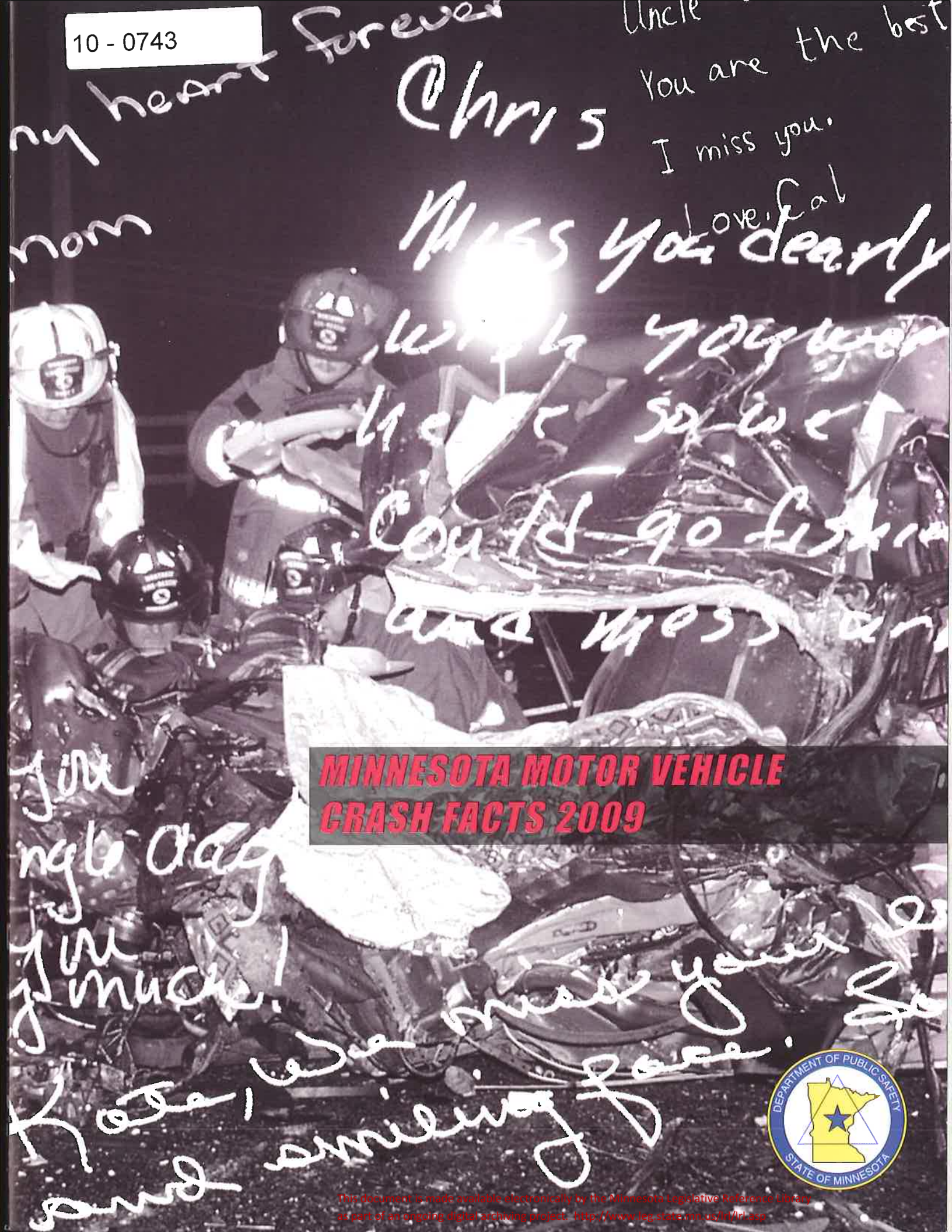


Suggestions for Using *Crash Facts*

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 though 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 2009

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.

Produced by:
Minnesota Department of Public Safety
444 Cedar Street, Suite 150
St. Paul, MN 55101-5150
(651) 201-7076
[TTY (651) 282-6555]
www.dps.state.mn.us/ots

For additional copies contact:
Office of Communications
Phone (651) 201-7575

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/. Click on “Crash Data and Reports” at the top of the page. This site also includes archived *Crash Facts* data from 1999 to 2008.

Alcohol and Gambling Enforcement

Bureau of Criminal Apprehension

Driver and Vehicle Services

Emergency Communication Networks

Homeland Security and Emergency Management

Minnesota State Patrol

Office of Communications

Office of Justice Programs

Office of Traffic Safety

State Fire Marshal

Office of the Commissioner

445 Minnesota Street • Suite 1000 • Saint Paul, Minnesota 55101-5100
Phone: 651.201.7160 • Fax: 651.297.5728 • TTY: 651.282.6555
www.dps.state.mn.us

June 2010

This annual report of *Minnesota Motor Vehicle Crash Facts* is a compilation and analysis of crashes on our state roads. *Crash Facts* breaks down where, when and why these crashes occurred, who was involved, and who was impacted.

The year 2009 was another positive step forward for traffic safety in Minnesota. The 421 traffic death count for the year was the lowest annual number since 1944 and a 7.5 percent drop in deaths from 2008. However, the very high number of fatalities and injuries reflect incredible losses and are unacceptable.

The year witnessed two milestones: passage of our primary seat belt law, as well as a law requiring booster seats for children. Thanks to the Legislature and Governor Pawlenty, more Minnesotans are wearing their seat belts; belt use is at a record-high 90 percent.

As commissioner of the Minnesota Department of Public Safety (DPS), I am grateful for the tremendous progress made in recent years to limit preventable traffic deaths. There are many factors for the continued drop in fatalities, but much can be credited to enhanced enforcement, education and outreach, engineering and emergency trauma care. These elements are all part of the state's *Toward Zero Deaths* (*TZD*) Program — a multidisciplinary approach to addressing road safety issues at the state and local level.

Whiles DPS is charged to promote traffic safety, we work in tandem with a range of partners across the state — law enforcement agencies, engineers, emergency technicians, traffic safety stakeholders, lawmakers, community groups, educators, and many more. Our successes are shared across this dedicated partnership.

Our continuing challenge is to drive Minnesota toward the *TZD* vision of reducing fatalities and serious injuries on Minnesota's roads to zero. The current *TZD* goal is fewer than 400 traffic fatalities and 1,400 serious injuries in 2010. 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. Everyone — every driver and passenger — has a role and responsibility in keeping our roads safe.

Sincerely,

Michael Campion
Commissioner, Department of Public Safety

Minnesota Traffic Crashes in 2009
OVERVIEW

This edition of *Minnesota Motor Vehicle Crash Facts* summarizes the crashes, deaths, and injuries that occurred on Minnesota roadways during 2009. The information provided in this book will assist you in traveling our roadways safely.

In 2009

- 73,498 traffic crashes were reported to the Minnesota Department of Public Safety (DPS)
- 132,276 motor vehicles and 180,849 people were involved in these crashes
- 421 people died and 31,074 people were injured
- Estimated economic cost to Minnesota: $1,495,605,500

On an average day in 2009

- 201 crashes
- 1.2 deaths and 85 injuries
- Average daily cost: $4,097,549

2009 crashes that were known to be alcohol involved

- 3,931 crashes
- 141 deaths and 2,592 injuries
- Estimated economic cost: $255,899,500

Highlights from the 2009 *Crash Facts* edition

- **Traffic fatalities decrease.**
  In 2009, Minnesota experienced a decrease in traffic fatalities of 7.5 percent from the previous year. There are many factors for the continued drop in fatalities, but much can be credited to enhanced enforcement, education and outreach, engineering and emergency trauma care. These elements are all part of the state's *Toward Zero Deaths* (*TZD*) initiative — a multidisciplinary program addressing traffic issues at the local level. 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 90 percent.**
  An observational study in August, 2009 showed that belt use by front seat drivers and passengers was 90%. 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 2009 is 0.74, 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 2009. 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.

TABLE OF CONTENTS

INTRODUCTION

At the end of the 2009 calendar year, 3,948,340 people held Minnesota driver licenses and 4,866,763 motor vehicles were registered in the state. Vehicles traveled over 57 billion miles on public roadways in the state. There were 73,498 traffic crashes; 421 people died and 31,074 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 2008 data. Based on those, the total economic loss from 2009 traffic crashes in Minnesota was $1,495,605,500, a figure that is calculated as follows:

Cost of Motor Vehicle Crashes in 2009

421	deaths	@	$1,300,000	=$547,300,000
1,271	severe injuries	@	$67,200	=$ 85,411,200
7,714	moderate injuries	@	$21,800	=$168,165,200
22,089	minor injuries	@	$12,300	=$271,694,700
50,968	PDO crashes	@	$8,300	=$423,034,400
		Total	=	$1,495,605,500

Factors affecting traffic crashes

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

There are a more limited number of factors that significantly affect the aggregate of traffic crashes. These can be organized into logical groups, such as human behavior factors or vehicle safety factors. The following paragraphs outline some of the factors most frequently thought to affect crash incidence and severity.

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

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

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

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

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

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

The age structure of the population has a strong effect on crash incidence, although it is not generally thought about since demographic changes are so gradual. In Minnesota, about one in 17 teenage drivers are involved in crashes each year. The involvement rate drops off for successive age groups. For example, it is about 1 in 36 for drivers in their 40s. The aging of the 'baby boom' has reduced crash incidence, however, their children who are now driving may cause an increase.

