### **Prior action of bicyclists**

Nearly one out of three (32.0%) of all bicyclists in all crashes were riding with traffic. Conversely, less than one out of ten (7.2%) bicyclists in all crashes were riding against traffic. Nearly two out of five (38.5%) bicyclists in fatal crashes and one out of ten (9.9%) of bicyclists in injury crashes were riding across the road.

### **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 (26.0%) of bicyclists and two out of five (39.5%) of other drivers. For bicyclists, two disregard for traffic control device and non-motorist error (a violation committed by the bicyclist separate from those listed) were cited the next most often for bicyclists. Driver inattention or distraction was the second contributing factor cited most often for other drivers.

TABLE 7.01

**BICYCLE CRASH SUMMARY, 1999- 2008**

	1999	2000	2001	2002	2003	2004	2005	2006	2007	2008
Bicycle Crashes	1,106	1,137	1,016	909	NA	985	965	944	1,020	981
Bicyclists Killed	8	14	7	7	6	10	7	8	4	13
Bicyclists Injured	1,060	1,080	960	860	NA	937	952	908	979	942

TABLE 7.02

**2008 BICYCLE CRASHES BY MONTH**

Month	Fatal Crashes	Injury Crashes	Property Damage Crashes	Total Crashes	Killed	Injured
January	1	3	2	6	1	3
February	0	8	1	9	0	8
March	0	8	1	9	0	8
April	0	53	0	53	0	53
May	1	107	3	111	1	108
June	1	134	2	137	1	137
July	1	155	9	165	1	158
August	3	162	7	172	3	167
September	5	141	7	153	5	144
October	1	98	7	106	1	100
November	0	45	4	49	0	45
December	0	11	0	11	0	11
Total	13	925	43	981	13	942

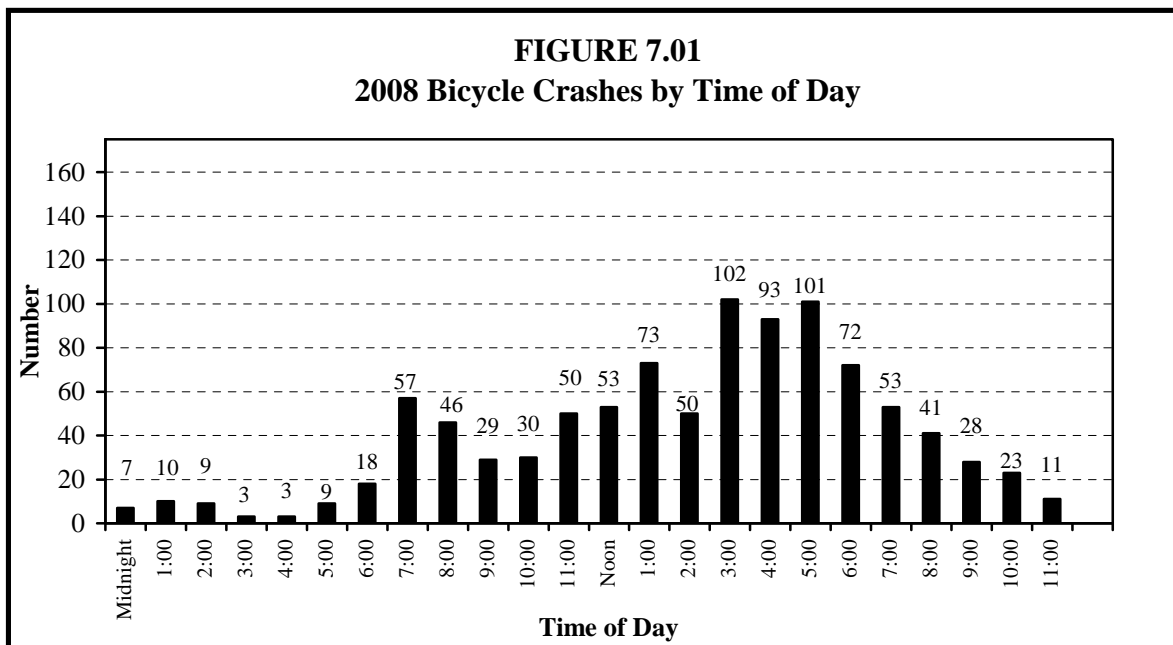


TABLE 7.03

**2008 BICYCLE CRASHES BY TIME AND DAY**

Time of Day	Sunday	Monday	Tuesda y	Wednesday	Thursda y	Friday	Saturda y	Total
Midnight - 2:59 AM	4	2	1	3	3	3	10	26
3:00 - 5:59 AM	2	3	2	2	2	0	4	15
6:00 - 8:59 AM	0	21	27	26	24	18	5	121
9:00 - 11:59 AM	9	14	16	15	24	19	12	109
Noon - 2:59 PM	25	21	22	29	24	25	30	176
3:00 - 5:59 PM	19	53	45	49	54	57	19	296
6:00 - 8:59 PM	23	22	31	31	24	21	14	166
9:00 - 11:59 PM	6	15	5	7	7	18	4	62
Unknown	1	2	1	2	1	2	1	10
Total	89	153	150	164	163	163	99	981

TABLE 7.04

**2008 BICYCLE CRASHES BY POPULATION OF AREA**

Population of City or Township	Fatal Crashes	Injury Crashes	Property Damage Crashes	Total Crashes	Bicyclists Killed	Bicyclists Injured
250,000 and Over	3	354	28	385	3	358
100,000 - 249,999	0	23	2	25	0	22
50,000 - 99,999	3	146	3	152	3	150
25,000 - 49,999	2	113	3	118	2	116
10,000 - 24,999	1	168	3	172	1	171
5,000 - 9,999	0	43	2	45	0	44
2,500 - 4,999	0	32	2	34	0	32
1,000 - 2,499	1	18	0	19	1	18
Under 1,000	3	28	0	31	3	31
Total	13	925	43	981	13	942

**FIGURE 7.02**  
**Bicyclists Killed and Injured by Age and Gender, 2008**

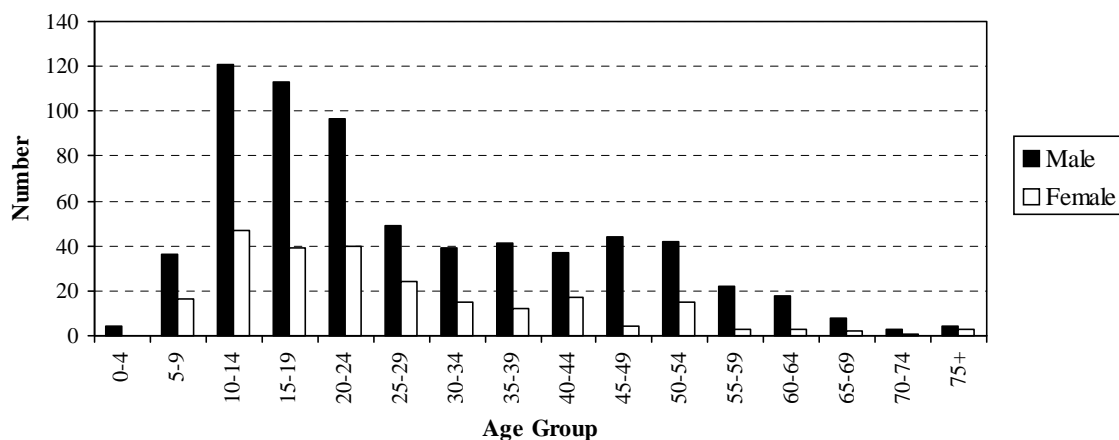


TABLE 7.05

**BICYCLISTS KILLED OR INJURED BY AGE AND GENDER, 2008**

Age Group	<u>Killed</u>		Total	<u>Injured</u>											
	M	F		<u>Severe</u>			<u>Moderate</u>			<u>Minor</u>			<u>Total</u>		
				M	F	Total*	M	F	Total*	M	F	Total*	M	F	Total*
00 – 04	1	0	1	1	0	1	2	0	2	0	0	0	3	0	3
05 – 09	0	0	0	4	1	5	11	3	14	21	12	33	36	16	52
10 – 14	2	0	2	6	2	8	40	16	57	73	29	102	119	47	167
15 – 19	1	0	1	4	1	5	33	13	46	75	25	100	112	39	151
20 – 24	0	0	0	5	3	8	40	16	56	52	21	75	97	40	139
25 – 29	0	0	0	5	2	7	19	7	26	25	15	40	49	24	73
30 – 34	0	0	0	2	2	4	10	6	16	27	7	34	39	15	54
35 – 39	0	0	0	2	1	3	17	3	20	22	8	30	41	12	53
40 – 44	1	0	1	3	1	4	9	7	17	24	9	33	36	17	54
45 – 49	0	0	0	3	1	4	20	1	21	21	2	24	44	4	49
50 – 54	0	2	2	4	0	4	18	5	23	20	8	28	42	13	55
55 – 59	1	0	1	0	0	0	8	2	10	13	1	14	21	3	24
60 – 64	1	0	1	1	0	1	7	2	9	9	1	10	17	3	20
65 – 69	1	0	1	1	0	1	3	2	5	3	0	3	7	2	9
70 – 74	0	0	0	0	0	0	0	1	1	3	0	3	3	1	4
75 & Older	2	1	3	1	0	1	0	1	1	1	1	2	2	2	4
Not Stated	0	0	0	1	0	3	4	2	10	6	3	218	11	5	31
Total	10	3	13	43	14	59	241	87	334	395	142	549	679	243	942