Historical perspective

In 1966, there were 53,041 traffic fatalities in the country, or 5.7 for every hundred million miles of travel. In Minnesota in 1968, there were 1,060 traffic fatalities, or 5.3 per hundred million miles of travel. Those were the worst years. Since then, both the rate and the number of fatalities have declined in a fairly steady pattern. In 2009, there were 33,963 traffic fatalities throughout the country and 421 in Minnesota. The respective rates per hundred million miles of travel were 1.16 and 0.74. 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.

FIGURE 1
Vehicles, Drivers, and Fatality Rate, 1966-2009

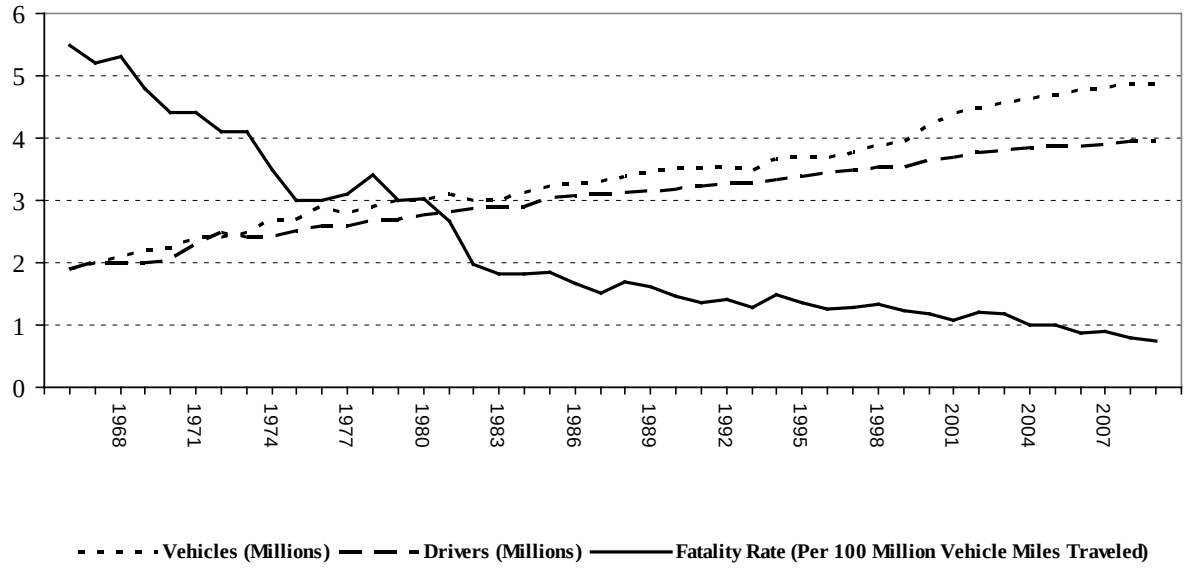


TABLE 1
Minnesota Traffic Fatalities, 1910 – 2009
Since 1961: Vehicle Miles Traveled (Billions) and Fatality Rates (Per 100 Million VMT)

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	**2009**	421	56.9	0.74
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 - 2009
Since 1961: Miles Traveled (in Ten Billions) and Fatality Rates (per 100 Million VMT)

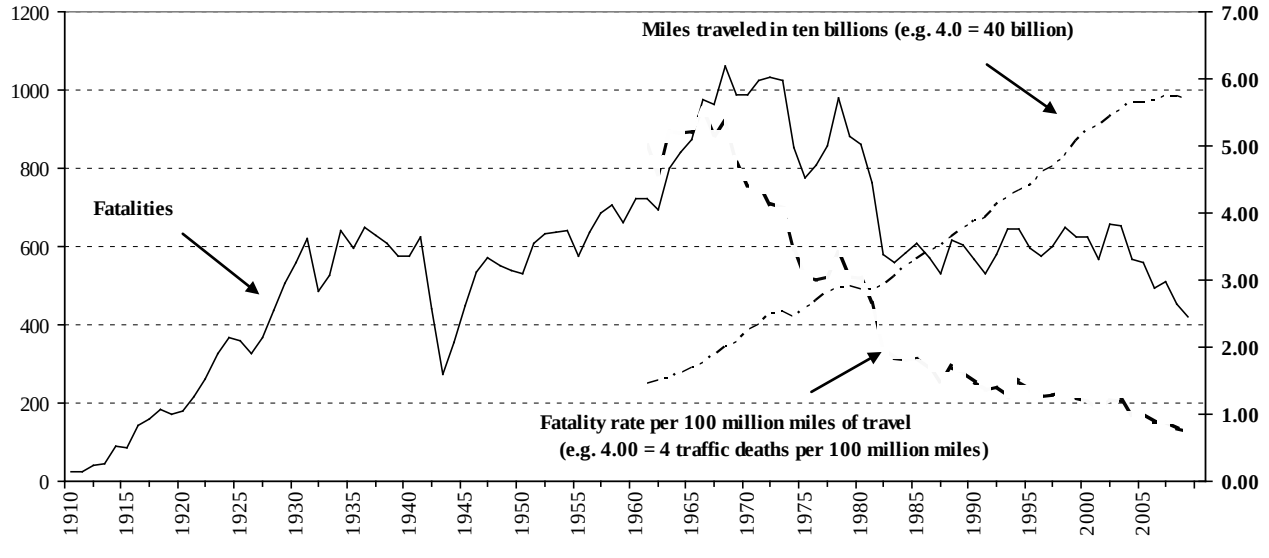


TABLE 2

DRIVER LICENSE* SUMMARY BY AGE, 2004 - 2009

Age	2004	2005	2006	2007	2008	2009
15	31,638	31,161	26,360	26,029	26,141	28,126
16	55,812	55,398	53,520	51,499	49,801	49,884
17	61,286	61,431	60,695	59,766	57,875	56,554
18	66,397	65,440	64,617	64,910	64,337	62,707
19	71,026	68,842	67,917	67,664	68,050	67,701
20	71,513	71,780	68,826	69,091	68,920	69,074
Under 21	357,672	354,052	341,935	338,959	335,124	334,046
15 – 19	286,159	282,272	273,109	269,868	266,204	264,972
20 – 24	361,589	361,839	353,949	351,877	350,535	347,193
25 – 29	339,712	348,538	353,241	360,944	365,501	364,228
30 – 34	330,480	319,537	311,685	316,410	324,694	330,073
35 – 39	350,988	349,515	342,520	336,604	327,911	319,456
40 – 44	403,774	390,439	372,638	358,091	347,387	339,999
45 – 49	395,178	400,876	401,715	401,496	399,215	391,392
50 – 54	345,855	355,524	361,197	369,195	376,096	382,435
55 – 59	280,193	296,390	306,185	314,238	324,589	332,705
60 – 64	208,133	212,324	226,262	239,650	251,756	265,450
65 – 69	158,035	163,125	168,693	178,918	187,347	193,513
70 – 74	131,277	131,383	132,725	136,026	140,879	143,738
75 – 79	114,333	114,220	114,750	114,678	113,740	113,517
80 – 84	84,761	85,056	86,274	88,606	89,045	87,672
85 & Older	61,389	61,055	66,217	71,373	73,502	71,997
Total	3,851,856	3,872,093	3,871,160	3,907,974	3,938,401	3,948,340

* 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, 2004 - 2009

Type of Vehicle*	2004	2005	2006	2007	2008	2009
Passenger Vehicles	3,239,418	3,288,446	3,353,858	3,406,848	3,455,451	3,478,218
Pickup Trucks	902,941	894,230	883,623	872,057	849,627	833,329
Commercial Trucks	206,419	211,577	215,542	217,059	215,107	213,489
Recreational Vehicles	39,853	39,032	37,978	37,399	34,998	35,042
Motorcycles	174,195	185,087	197,735	209,591	224,625	226,675
Motorized Bicycles	8,670	9,432	10,726	12,343	15,601	15,559
School Buses	5,989	6,093	6,257	6,399	6,766	6,810
Buses	5,059	5,018	5,235	5,312	5,076	4,996
Van Pool	201	193	197	199	205	165
Tax Exempt Vehicles	47,919	49,845	49,721	51,483	51,045	52,480
Motor Vehicle Subtotal	4,630,664	4,688,953	4,760,872	4,818,690	4,858,501	4,866,763
Other Registrations*						
Trailers	1,388,642	1,448,877	1,445,556	1,508,157	1,564,054	1,610,989
Classic Motor Vehicles	146,541	153,383	153,594	160,195	166,472	172,858
Classic Motorcycles	5,703	6,266	6,855	7,511	8,124	8,778
Other Subtotal	1,540,886	1,608,526	1,606,005	1,675,863	1,738,650	1,792,625
Total Registrations	6,171,550	6,297,479	6,366,877	6,494,553	6,597,151	6,659,388

* 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 2009:

- The population of Minnesota increased to 5.3 million.
- More than 4.8 million motor vehicles were registered.
- There were more than 3.9 million licensed drivers.
- Almost 57 *billion* miles were driven.

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

Crashes and Fatalities Decrease in 2009

There were 73,498 traffic crashes reported to Public Safety in 2009, a decrease of 7.1% from 2008. And, there were 421 deaths on Minnesota roads, a 7.5% decrease from the previous year. The total number of deaths in 2009 was the lowest amount recorded in Minnesota since 1944. There are many factors for the continued improvement in traffic safety, but much can be credited to enhanced enforcement, education and outreach, engineering and emergency trauma care. These elements are all part of the state's *Toward Zero Deaths* (*TZD*) initiative — a multidisciplinary program addressing traffic issues at the local level.

Traffic Crashes in 2009

The following facts give an overall picture of 2009 traffic crashes; In addition to the 421 killed…

- 31,074 were injured.
- 1,271 of these were severe injuries.
- 7,714 of these were moderate injuries.
- 22,089 of these were minor injuries.