\* 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 2008 CRASHES**

<b>Prior Action</b>	<b>Bicyclists in Fatal Crashes</b>	<b>Bicyclists in Injury Crashes</b>	<b>Bicyclists in Property Damage Crashes</b>	<b>Bicyclists in All Crashes*</b>
Riding With Traffic	2	305	15	322
Riding Against Traffic	1	67	4	72
Making Left Turn	2	16	2	20
Making Right Turn	0	7	1	8
Making U-Turn	0	2	0	2
Riding Across Road	5	93	8	106
Slowing/Stopping/Starting	0	5	0	5
Other/Unknown	3	447	20	470
Total	13	942	50	1,005

\* 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 2008 BICYCLE CRASHES**

<b>Contributing Factors</b>	<b>Attributed to Bicyclists</b>		<b>Attributed to Motor Vehicle Drivers</b>	
	<b>Number</b>	<b>Percent</b>	<b>Number</b>	<b>Percent</b>
<b>Human Factors</b>				
Failure to Yield Right of Way	144	26.0%	234	39.5%
Non-Motorist Error	112	20.2	0	0.0
Disregard Traffic Control Device	78	14.1	25	4.2
Driver Inattention/Distracted	47	8.5	158	26.6
Improper/Unsafe Lane Use	31	5.6	15	2.5
Driver Inexperience	12	2.2	1	0.2
Chemical Impairment	10	1.8	7	1.2
Improper Turn	8	1.4	19	3.2
Vision Obscured	7	1.3	55	9.3
Illegal/Unsafe Speed	6	1.1	5	0.8
Failure to Use Lights	6	1.1	0	0.0
Driving Left of Center	5	0.9	1	0.2
Improper Park/Start/Stop	4	0.7	9	1.5
Following Too Closely	2	0.4	3	0.5
Improper Passing/Overtaking	1	0.2	6	1.0
Impeding Traffic	1	0.2	0	0.0
Driver On Phone/CB	1	0.2	2	0.3
Unsafe Backing	0	0.0	4	0.7
Oversize/weight Vehicle	0	0.0	1	0.2
Other Human Factors	19	3.4	16	2.7
<b>Vehicular Factors</b>				
Defective Brakes	10	1.8	1	0.2
<b>Miscellaneous Factors</b>				
Weather Conditions	2	0.4	6	1.0
Other	48	8.7	25	4.2
Total	554	100.0%	593	100.0%
Vehicles for Which There Was				
“No Clear Contributing Factor”	285		423	
Total Number of Bicyclists/Drivers	996		986	

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 could be called an indirect school bus crash.

### **Indirect 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 2008, there were 168 crashes resulting in 99 injuries in which a school bus was indirectly involved.

### **Number of crashes decreases**

School bus crashes have increased. In 2008, there were 663 traffic crashes directly involving at least one school bus. That total is a 3% decrease from the previous year.

### **Four deaths in 2008**

In 2008, there was one fatal school bus crash resulting in four deaths. All four of the fatalities, children ages 10 through 14, were riding in a school bus when it was struck by another vehicle.

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

Nearly two out of three (64%) school bus crashes and school bus crash injuries (64%) in 2008 occurred during the time periods of 6-9 a.m. and 3-6 p.m. Nine out of ten (92%) of school bus crashes occurred during school year months September through May.

### **School bus stop arm**

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

### **Contributing factors**

Although there were 661 school bus crashes in 2008, a few involved more than one school bus. In all there were 671 school buses in crashes. For 46% 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 (22%), and failure to yield right of way (16%). The third most frequently cited contributing factor was improper turn (10%). 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 (13%), and following too closely (8%).