- In all crashes, 180,849 people were involved.
- In all crashes, 132,276 motor vehicles were involved.
- There were 957 crashes that involved at least 1 bicyclist.
- There were 883 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, 6,404 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 3,948,304 licensed drivers in the state. People aged 15-24 make up 15.5% of the licensed drivers, yet they accounted for 26.0% of the crash-involved drivers. Teenage drivers are the worst, from this perspective. In 2009, they represented just 6.7% of the licensed drivers, but 12.1% of the crash-involved drivers. By contrast drivers over 65 made up 15.4% of the driving population, but accounted for just 7.9% of the crash-involved drivers. Crash-involved drivers are also more likely to be males: 73.4% of drivers in fatal crashes were male; 56.2% of drivers in all crashes were male.

Traffic crashes are the leading cause of death to young people. In the state last year, 125 people under age 30 died in crashes, representing 30% of all traffic deaths. As mentioned previously, people over 65 are safe drivers as a general rule, but are more likely to be killed if they are involved in a traffic crash. Senior citizen drivers were involved in only 8% of all traffic crashes in 2009 but accounted for 20% of the traffic fatalities.

Among people injured, young people especially pay the price. There were 13,717 people under age 30 who were injured, representing 44% of the total number of people injured. People aged 65 and over accounted for just 8% of all traffic injuries.

WHY they happened

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

About one-third of all crashes involve only one vehicle and about two-thirds involve two or more vehicles. Single-vehicle and multiple-vehicle crashes have different characteristics. In single vehicle crashes, illegal or unsafe speed is the contributing factor cited most often for all drivers. For older drivers, driver inattention or distraction is the most cited factor. Driver Inexperience is the second most cited factor for drivers aged 15-19. In multiple-vehicle crashes, for drivers through age 64, driver inattention or distraction is cited most often, and failure to yield right of way is cited second most often. After age 65, the pattern reverses: failing to yield is most common, and inattention or distraction is second most common.

WHAT the conditions were

Victims of traffic crashes are mostly car, pickup, sport utility vehicle (SUV) or van occupants. Of the 421 traffic fatalities, 297 (71%) were from these 4 vehicle types. There were also 41 pedestrians, 53 motorcyclists, and 10 bicyclists who died in traffic crashes. There were 9 deaths to ATV riders, and 3 fatalities among commercial truck occupants.

A collision with another vehicle is the leading crash type. Almost half (41%) of the fatal crashes and almost two-thirds (64%) 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 (15% of the total), and collision with a parked motor vehicle (9% of the total).

Most crashes occur in good driving conditions. Over half (60%) of fatal crashes, and 68% of nonfatal crashes occurred during daylight hours. A majority of crashes occur also in good weather conditions. Over half (66%) of fatal crashes, and 55% of nonfatal crashes occurred during "clear" weather. Road surface conditions where crashes occurred were usually good. For fatal crashes, 74% were on dry roads, 9% were on wet roads, and 14% were on snowy or icy roads.

WHERE they happened

Fatal crashes tend to occur on roads in rural areas that permit high speeds and do not have interstate-type safety designs. In the year 2009, 252 (68%) of all fatal crashes occurred in rural areas, which are defined as having a population of less than 5,000 people. And, 126 (34%) of all fatal crashes occurred on county state aid highways, and 91 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 2009, fatal crashes occurred most often in the 3-4 p.m. time period (32). 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: 43% of all crashes occurred in the six hour time period of 12-6 p.m. This event has not changed over the years. Indeed, Figure 1.03 on page 36 shows that the afternoon rush hour period is truly a dangerous time to be driving.

Fridays, Saturdays, and Sundays accounted for 188 of the 420 total fatal crashes (51%). 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. January 2009 followed this axiom. Because of severe weather, January had the most crashes reported of any month (10,093). Warmer weather produces more fatalities. July had the most with 48. As mentioned earlier, though, other factors are involved than strictly the weather. These include speeding, drinking and driving, not wearing a seat belt, and not paying attention while driving.

Can traffic crashes be prevented?

Each year over the past decade, about 500 people were killed and 35,000 people were injured on our roadways. We must acknowledge the fact that Minnesota is still experiencing an "epidemic" concerning traffic crashes. In a public health sense, epidemics that kill and injure fewer people are usually attacked vigorously until they are no longer a threat to public safety.

The Department of Public Safety (DPS) uses the term "crash" instead of "accident." This is because a traffic crash can be prevented. Coupled with 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 - 2009

Year	Total Crashes	Persons		Licensed Drivers (million)	Motor Vehicles (MV) (million)	State Population (million)	Vehicle Miles Traveled (VMT) (billion)	Crash Rates			Fatality Rates		
								Per 100,000 MV	Per 100,000 Population	Per 100 Mil VMT	Per 100,000 MV	Per 100,000 Population	Per 100 Mil VMT
		Killed	Injured										
(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
2009	73,498	421	31,074	3.95	4.87	5.32	56.9	1,510	1,382	123	8.7	7.9	0.74

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
2004 - 2009

	2004	2005	2006	2007	2008	2009	Record High	
Fatal Crashes	**520**	**500**	**456**	**463**	**420**	**371**	**878**	**(1973)**
Injury Crashes	**28,066**	**26,618**	**24,663**	**24,978**	**23,914**	**22,159**	**33,686**	**(1978)**
Severe	1,937	1,660	1,528	1,441	1,248	1,036	5,109	(1984)[1]
Moderate	9,257	7,958	7,111	7,099	6,493	5,942	12,326	(1985)[1]
Minor	16,872	17,000	16,024	16,438	16,173	15,181	18,578	(1996)[1]
PDO Crashes	**62,688**	**60,695**	**53,626**	**56,064**	**54,761**	**50,968**	**94,810**	**(1975)**
Total Crashes	**91,274**	**87,813**	**78,745**	**81,505**	**79.095**	**73,498**	**123,106**	**(1975)**
Total Injuries	**40,073**	**37,686**	**35,025**	**35,318**	**33,379**	**31,074**	**50,332**	**(1978)**
Severe	2,424	2,019	1,844	1,736	1,553	1,271	6,573	(1984)[1]
Moderate	12,416	10,453	9,323	9,365	8,334	7,714	17,670	(1985)[1]
Minor	25,233	25,214	23,858	24,217	23,492	22,089	28,631	(1996)[1]
Total Fatalities	**567**	**559**	**494**	**510**	**455**	**421**	**1,060**	**(1968)**
Motor Vehicle Occupant	461	440	373	399	325	302	544	(2002)[1]
Motorcycle	50	59	70	61	72	53	121	(1980)
Pedestrian	37	44	38	33	25	41	157	(1971)
Bicycle	10	7	8	4	13	10	24	(1977)
All Terrain Vehicle	4	7	2	4	10	9	10	(2008)
Snowmobile	1	2	3	3	1	0	9	(1984)
Farm Equipment	2	0	0	3	0	3	N/A	N/A
Other Vehicle Type	2	0	0	3	9	3	N/A	N/A
Minnesota Fatality Rate[3]	1.00	0.99	0.87	0.89	0.79	0.74	23.6	(1934)
U.S. Fatality Rate[3]	1.44	1.46	1.42	1.36	1.25	1.16	18.0	(1925)
Minnesota Economic Loss (millions)	$1,769	$1,666	$1,529	$1,654	$1,480	$1,496	$1,769	(2004)[4]

[1] The available records on which these categories "record highs" are based only go back to 1984.
[2] Fatalities occurring in motor vehicle/train crashes are included in other categories as well.
[3] Rate is based on 100 million vehicle miles of travel.
[4] 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

2009 FATALITIES BY TRAFFIC ROLE, GENDER, AND AGE

Type of Vehicle	Position in Vehicle	Gender	Age 0-9	10-19	20-29	30-39	40-49	50-59	60-69	70 & Older	Total
Car	Driver	Male	0	10	16	10	13	7	7	10	73
		Female	0	3	7	9	3	2	7	12	43
	Passenger	Male	3	5	5	0	4	3	0	5	25
		Female	1	7	3	2	4	1	2	7	27
Pickup	Driver	Male	0	4	6	6	6	10	7	7	46
		Female	0	1	1	0	0	1	1	0	4
	Passenger	Male	0	0	1	1	1	1	0	1	5
		Female	0	1	0	1	0	1	0	2	5
SUV	Driver	Male	0	0	4	5	0	2	2	5	18
		Female	0	1	1	3	1	3	1	0	10
	Passenger	Male	0	2	1	1	0	0	0	3	7
		Female	2	0	0	0	0	1	2	1	6
Van	Driver	Male	0	0	0	2	3	0	1	1	7
		Female	0	0	1	1	0	1	0	2	5
	Passenger	Male	2	1	1	2	1	0	0	1	8
		Female	0	2	3	0	1	0	1	1	8
Truck	Driver	Male	0	0	0	0	3	1	0	0	4
	Passenger	Male	0	0	0	0	1	0	0	0	1
Motorcycle	Driver	Male	0	1	9	6	14	8	6	0	44
		Female	0	0	0	0	1	0	0	0	1
	Passenger	Male	0	0	0	0	1	0	0	0	1
		Female	0	0	3	0	1	3	0	0	7
Other Motor	Driver	Male	0	1	1	1	3	0	2	3	11
		Female	0	0	0	0	0	0	0	0	0
Vehicle	Passenger	Male	0	1	0	0	0	0	0	0	1
		Female	0	1	0	0	0	2	0	0	3
Bicyclist		Male	0	2	0	1	1	3	1	2	10
		Female	0	0	0	0	0	0	0	0	0
Pedestrian		Male	5	0	2	1	6	4	0	5	23
		Female	1	0	3	2	4	2	2	4	18
Total Fatalities		Male	10	27	46	36	57	39	26	43	284
		Female	4	16	22	18	15	17	16	29	137
		Total	14	43	68	54	72	56	42	72	421

Note: The vehicle types for the 15 fatalities in the 'Other Motor Vehicle' category consisted of: One riding mower, 9 ATV's, 2 commercial bus, and 3 farm equipment.

TABLE 1.04

AGE AND GENDER OF PERSONS KILLED OR INJURED IN 2009 CRASHES

	Persons Killed			Persons Injured			
Age Group	Male	Female	Total	Male	Female	Unknown	Total
00 - 03	6	2	8	192	150	4	346
04 - 10	4	2	6	441	485	5	931
11 - 14	4	1	5	392	380	1	773
Total < 15:	14	5	19	1,025	1,015	10	2,050
15	2	1	3	151	184	4	339
16	4	1	5	362	500	2	864
17	2	6	8	411	551	2	964
18	6	2	8	497	575	2	1,074
19	9	5	14	454	513	0	967
20	6	1	7	465	500	0	965
Total 15-20:	29	16	45	2,340	2,823	10	5,173
Total < 21:	43	21	64	3,365	3,838	20	7,223
00 – 04	8	2	10	230	213	5	448
05 – 09	2	2	4	326	343	4	673
10 – 14	4	1	5	469	459	1	929
15 – 19	23	15	38	1,875	2,323	10	4,208
20 – 24	25	13	38	2,019	2,178	8	4,205
25 – 29	21	9	30	1,559	1,685	10	3,254
30 – 34	13	11	24	1,133	1,297	8	2,438
35 – 39	23	7	30	1,047	1,181	3	2,231
40 – 44	25	10	35	1,048	1,098	5	2,151
45 – 49	32	5	37	1,066	1,204	4	2,274
50 – 54	20	6	26	982	1,066	3	2,051
55 – 59	19	11	30	804	913	3	1,720
60 – 64	19	11	30	586	661	0	1,247
65 – 69	7	5	12	370	412	0	782
70 – 74	10	5	15	266	306	2	574
75 – 79	9	5	14	227	290	2	519
80 – 84	11	9	20	162	194	0	356
85 & Older	13	10	23	109	134	0	243
Not Stated	0	0	0	171	263	337	771
Total:	284	137	421	14,449	16,220	405	31,074

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 2009 CRASHES

	Drivers in Fatal Crashes				Drivers in All Crashes			
Age Group	Male	Female	Not Stated	Total	Male	Female	Not Stated	Total
14 & Younger	0	0	0	0	34	22	5	61
15	1	0	0	1	88	84	1	173
16	5	2	0	7	1,570	1,608	2	3,180
17	8	5	0	13	2,008	1,898	4	3,910
18	10	5	0	15	2,185	1,868	13	4,066
19	15	5	0	20	2,169	1,832	5	4,006
20	8	6	0	14	2,033	1,795	6	3,834
Total < 21	47	23	0	70	10,087	9,107	36	19,230
00 – 04	0	0	0	0	11	5	4	20
05 – 09	0	0	0	0	3	1	1	5
10 – 14	0	0	0	0	20	16	0	36
15 – 19	39	17	0	56	8,020	7,290	25	15,335
20 – 24	38	18	0	56	9,326	8,222	45	17,593
25 – 29	38	13	0	51	8,073	6,439	44	14,556
30 – 34	21	14	0	35	6,219	4,816	36	11,071
35 – 39	36	13	0	49	5,796	4,455	17	10,268
40 – 44	34	9	0	43	5,600	4,210	13	9,823
45 – 49	50	8	0	58	5,995	4,419	9	10,423
50 – 54	42	7	0	49	5,299	3,754	11	9,064
55 – 59	27	12	0	39	4,396	3,134	8	7,538
60 – 64	27	8	0	35	3,220	2,150	4	5,374
65 – 69	21	3	0	24	2,119	1,370	2	3,491
70 – 74	7	9	0	16	1,373	914	1	2,288
75 - 79	5	7	0	12	1,084	788	0	1,872
80 - 84	12	7	0	19	770	633	0	1,403
85 & Older	9	2	0	11	526	404	2	932
Not Stated	0	0	4	4	470	239	4,523	5,232
Total	406	147	4	557	68,320	53,259	4,745	126,324

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, 2009

Age Group	Percentage of All Licensed Drivers	Percentage of Drivers in Fatal Crashes	Injury Crashes	Property Damage Crashes	All Crashes
14 & Younger	0.0%	0.0%	0.1%	0.0%	0.0%
15	0.7	0.2	0.2	0.1	0.1
16	1.3	1.3	2.6	2.5	2.5
17	1.4	2.3	3.1	3.1	3.1
18	1.6	2.7	3.3	3.2	3.2
19	1.7	3.6	3.1	3.2	3.2
20	1.7	2.5	3.2	3.0	3.0
Total < 21	8.5%	12.6%	15.5%	15.1%	15.2%
15 - 19	6.7%	10.0%	12.3%	12.1%	12.1%
20 - 24	8.8	10.0	14.1	13.9	13.9
25 - 29	9.2	9.2	11.2	11.7	11.5
30 - 34	8.4	6.3	8.9	8.7	8.8
35 - 39	8.1	8.8	8.3	8.0	8.1
40 - 44	8.6	7.7	8.3	7.6	7.8
45 - 49	9.9	10.4	8.4	8.2	8.2
50 - 54	9.7	8.8	7.2	7.2	7.2
55 - 59	8.4	7.0	6.2	5.9	6.0
60 - 64	6.7	6.3	4.4	4.2	4.2
65 - 69	4.9	4.3	2.8	2.7	2.8
70 - 74	3.6	2.9	1.9	1.8	1.8
75 - 79	2.9	2.2	1.7	1.4	1.5
80 - 84	2.2	3.4	1.2	1.1	1.1
85 & Older	1.8	2.0	0.8	0.7	0.7
Age Not Stated	0.0	0.7	2.3	5.0	4.1
Total Percent	100.0%	100.0%	100.0%	100.0%	100.0%
Total Number	3,948,340				

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, 2009

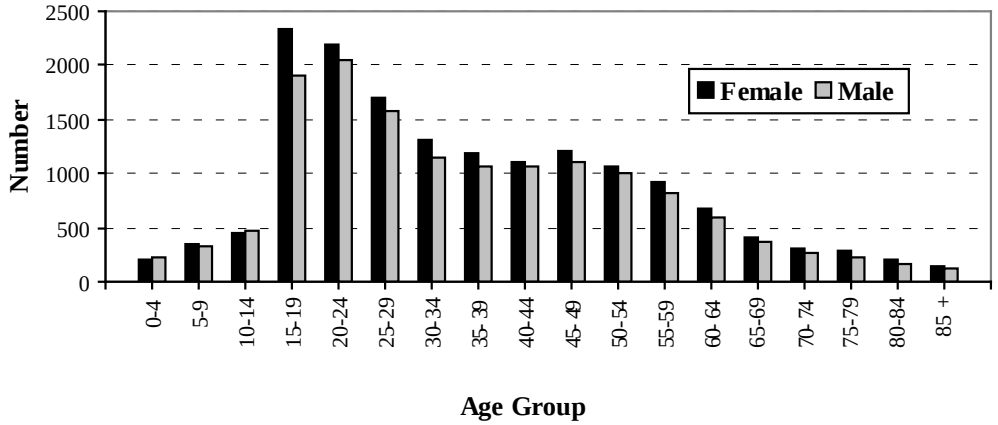


FIGURE 1.02
Licensed vs Crash-Involved Drivers by Age, 2009

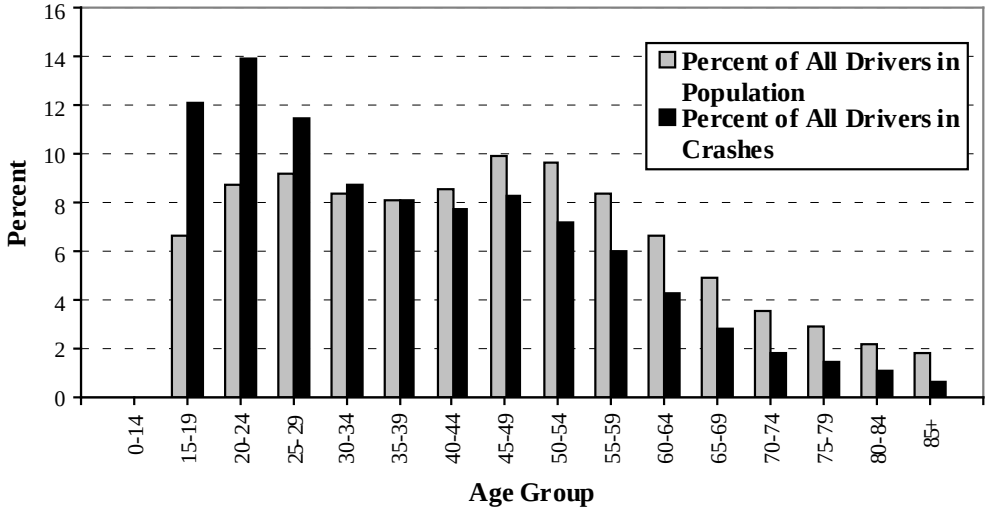


TABLE 1.07

PERCENTAGE OF DRIVERS IN 2009 CRASHES BY AGE AND FIRST HARMFUL EVENT

	Age Group							All
First Harmful Event	15-19	20-24	25-29	30-34	35-64	65-79	80 +	Age
Collision With:								
Other Motor Vehicle	75.0%	76.2%	78.3%	79.4%	80.6%	81.0%	82.4%	77.8%
Parked Motor Vehicle	3.5	3.3	3.6	3.0	2.9	3.2	5.3	4.4
Bicycle	0.4	0.6	0.6	0.7	0.8	0.9	1.0	0.8
Pedestrian	0.5	0.6	0.7	0.5	0.6	0.6	0.8	0.7
Deer	1.2	1.4	1.7	2.3	2.9	2.4	0.9	2.1
Other Animal	0.1	0.1	0.2	0.2	0.2	0.2	0.0	0.2
Railroad Train	0.0	0.0	0.0	0.0	0.1	0.0	0.0	0.0
Fixed Object	11.4	11.5	9.4	9.0	6.8	7.2	7.1	8.6
Other Object	0.3	0.2	0.2	0.3	0.4	0.4	0.1	0.3
Non-Collision:								
Overturn	6.2	4.8	4.0	3.5	3.0	2.5	1.3	3.7
Other Non-Collision	0.3	0.3	0.3	0.4	0.5	0.4	0.2	0.4
Other or Unknown	1.0	0.9	1.0	1.0	1.1	1.1	0.8	1.1
Total Percent	100.0%	100.0%	100.0%	100.0%	100.0%	100.0%	100.0%	100.0%
Total Drivers	15,335	17,593	14,556	11,071	52,490	7,651	2,342	126,324