TABLE 8.01

**SCHOOL BUS CRASH SUMMARY, 1999 - 2008**

	1999	2000	2001	2002	2003	2004	2005	2006	2007	2008
Total Crashes	782	890	852	719	NA	702	717	625	680	663
Fatal Crashes	5	2	4	3	3	3	7	1	7	1
Persons Killed	5	2	4	5	3	3	7	1	8	4
Injury Crashes	172	203	182	144	NA	150	140	137	126	107
Persons Injured	328	388	355	299	NA	266	250	241	243	188
Property Damage Crashes	605	685	666	572	NA	549	570	487	547	555
School Buses Directly Involved	789	903	857	731	NA	708	724	631	690	670

TABLE 8.02

**2008 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	1	11	12	0	1
3:00 - 5:59 AM	0	0	18	18	0	0
6:00 - 8:59 AM	0	31	195	226	0	45
9:00 - 11:59 AM	0	12	62	74	0	23
Noon - 2:59 PM	0	26	95	121	0	42
3:00 - 5:59 PM	1	36	159	196	4	76
6:00 - 8:59 PM	0	1	9	10	0	1
9:00 - 11:59 PM	0	0	1	1	0	0
Unknown	0	0	5	5	0	0
Total	1	107	555	663	4	188

TABLE 8.03

**2008 SCHOOL BUS CRASHES BY MONTH**

Month	Fatal Crashes	Injury Crashes	Property Damage Crashes	Total Crashes	Killed	Injured
January	0	16	83	99	0	23
February	1	22	63	86	4	56
March	0	8	53	61	0	24
April	0	12	48	60	0	14
May	0	11	41	52	0	15
June	0	1	26	27	0	2
July	0	2	12	14	0	2
August	0	3	7	10	0	4
September	0	6	43	49	0	12
October	0	5	44	49	0	5
November	0	7	40	47	0	9
December	0	14	95	109	0	22
Total	1	107	555	663	4	188

TABLE 8.04

**AGE AND GENDER OF PERSONS INJURED  
IN 2008 SCHOOL BUS CRASHES**

Age Group	In Bus	Pedestrian	In Other	Male	Female	Total*
			Vehicle			
00 - 04	1	0	2	1	2	3
05 - 09	15	1	1	8	9	17
10 - 14	21	1	5	19	8	27
15 - 19	14	0	20	15	18	34
20 - 24	1	0	9	4	6	10
25 - 29	1	1	13	4	11	15
30 - 34	1	0	8	7	2	9
35 - 39	2	0	7	0	9	9
40 - 44	2	0	3	0	5	5
45 - 49	3	1	16	8	10	20
50 - 54	4	0	2	5	1	6
55 - 59	2	0	6	5	2	8
60 - 64	7	1	2	4	6	10
65 & Older	2	0	4	3	3	6
Unknown	9	0	0	2	3	9
Total	85	5	98	85	95	188

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

TABLE 8.05

**PERSONS KILLED OR INJURED  
IN 2008 SCHOOL BUS CRASHES BY POPULATION OF AREA**

Population of City or Township	Killed	Injured			Total
		Severe	Moderate	Minor	
250,000 and Over	0	0	6	21	27
100,000 - 249,999	0	0	1	2	3
50,000 - 99,999	0	1	7	27	35
25,000 - 49,999	0	0	0	16	16
10,000 - 24,999	0	1	4	23	28
5,000 - 9,999	0	0	1	2	3
2,500 - 4,999	0	0	3	2	5
1,000 - 2,499	0	0	1	0	1
Under 1,000	4	12	23	35	70
Total	4	14	46	128	188

TABLE 8.06

## 2008 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	1	87	417	505	4	166
Parked Motor Vehicle	0	5	113	118	0	6
Bicycle	0	4	0	4	0	4
Pedestrian	0	5	0	5	0	5
Deer	0	1	2	3	0	1
Other Animal	0	0	1	1	0	0
Fixed Object	0	1	10	11	0	1
<b>Non-collision:</b>						
Overtake	0	1	1	2	0	1
<b>Other/Unknown</b>	0	3	11	14	0	4
Total	1	107	555	663	4	188

TABLE 8.07

## 2008 SCHOOL BUS CRASHES BY TRAFFIC CONTROL DEVICE

Traffic Control Device	Fatal Crashes	Injury Crashes	Property Damage Crashes	Total Crashes*	Killed	Injured
Traffic Signal	0	22	123	145	0	38
Overhead Flashers	0	0	3	3	0	0
Stop Sign--All Approaches	0	8	27	35	0	14
Stop Sign--Not All Approaches	1	22	118	141	4	57
Yield Sign	0	2	6	8	0	3
School Bus Stop Arm	0	5	12	17	0	5
Railroad Crossing Stop Sign	0	3	8	11	0	3
Other	0	5	2	7	0	5
Not Applicable	0	39	243	282	0	62
Unknown	0	1	13	14	0	1
Total	1	107	555	663	4	188

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

TABLE 8.08

**CONTRIBUTING FACTORS IN 2008 SCHOOL BUS CRASHES**

<b>Contributing Factors</b>	<b>Attributed to School Bus Drivers</b>		<b>Attributed to Drivers of Other Vehicles</b>	
	<b>Number</b>	<b>Percent</b>	<b>Number</b>	<b>Percent</b>
<b>Human Factors</b>				
Driver Inattention/Distraction	70	21.7%	104	23.2%
Failure to Yield Right of Way	52	16.0	57	12.7
Improper Turn	34	10.5	8	1.8
Improper/Unsafe Lane Use	21	6.5	17	3.8
Unsafe Backing	15	4.6	8	1.8
Vision Obscured	14	4.3	4	0.9
Following Too Closely	12	3.7	37	8.2
Improper Park/Start/Stop	12	3.7	9	2.0
Disregard of Traffic Control Device	5	1.5	16	3.6
Improper Passing/Overtaking	5	1.5	8	1.8
Driver Inexperience	4	1.2	21	4.7
Illegal/Unsafe Speed	3	0.9	35	7.8
Driving Left of Center	3	0.9	3	0.7
Improper/No Signal	2	0.6	0	0.0
Overcorrecting	1	0.3	2	0.4
Impeding Traffic	1	0.3	0	0.0
Non-Motorist Error	0	0.0	1	0.2
Chemical Impairment	0	0.0	1	0.2
Other Human Factors	10	3.1	6	1.3
<b>Vehicular Factors</b>				
Skidding	10	3.1	40	8.9
Defective Brakes	1	0.3	1	0.2
Other Vehicular Factors	4	1.2	5	1.1
<b>Miscellaneous Factors</b>				
Weather Conditions	30	9.3	45	10.0
Other	15	4.6	21	4.7
Total	324	100.0%	449	100.0%
Vehicles for Which There Was "No Clear Contributing Factor"	309		219	
Total Number of Drivers	673		680	

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. In 2008, 8% of all motor-vehicle/train crashes in Minnesota resulted in a fatality. Motor vehicle/train crashes may be few in number, but they are more likely to be serious.

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

In recent years, the number of motor-vehicle/train crashes in Minnesota has been declining. In 2008, there were 40 motor vehicle/train crashes, sixteen fewer crashes than were reported the previous year.

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

Although vehicle/train crashes decreased, the number of crash fatalities increased: four persons were killed in 2008 compared to two in 2007.

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

Railroad crossings without some type of flashing lights or gates are very dangerous. Twenty-six (65%) of the 40 motor-vehicle/train crashes, including all three fatal crashes, occurred at a railroad crossing without flashing lights or gates. Only seven 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 2008, 58 percent of the total crashes, 70 percent of injuries, and all 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 disregard for traffic control device were the three contributing factors cited most often by officers.

TABLE 9.01

**MOTOR VEHICLE / TRAIN CRASH SUMMARY, 1999 - 2008**

	1999	2000	2001	2002	2003	2004	2005	2006	2007	2008
Total Crashes	84	79	70	77	NA	72	52	51	56	40
Fatal Crashes	8	3	5	6	5	12	5	8	2	3
Persons Killed	10	4	6	9	8	13	6	9	2	4
Injury Crashes	32	32	22	27	NA	21	22	10	16	17
Persons Injured	50	43	28	37	NA	27	29	15	20	20
Property Damage Crashes	44	44	43	44	NA	39	25	33	38	20

TABLE 9.02

**2008 MOTOR VEHICLE / TRAIN CRASHES BY MONTH**

Month	Fatal Crashes	Injury Crashes	Property Damage Crashes	Total	Killed	Injured
January	1	5	0	6	1	6
February	0	2	2	4	0	2
March	0	2	2	4	0	2
April	0	0	2	2	0	0
May	0	0	2	2	0	0
June	1	0	2	3	2	0
July	1	0	0	1	1	1
August	0	1	0	1	0	1
September	0	1	2	3	0	1
October	0	2	2	4	0	3
November	0	2	4	6	0	2
December	0	2	2	4	0	2
Total	3	17	20	40	4	20