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 2009 CRASHES BY PHYSICAL CONDITION*

Physical Condition	Drivers in Fatal Crashes	Drivers in Injury Crashes	Drivers in Property Damage Crashes	Drivers in All Crashes
Normal	304	31,738	68,709	100,751
Under the Influence	34	1,283	1,476	2,793
Had Been Drinking	36	477	519	1,032
Commercial Driver > .04	0	0	4	4
Had Been Using Drugs	1	56	55	112
Aggressive	1	14	32	47
Fatigued/Asleep	4	177	188	369
Physical Disability	2	43	34	79
Ill	0	72	53	125
Other	7	170	132	309
Unknown	168	4,598	15,937	20,703
Total	557	38,628	87,139	126,324

* 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, 2009

	Age Group							All
Contributing Factor	15-19	20-24	25-29	30-34	35-64	65-79	80+	Ages
Human Factors								
Illegal/Unsafe Speed	23.8%	28.0%	28.0%	27.8%	23.4%	17.7%	13.8%	25.1%
Driver Inattention/Distraction	13.1	12.9	11.3	12.7	12.7	17.2	17.0	12.9
Chemical Impairment	4.3	11.7	10.7	10.1	7.6	3.5	0.9	8.1
Overcorrecting	10.3	8.3	7.4	7.8	6.8	7.0	4.5	7.9
Driver Inexperience	14.8	3.9	2.2	1.9	1.3	0.3	0.9	4.6
Improper/Unsafe Lane Use	1.6	3.0	3.1	2.4	2.3	2.8	3.1	2.5
Improper Turn	0.6	0.6	0.6	0.7	1.1	1.4	2.7	0.9
Driving Left of Center-Not Passing	0.4	0.6	0.5	0.7	0.5	0.9	1.8	0.6
Disregard for Traffic Control Device	0.4	0.4	0.3	0.6	0.5	1.6	1.3	0.5
Vision Obscured	0.2	0.4	0.4	0.3	0.4	1.7	1.8	0.4
Following Too Closely	0.2	0.5	0.4	0.8	0.4	0.2	0.4	0.4
Improper Passing/Overtaking	0.4	0.3	0.3	0.2	0.2	0.1	0.0	0.3
Unsafe Backing	0.2	0.2	0.3	0.3	0.3	0.6	0.0	0.3
Failure to Yield Right of Way	0.2	0.1	0.1	0.1	0.2	0.4	0.4	0.2
Driver on Cell Phone or CB Radio	0.2	0.2	0.3	0.2	0.2	0.0	0.0	0.2
Improper Park, Start, or Stop	0.2	0.2	0.3	0.2	0.2	0.5	1.3	0.2
Other Human Factors	3.1	3.6	3.0	4.4	5.1	9.8	21.4	4.4
Vehicular Factors								
Skidding	9.5	8.3	9.1	8.5	11.5	10.2	8.0	9.7
Defective Equipment	1.3	1.4	1.2	0.9	1.7	1.7	0.4	1.4
Other Vehicular Factor	0.9	0.8	0.9	0.6	1.0	0.8	0.9	0.9
Miscellaneous Factors								
Weather	10.4	10.8	13.7	13.9	15.7	14.0	11.6	13.0
Other	3.8	3.8	5.8	5.1	6.8	7.5	7.6	5.4
Total Percent	100.0%	100.0%	100.0%	100.0%	100.0%	100.0%	100.0%	100.0%
Total Contributing Factors Cited	4,003	4,026	2,650	1,817	6,852	934	224	20,793
Drivers for Whom There Was "No Clear Contributing Factor"	276	335	295	252	1,384	151	29	2,749
Total Number of Drivers	2,978	3,183	2,263	1,656	7,015	968	215	19,091

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, 2009

	Age Group							All
Contributing Factor	15-19	20-24	25-29	30-34	35-64	65-79	80 +	Age
Human Factors								
Driver Inattention or Distraction	24.4%	24.1%	22.4%	22.8%	22.3%	21.2%	20.0%	22.6%
Failure to Yield Right of Way	19.9	16.8	16.6	16.2	18.5	30.2	38.0	19.2
Following Too Closely	11.9	14.0	14.0	13.5	12.1	6.8	4.5	12.1
Illegal or Unsafe Speed	7.9	9.6	8.7	8.3	6.7	3.6	1.9	7.5
Improper or Unsafe Lane Use	3.4	4.2	4.8	4.5	5.4	5.7	5.3	5.1
Disregard of Traffic Control Device	3.5	4.2	4.5	4.5	4.5	5.5	7.6	4.5
Improper Turn	1.9	1.8	2.1	2.0	2.5	3.8	3.3	2.4
Vision Obscured	2.0	1.8	1.9	1.8	2.2	3.3	3.4	2.1
Chemical Impairment	0.7	2.6	3.2	2.8	2.4	0.6	0.1	2.0
Driver Inexperience	7.7	1.7	1.0	0.8	0.5	0.2	0.1	1.9
Unsafe Backing	1.0	1.1	1.4	1.6	2.0	2.3	1.4	1.6
Improper Passing or Overtaking	1.2	1.4	1.4	1.6	1.6	1.0	1.3	1.6
Improper Park, Start, or Stop	0.9	0.9	0.8	1.3	1.2	1.3	1.9	1.2
Driving Left of Center-Not Passing	0.6	0.6	0.6	0.7	0.7	1.3	0.9	0.7
Overcorrecting	0.7	0.8	1.0	0.7	0.6	0.4	0.3	0.7
Impeding Traffic	0.2	0.2	0.2	0.3	0.3	0.3	0.1	0.2
Improper or No Signal	0.2	0.1	0.3	0.3	0.2	0.4	0.2	0.2
Driver on Cell Phone or CB Radio	0.2	0.2	0.2	0.2	0.1	0.0	0.0	0.1
Failure To Use Lights	0.1	0.1	0.1	0.1	0.1	0.1	0.0	0.1
Other Human Factors	1.0	1.5	1.5	1.8	2.0	2.4	3.9	1.8
Vehicular Factors								
Skidding	3.7	3.7	3.8	4.0	4.1	2.7	1.5	3.7
Defective Equipment	0.9	0.8	0.5	0.6	0.6	0.3	0.2	0.6
Other Vehicular Factor	0.4	0.5	0.5	0.5	0.7	0.4	0.1	0.5
Miscellaneous Factors								
Weather	3.7	4.6	5.3	5.6	5.3	3.6	1.8	4.6
Other	1.9	2.5	3.2	3.5	3.7	2.6	2.2	3.0
Total Percent	100.0%	100.0%	100.0%	100.0%	100.0%	100.0%	100.0%	100.0%
Total Contributing Factors Cited	11,269	10,703	7,612	5,419	23,798	4,110	1,751	66,987
Drivers for Whom There Was "No Clear Contributing Factor"	3,460	5,140	5,372	4,429	22,547	2,833	568	44,778
Total Number of Drivers	12,356	14,405	12,286	9,411	45,456	6,680	2,127	107,605

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, 2009

		Injured					
Vehicle Type	Killed	Severe	Moderate	Minor	Total	Not Injured	Total Persons
Automobile	168	503	3,775	12,336	16,614	77,214	93,996
Pickup Truck	60	154	786	1,883	2,823	16,762	19,645
Sport Utility Vehicle	41	152	1,038	3,612	4,802	25,526	30,369
Van	28	84	646	1,945	2,675	14,276	16,979
Motor Home/Camper	0	2	6	5	13	104	117
Taxi Cab	0	5	33	122	160	602	762
Police Vehicle	0	4	22	72	98	465	563
Fire Department Vehicle	0	0	0	5	5	77	82
School Bus	0	0	9	101	110	4,095	4,205
Other Bus	2	2	25	133	160	1,166	1,328
Ambulance	0	0	1	13	14	78	92
Military Vehicle	0	0	0	2	2	8	10
Snowmobile	0	4	5	10	19	13	32
All Terrain Vehicle	9	8	18	12	38	13	60
Farm Tractor or Equipment	3	2	11	16	29	124	156
Motorcycle*	52	183	522	432	1,137	258	1,447
Motor Scooter/Motorbike*	1	12	25	20	57	10	68
Motorized Bicycle (Moped)*	0	2	22	17	41	7	48
Hit and Run Vehicle	0	1	17	49	67	2,344	2,411
Road Maintenance Vehicle	1	0	8	21	29	625	655
Other Public Owned Vehicle	2	1	5	9	15	179	196
Single Truck (2-axle, 6-tire)	0	2	13	38	53	711	764
Single Truck (3 or more axles)	0	0	10	17	27	277	304
Single Truck with Trailer	0	1	3	9	13	234	247
Truck Tractor with No Trailer	0	1	0	2	3	74	77
Truck Tractor with Semi Trailer	2	7	58	75	140	1,700	1,842
Truck Tractor with Double Trailers	0	0	1	1	2	32	34
Other or Unknown Truck Type	1	1	1	4	6	240	247
Other Vehicle Type	0	5	7	16	28	316	344
Unknown Vehicle Type	0	1	14	37	52	1,806	1,858
Bicycle	10	42	324	596	962	5	977
Pedestrian	41	92	309	479	880	13	934
Total	421	1,271	7,714	22,089	31,074	149,354	180,849