TABLE 9.03

**2008 MOTOR VEHICLE / TRAIN CRASHES BY TIME AND DAY**

Time of Day	Sunday	Monday	Tuesday	Wednesday	Thursday	Friday	Saturday	Total
Midnight - 2:59 AM	1	2	0	0	0	1	2	6
3:00 - 5:59 AM	0	0	0	0	1	1	0	2
6:00 - 8:59 AM	0	0	2	0	2	1	0	5
9:00 - 11:59 AM	0	3	2	0	0	0	1	6
Noon - 2:59 PM	1	1	3	1	1	2	0	9
3:00 - 5:59 PM	0	0	1	0	1	2	0	4
6:00 - 8:59 PM	1	0	0	1	0	0	0	2
9:00 - 11:59 PM	2	0	0	1	0	1	0	4
Unknown	0	0	2	0	0	0	0	2
Total	5	6	10	3	5	8	3	40

TABLE 9.04

**2008 MOTOR VEHICLE / TRAIN CRASHES  
BY TRAFFIC CONTROL DEVICE**

<b>Traffic Control Device</b>	<b>Fatal Crashes</b>	<b>Injury Crashes</b>	<b>Property Damage Crashes</b>	<b>Total Crashes</b>	<b>Killed</b>	<b>Injured</b>
Stop Sign All Approaches	1	2	1	4	1	2
RR Flashing Lights	0	1	5	6	0	1
RR Crossing Stop Sign	1	4	2	7	1	5
RR Overhead Lights	0	0	1	1	0	0
RR Overhead Lights/Gate	0	2	1	3	0	3
RR Crossbuck	1	5	3	9	2	6
RR Crossing Gate	0	1	3	4	0	1
Not Applicable	0	2	3	5	0	2
Unknown	0	0	1	1	0	0
<b>Total</b>	<b>3</b>	<b>17</b>	<b>20</b>	<b>40</b>	<b>4</b>	<b>20</b>

TABLE 9.05

**2008 MOTOR VEHICLE / TRAIN CRASHES  
AGE OF PERSONS KILLED OR INJURED**

<b>Age Group</b>	<b>Killed</b>	<b>Injured</b>			<b>Total</b>
		<b>Severe</b>	<b>Moderate</b>	<b>Minor</b>	
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	0	1
20 - 24	0	0	1	4	5
25 - 29	0	0	1	2	3
30 - 34	0	0	1	0	1
35 - 39	1	0	0	1	1
40 - 44	0	0	0	0	0
45 - 49	0	0	1	2	3
50 - 54	0	0	0	2	2
55 - 59	2	0	0	0	0
60 - 64	0	0	1	0	1
65 - 69	0	0	0	0	0
70 - 74	0	0	0	0	0
75 - 79	0	1	0	0	1
80 & Older	1	0	0	0	0
Not Stated	0	0	0	1	1
<b>Total</b>	<b>4</b>	<b>1</b>	<b>7</b>	<b>12</b>	<b>20</b>



TABLE 9.06

**2008 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	6	7	0	1
100,000 - 249,999	0	1	1	2	0	1
50,000 - 99,999	0	0	1	1	0	0
25,000 - 49,999	0	2	2	4	0	2
10,000 - 24,999	0	1	2	3	0	2
5,000 - 9,999	0	0	0	0	0	0
2,500 - 4,999	0	1	0	1	0	1
1,000 - 2,499	0	2	0	2	0	2
Under 1,000	3	9	8	20	4	11
Total	3	17	20	40	4	20

TABLE 9.07

**2008 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	24	40.7%
Driver Inattention/Distracted	10	16.9
Disregard for Traffic Control Device	10	16.9
Illegal/Unsafe Speed	5	8.5
Chemical Impairment	2	3.4
Driver Inexperience	1	1.7
Vision Obscured – Windshield	1	1.7
Other Human Factor	1	1.7
<b>Vehicular Factors</b>		
Skidding	2	3.4
Other Vehicular Factor	1	1.7
<b>Other</b>		
Weather	2	3.4
Total	59	100.0%
Vehicles for Which There Was		
“No Clear Contributing Factor”	15	
Number of Drivers	63	

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.

## 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 trafficway 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.



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