* 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 2009 CRASHES

	Vehicles in			
Motor Vehicle Type*	Fatal Crashes	Injury Crashes	Property Damage Crashes	All Crashes
Automobile	231	21,610	50,294	72,135
Pickup Truck	102	4,391	11,149	15,642
Sport Utility Vehicle	70	6,556	15,156	21,782
Van	34	3,271	7,301	10,606
Motor Home/Camper	0	19	53	72
Taxicab	0	198	326	524
Police Vehicle	1	124	393	518
Fire Department Vehicle	0	13	24	37
School Bus	4	147	524	675
Other Bus	3	114	285	402
Ambulance	0	14	30	44
Military Vehicle	0	3	8	11
Snowmobile*	0	19	11	30
All Terrain Vehicle*	9	29	12	50
Farm Tractor or Equipment	6	47	87	140
Motorcycle**	48	1,068	184	1,300
Motor scooter/Motorbike**	1	54	8	63
Motorized Bicycle (Moped)**	0	38	5	43
Hit and Run Vehicle	4	355	1,942	2,301
Road Maintenance Vehicle	4	119	505	628
Other Public Owned Vehicle	1	32	114	147
Single Truck (2-axle, 6-tire)	9	154	513	676
Single Truck (3 or more axles)	6	87	198	291
Single Truck with Trailer	4	55	155	214
Truck Tractor with No Trailer	0	18	58	76
Truck Tractor with Semi Trailer	21	475	1,271	1,767
Truck Tractor with Double Trailers	0	8	23	31
Other or Unknown Truck Type	3	38	199	240
Other Vehicle Type	0	50	178	228
Unknown Vehicle Type	1	244	1,358	1,603
Total* **	562	39,350	92,364	132,276

* 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

2009 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
Collision With:							
Another Motor Vehicle	153	13,663	33,019	46,835	193	20,715	4.1
Parked Motor Vehicle	3	541	4,511	5,055	3	698	0.6
Bicycle	10	942	1	953	10	982	10.5
Pedestrian	39	811	4	854	39	868	45.7
Deer	4	306	2,333	2,643	4	342	1.5
Other Animal	0	57	163	220	0	71	0.0
Railroad Train	4	11	22	37	5	15	135.1
Fixed Object	79	3,015	7,573	10,667	83	3,687	7.8
Non-Fixed Object	0	69	226	295	0	84	0.0
Other Collision Type	4	152	286	442	5	193	11.3
Unkn Collision Type	0	5	25	30	0	5	0.0
Non-Collision:							
Overturn	62	2,259	2,257	4,578	66	3,029	14.4
Submersion	2	10	33	45	2	11	44.4
Fire/Explosion	0	2	53	55	0	2	0.0
Other Non-Collision	4	148	178	330	4	166	12.1
Unknown Crash Type	7	168	284	459	7	206	15.3
Total	371	22,159	50,968	73,498	421	31,074	5.7

TABLE 1.14

2009 "HIT-AND-RUN" CRASHES BY FIRST HARMFUL EVENT

First Harmful Event	Fatal Crashes	Personal Injury Crashes	Property Damage Crashes	Total Crashes	Killed	Injured
Collision With:						
Other Motor Vehicle	0	630	2,253	2,883	0	860
Parked Motor Vehicle	0	99	2,046	2,145	0	129
Bicycle	0	102	0	102	0	107
Pedestrian	5	171	1	177	5	181
Deer	0	2	4	6	0	2
Other Animal	0	1	2	3	0	5
Railroad Train	0	0	2	2	0	0
Fixed Object	1	156	771	928	1	186
Non-Fixed Object	0	6	17	23	0	6
Other Collision Type	0	4	27	31	0	8
Unkn Collision Type	0	1	4	5	0	1
Non-Collision:						
Overturn	0	21	23	44	0	31
Other Non-Collision	0	6	3	9	0	6
Unknown Crash Type	2	7	37	46	2	15
Total	8	1,206	5,190	6,404	8	1,537

TABLE 1.15

2009 CRASHES BY TRAFFIC CONTROL DEVICE

Traffic Control Device	Fatal Crashes	Personal Injury Crashes	Property Damage Crashes	Total Crashes	Killed	Injured
Not Applicable	232	11,884	30,298	42,414	264	16,190
Traffic Signal	34	5,600	10,666	16,300	35	7,986
Overhead Flashers	0	15	54	69	0	24
Stop Sign-All Approaches	2	454	1,094	1,550	2	591
Other Stop Sign	77	3,236	6,246	9,559	90	4,893
Yield Sign	6	353	878	1,237	7	508
Flagman, Officer, or School Patrol	1	20	25	46	1	30
School Bus Stop Arm	1	18	25	44	1	24
School Zone Sign	0	6	14	20	0	9
No Passing Zone	8	135	196	339	9	227
RR Crossing Gate	1	7	30	38	1	8
RR Flashing Lights	0	6	11	17	0	8
RR Crossing Stop Sign	2	1	5	8	3	1
RR Overhead Flashing Lights	0	1	2	3	0	1
RR Overhead Lights and Gate	0	9	32	41	0	11
RR Crossbuck	1	4	7	12	1	4
Other Device	3	245	637	885	4	348
Unknown	3	165	748	916	3	211
Total	371	22,159	50,968	73,498	421	31,074

TABLE 1.16

2009 CRASHES BY WEATHER CONDITION

Weather Condition	Fatal Crashes	Personal Injury Crashes	Property Damage Crashes	Total Crashes	Killed	Injured
Clear	244	13,439	28,885	42,568	283	18,808
Cloudy	72	5,282	11,863	17,217	80	7,509
Rain	13	1,297	3,000	4,310	14	1,818
Snow	20	1,382	4,681	6,083	21	1,885
Sleet/Hail/Freezing Rain	4	213	637	854	4	306
Fog/Smog/Smoke	5	100	174	279	5	128
Blowing Sand/Dust/Snow	6	214	597	817	6	301
Severe Crosswinds	0	21	41	62	0	25
Other	0	58	171	229	0	85
Not Stated/Unknown	7	153	919	1,079	8	209
Total	371	22,159	50,968	73,498	421	31,074

TABLE 1.17

CONTRIBUTING FACTORS IN 2009 CRASHES

Contributing Factors	Percent of Factors Cited in Crashes by Severity of Crash: Fatal Crashes	Injury Crashes	Property Damage Crashes	Number of Crashes in which the Factor was Cited: Fatal Crashes	Injury Crashes	Property Damage Crashes	Number of People Affected: Killed	Injured
Human Factors								
Driver Inattention/Distraction	9.4%	20.7%	19.8%	48	5,848	11,193	58	8,354
Failure to Yield Right of Way	13.0	16.3	13.9	67	4,546	7,802	82	6,883
Illegal/Unsafe Speed	15.2	11.1	11.7	80	3,138	6,728	85	4,479
Following Too Closely	0.6	8.1	9.8	3	2,106	5,343	7	3,000
Improper/Unsafe Lane Use	4.1	3.1	5.1	22	890	2,945	25	1,285
Disregard Traf Contr Device	5.5	4.8	3.0	28	1,386	1,707	33	2,227
Driver Inexperience	1.5	2.8	2.4	8	803	1,412	8	1,184
Chemical Impairment	7.3	4.9	2.8	39	1,390	1,584	49	1,947
Improper Turn	1.1	1.4	2.3	6	49	1,321	6	596
Vision Obscured	2.3	1.6	1.7	11	439	896	12	588
Unsafe Backing	0.2	0.3	1.8	1	86	1,007	1	100
Improper Passing/Overtaking	0.8	0.8	1.5	4	224	844	5	301
Overcorrecting	5.5	3.0	2.0	29	869	1,161	29	1,200
Improper Park/Start/Stop	1.1	0.8	1.1	5	229	621	5	325
Driving Left of Ctr(Not Passing)	7.3	0.9	0.5	37	260	294	49	503
Improper/No Signal	0.0	0.1	0.2	0	34	108	0	52
Impeding Traffic	0.0	0.3	0.2	0	78	97	0	136
Driver on Phone or CB Radio	0.4	0.2	0.1	2	48	83	3	71
Failure to Use Lights	0.2	0.2	0.1	1	48	26	3	70
Non-Motorist Error	4.5	1.0	0.3	19	249	136	19	272
Other Human Factor	6.0	3.2	2.1	30	899	1,163	31	1,254
Vehicular Factors								
Skidding	4.3	4.0	5.6	23	1,114	3,111	25	1,518
Defective Equipment	0.6	0.8	0.7	3	240	406	3	346
Other Vehicular Factor	0.2	0.6	0.8	1	170	411	1	219
Miscellaneous Factors								
Weather	3.6	5.2	7.2	17	1,332	3,736	18	1,808
Other	5.3	3.9	3.6	24	986	1,833	25	1,332
Total Percent	100.0%	100.0%	100.0%					
Total Contributing Factors	531	29,387	59,481					
Vehicles Where There Was "No Clear Contributing Factor"	224	16,352	34,421					
Total Number of Vehicles	616	41,186	92,380					

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

2009 CRASHES BY LIGHT CONDITION

Light Condition	Fatal Crashes	Personal Injury Crashes	Property Damage Crashes	Total Crashes	Killed	Injured
Daylight	222	15,492	34,531	50,245	256	21,833
Dawn (Morning)	17	439	1,177	1,633	17	562
Dusk (Evening)	5	579	1,344	1,928	6	807
Dark/Street Lights On	57	3,464	8,765	12,286	65	4,817
Dark/No Street Lights	65	2,087	4,355	6,507	70	2,924
Other/Unknown	5	98	796	899	7	131
Total	371	22,159	50,968	73,498	421	31,074

TABLE 1.19

2009 CRASHES BY ROAD SURFACE CONDITION

Road Surface Condition	Fatal Crashes	Personal Injury Crashes	Property Damage Crashes	Total Crashes	Killed	Injured
Dry	276	14,817	28,990	44,083	313	20,948
Wet	34	2,993	7,062	10,089	42	4,254
Snow/Slush	18	1,467	5,271	6,756	19	1,958
Ice or Packed Snow	33	2,525	8,650	11,208	36	3,447
Other	8	258	483	749	9	340
Not Stated/Unknown	2	99	512	613	2	127
Total	371	22,159	50,968	73,498	421	31,074

TABLE 1.20

2009 CRASHES BY ROAD DESIGN

Road Design	Fatal Crashes	Personal Injury Crashes	Property Damage Crashes	Total Crashes	Killed	Injured
Freeway (Including Ramps)	30	3,254	8,950	12,234	36	4,465
Other Divided Highway	56	3,128	5,749	8,933	64	4,639
One-Way Street	4	506	1,186	1,696	4	661
4-6 Lanes Undivided	32	3,954	8,189	12,175	33	5,558
3 Lanes Undivided	1	219	491	711	1	315
2-Lane--2-Way	233	8,717	18,333	27,283	267	12,272
Alley/Driveway	1	80	271	353	1	95
Other Road Design	14	748	1,654	2,416	15	1,036
Not Stated/Unknown	0	1,553	6,145	7,698	0	2,033
Total	371	22,159	50,968	73,499	421	31,074

TABLE 1.21

2009 CRASHES BY DIAGRAM

Diagram	Fatal Crashes	Personal Injury Crashes	Property Damage Crashes	Total Crashes	Killed	Injured
Rear End	16	6,426	14,477	20,919	19	9,205
Sideswipe Passing	6	928	6,760	7,694	7	1,192
Left Turn -- Oncoming Traffic	4	1,101	2,268	3,373	4	1,622
Ran Off Road - Left	55	1,948	3,495	5,498	57	2,522
Right Angle	82	4,679	8,494	13,255	95	6,990
Right Turn -- Cross Street Traffic	5	227	661	893	5	280
Ran Off Road - Right	57	2,461	4,392	6,910	63	3,090
Head On	61	1,348	2,425	3,834	82	2,197
Sideswipe Opposing	8	421	1,278	1,707	11	632
Other Diagram	59	1,891	4,243	6,193	60	2,446
Not Applicable	12	544	1,396	1,952	12	666
Unknown / Incomplete	6	185	1,079	1,270	6	232
Total	371	22,159	50,968	73,498	421	31,074

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

2009 CRASHES BY POPULATION OF AREA

Population of City or Township	Fatal Crashes	Personal Injury Crashes	Property Damage Crashes	Total Crashes	Killed	Injured
250,000 & Over	29	4,123	11,486	15,638	29	5,628
100,000-249,999	3	427	1,091	1,521	3	571
50,000 - 99,999	21	3,734	8,446	12,201	23	5,176
25,000 - 49,999	19	2,629	6,292	8,940	19	3,583
10,000 - 24,999	35	3,493	8,158	11,686	38	4,781
5,000 - 9,999	12	1,209	2,978	4,199	13	1,704
2,500 - 4,999	16	755	1,939	2,710	20	1,047
1,000 - 2,499	5	402	1,062	1,469	6	573
Under 1,000	231	5,387	9,516	15,134	270	8,011
Total	371	22,159	50,968	73,498	421	31,074

TABLE 1.23

2009 CRASHES BY TYPE OF ROADWAY

Type of Roadway	Fatal Crashes	Personal Injury Crashes	Property Damage Crashes	Total Crashes	Killed	Injured
Urban						
Interstate	13	2,132	6,151	8,296	15	2,883
US Trunk Hwy	9	1,344	3,263	4,616	10	1,902
MN Trunk Hwy	26	2,256	4,917	7,199	26	3,321
County State Aid Hwy	35	4,536	8,882	13,453	37	6,302
County Road	0	120	207	327	0	157
Township Road	0	2	6	8	0	2
Municipal State Aid Hwy	22	3,601	8,944	12,567	23	4,802
Municipal Street	12	1,514	5,701	7,227	12	1,931
Other Road	2	65	313	380	2	85
Urban Total	119	15,570	38,384	54,073	125	21,385
Rural						
Interstate	10	619	1,582	2,211	14	884
US Trunk Hwy	56	1,265	2,316	3,637	69	1,958
MN Trunk Hwy	52	1,558	2,726	4,336	58	2,358
County State Aid Hwy	91	2,057	3,497	5,645	107	2,924
County Road	17	301	448	766	21	460
Township Road	15	468	688	1,171	16	674
Municipal State Aid Hwy	0	15	34	49	0	18
Municipal Street	5	263	1,119	1,387	5	344
Other Road	6	43	174	223	6	69
Rural Total	252	6,589	12,584	19,425	296	9,689
All Roadways						
Interstate	23	2,751	7,733	10,507	29	3,767
US Trunk Hwy	65	2,609	5,579	8,253	79	3,860
MN Trunk Hwy	78	3,814	7,643	11,535	84	5,679
County State Aid Hwy	126	6,593	12,379	19,098	144	9,226
County Road	17	421	655	1,093	21	617
Township Road	15	470	694	1,179	16	676
Municipal State Aid Hwy	22	3,616	8,978	12,616	23	4,820
Municipal Street	17	1,777	6,820	8,614	17	2,275
Other Road	8	108	487	603	8	154
Total	371	22,159	50,968	73,498	421	31,074

("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

2009 COUNTY CRASH REPORT

County	2009 Crashes Fatal	Injury	Property Damage	Total	Total Crashes 2008	Number Killed 2009	Number Killed 2008	Number Injured 2009	Number Injured 2008
Aitkin	3	64	120	187	203	3	6	96	112
Anoka	16	1,168	2,119	3,303	3,676	16	18	1,659	1,892
Becker	5	130	203	338	300	10	6	182	179
Beltrami	1	149	337	487	573	1	4	229	296
Benton	4	162	424	590	612	5	3	249	266
Big Stone	1	22	36	59	71	2	0	30	36
Blue Earth	4	328	848	1,180	1,273	5	6	439	438
Brown	1	89	244	334	337	1	3	118	138
Carlton	4	120	136	260	310	4	1	173	166
Carver	10	251	649	910	1,146	11	10	370	459
Cass	5	94	143	242	264	5	8	134	149
Chippewa	3	59	86	148	123	3	2	102	60
Chisago	3	249	344	596	629	5	7	352	353
Clay	3	232	652	887	913	3	4	303	319
Clearwater	1	34	56	91	88	1	1	47	48
Cook	1	23	51	75	96	1	1	41	46
Cottonwood	0	38	83	121	113	0	2	59	83
Crow Wing	7	267	413	687	756	8	5	368	398
Dakota	10	1,435	3,110	4,555	4,916	13	20	2,022	2,120
Dodge	2	63	118	183	226	2	2	99	104
Douglas	4	187	459	650	757	4	9	250	342
Faribault	1	54	134	189	157	1	2	92	72
Fillmore	3	74	136	213	244	3	11	102	93
Freeborn	6	145	410	561	602	10	12	217	276
Goodhue	7	218	584	809	817	8	4	324	347
Grant	0	29	52	81	76	0	1	40	44
Hennepin	42	6,136	13,732	19,910	20,830	46	53	8,356	8,580
Houston	1	69	193	263	271	1	2	85	90
Hubbard	6	79	76	161	178	7	3	106	107
Isanti	2	127	223	352	335	2	4	199	194
Itasca	8	184	340	532	545	8	5	314	304
Jackson	5	60	94	159	135	6	1	103	45
Kanabec	1	51	89	141	134	1	4	72	81
Kandiyohi	3	209	430	642	618	3	3	314	356

TABLE 1.24 CONTINUED

2009 COUNTY CRASH REPORT

County	2009 Crashes Fatal	Injury	Property Damage	Tota	Total Crashes 2008	Number Killed 2009	Number Killed 2008	Number Injured 2009	Number Injured 2008
Kittson	0	9	17	26	23	0	0	15	26
Koochiching	0	53	73	126	120	0	1	67	67
Lac Qui Parle	1	20	27	48	55	1	2	27	24
Lake	1	37	68	106	117	1	0	71	52
Lake of the Woods	0	12	15	27	31	0	2	24	14
Le Sueur	2	102	246	350	390	2	4	146	149
Lincoln	0	23	48	71	79	0	2	27	31
Lyon	2	89	228	319	304	3	7	139	158
McLeod	3	110	356	469	517	4	1	164	188
Mahnomen	1	15	25	41	56	2	2	34	30
Marshall	1	17	27	45	52	1	0	28	21
Martin	0	84	205	289	304	0	3	121	113
Meeker	4	98	142	244	247	4	4	142	125
Mille Lacs	2	120	132	254	304	2	5	201	218
Morrison	6	126	194	326	397	6	10	178	220
Mower	1	151	333	485	621	2	4	203	195
Murray	0	42	51	93	70	0	0	64	38
Nicollet	7	129	324	460	439	8	1	176	157
Nobles	4	119	256	379	381	7	4	190	170
Norman	1	25	49	75	58	1	2	36	33
Olmsted	12	593	1,394	1,999	2,330	19	7	843	1,025
Otter Tail	12	227	528	767	813	13	5	324	373
Pennington	2	50	83	135	168	2	4	64	83
Pine	3	118	169	290	310	3	7	160	205
Pipestone	2	22	63	87	96	2	0	34	79
Polk	3	106	233	342	362	3	8	154	139
Pope	2	27	73	102	106	2	2	42	60
Ramsey	20	2,312	7,502	9,834	10,939	20	17	3,119	3,455
Red Lake	0	11	16	27	23	0	1	15	15
Redwood	5	56	83	144	134	5	2	81	82
Renville	10	62	86	158	158	12	1	120	80
Rice	4	252	504	760	743	4	12	347	382
Rock	1	38	109	148	173	1	3	54	88

TABLE 1.24 CONTINUED

2009 COUNTY CRASH REPORT

	2009 Crashes				Total	Number	Number	Number	Number
			Property		Crashes	Killed	Killed	Injured	Injured
County	Fatal	Injury	Damage	Total	2008	2009	2008	2009	2008
Roseau	1	27	46	74	98	1	1	33	48
St. Louis	18	857	2,500	3,375	3,456	19	22	1,189	1,276
Scott	7	379	768	1,154	1,192	7	9	541	627
Sherburne	10	302	682	994	1,192	10	8	423	493
Sibley	0	45	97	142	186	0	3	66	80
Stearns	11	717	1,810	2,538	2,571	11	12	957	1,123
Steele	2	154	348	504	541	2	1	216	217
Stevens	0	32	67	99	112	0	0	40	46
Swift	1	22	49	72	67	2	3	27	32
Todd	3	87	148	238	225	4	3	127	129
Traverse	0	13	11	24	34	0	0	15	16
Wabasha	4	84	135	223	250	4	3	133	148
Wadena	2	35	85	122	138	2	1	48	75
Waseca	1	59	176	236	217	1	3	91	93
Washington	8	798	1,728	2,534	2,733	11	9	1,120	1,179
Watonwan	1	47	98	146	133	1	0	72	50
Wilkin	1	29	98	128	126	1	1	46	44
Winona	2	187	462	651	904	2	10	257	312
Wright	14	395	802	1,211	1,564	14	17	567	650
Yellow Medicine	0	36	73	109	109	0	3	50	53
Unknown	0	0	2	2	3	0	0	0	0
Minnesota Totals	371	22,159	50,968	73,498	79,095	421	455	31,074	33,379

TABLE 1.25

2009 CRASHES IN CITIES OF 2,500 OR MORE POPULATION

	Crashes				Persons	
City	Fatal	Personal Injury	Property Damage	Total	Killed	Injured
Afton	1	16	18	35	1	20
Albert Lea	0	65	205	270	0	85
Albertville	1	32	66	99	1	43
Alexandria	1	96	219	316	1	128
Andover	0	62	75	137	0	91
Annandale	0	5	8	13	0	5
Anoka	0	122	300	422	0	169
Appleton	0	3	7	10	0	4
Apple Valley	1	188	325	514	1	257
Arden Hills	0	114	380	494	0	156
Austin	0	79	222	301	0	100
Baxter	1	54	57	112	1	76
Bayport	0	6	18	24	0	9
Becker	0	10	27	37	0	18
Belle Plaine	0	7	18	25	0	11
Bemidji	0	66	194	260	0	106
Benson	0	7	22	29	0	10
Big Lake	0	14	36	50	0	16
Blaine	4	193	297	494	4	296
Bloomington	2	558	1,172	1,732	2	755
Blue Earth	0	9	32	41	0	16
Brainerd	0	73	173	246	0	104
Breckenridge	0	12	43	55	0	22
Brooklyn Center	2	201	388	591	2	287
Brooklyn Park	2	267	220	489	2	395
Buffalo	0	51	75	126	0	74
Burnsville	0	263	563	826	0	383
Byron	0	5	18	23	0	7
Caledonia	0	6	28	34	0	8
Cambridge	0	26	81	107	0	35
Cannon Falls	0	17	34	51	0	19
Carver	0	2	5	7	0	4
Centerville	0	0	3	3	0	0
Champlin	1	49	90	140	1	69
Chanhassen	2	47	201	250	2	60
Chaska	1	52	140	193	1	76
Chatfield	0	3	15	18	0	3
Chisago City	1	15	29	45	1	29
Chisholm	0	12	44	56	0	13
Circle Pines	0	11	20	31	0	13
Cloquet	1	37	43	81	1	56
Cohasset	0	6	7	13	0	15
Cokato	1	2	6	9	1	2
Cold Spring	0	5	29	34	0	6
Columbia Heights	1	55	89	145	1	76
Columbus	2	21	47	70	2	28
Coon Rapids	1	299	621	921	1	397
Corcoran	0	17	52	69	0	19

TABLE 1.25

2009 CRASHES IN CITIES OF 2,500 OR MORE POPULATION

	Crashes				Persons	
City	Fatal	Personal Injury	Property Damage	Total	Killed	Injured
Cottage Grove	0	63	208	271	0	80
Crookston	0	19	62	81	0	27
Crystal	0	77	152	229	0	100
Dayton	2	20	54	76	2	31
Deephaven	0	5	17	22	0	6
Delano	0	8	16	24	0	11
Detroit Lakes	0	45	67	112	0	58
Dilworth	0	5	19	24	0	5
Dodge Center	0	7	10	17	0	10
Duluth	4	409	1,541	1,954	4	572
Eagan	1	191	546	738	1	265
East Bethel	4	27	24	55	4	47
East Grand Forks	0	35	68	103	0	53
Eden Prairie	2	171	451	624	2	226
Edina	0	171	335	506	0	214
Elko/New Market	1	3	3	7	1	5
Elk River	1	103	182	286	1	142
Ely	1	3	25	29	1	5
Eveleth	0	10	44	54	0	13
Fairmont	0	36	114	150	0	46
Falcon Heights	0	12	45	57	0	12
Faribault	2	94	166	262	2	122
Farmington	1	32	70	103	1	53
Fergus Falls	0	53	163	216	0	73
Foley	0	1	9	10	0	2
Forest Lake	1	114	179	294	3	168
Fridley	2	121	211	334	2	170
Glencoe	0	6	37	43	0	11
Glenwood	0	2	25	27	0	3
Golden Valley	2	151	353	506	2	202
Goodview	0	10	17	27	0	13
Grand Rapids	0	67	177	244	0	139
Granite Falls	0	7	20	27	0	8
Grant	0	11	26	37	0	15
Greenfield	0	15	29	44	0	21
Ham Lake	0	34	34	68	0	51
Hanover	0	1	8	9	0	1
Hastings	1	73	183	257	1	102
Hermantown	1	33	84	118	2	41
Hibbing	0	69	188	257	0	93
Hopkins	1	56	102	159	1	73
Hugo	0	24	36	60	0	26
Hutchinson	0	48	131	179	0	65
Independence	3	18	33	54	7	21
International Falls	0	24	46	70	0	29
Inver Grove Heights	1	106	259	366	1	150
Isanti	0	18	24	42	0	25
Jackson	0	9	19	28	0	18

TABLE 1.25

2009 CRASHES IN CITIES OF 2,500 OR MORE POPULATION

	Crashes				Persons	
City	Fatal	Personal Injury	Property Damage	Total	Killed	Injured
Jordan	0	17	33	50	0	20
Kasson	0	11	31	42	0	17
La Crescent	0	6	52	58	0	7
Lake City	0	14	41	55	0	18
Lake Crystal	0	3	18	21	0	4
Lake Elmo	0	33	99	132	0	60
Lakeville	2	97	106	205	4	139
Le Sueur	0	6	32	38	0	8
Lindstrom	0	15	19	34	0	19
Lino Lakes	0	65	173	238	0	83
Litchfield	0	25	54	79	0	33
Little Canada	0	80	191	271	0	99
Little Falls	0	25	60	85	0	29
Long Prairie	0	4	20	24	0	4
Lonsdale	0	3	5	8	0	3
Luverne	0	2	32	34	0	2
Mahtomedi	0	7	23	30	0	10
Mankato	1	229	617	847	1	308
Maple Grove	0	230	559	789	0	321
Maplewood	3	229	537	769	3	318
Marshall	0	40	130	170	0	67
Medina	1	19	69	89	1	25
Melrose	1	13	32	46	1	19
Mendota Heights	1	52	137	190	1	73
Milaca	0	15	24	39	0	19
Minneapolis	17	2,895	6,938	9,850	17	3,951
Minnetonka	0	192	252	444	0	256
Minnetrista	0	21	43	64	0	26
Montevideo	1	20	41	62	1	27
Montgomery	0	5	16	21	0	5
Monticello	1	49	102	152	1	74
Moorhead	0	139	439	578	0	174
Mora	0	13	29	42	0	18
Morris	0	11	48	59	0	12
Mound	0	14	28	42	0	20
Mounds View	0	36	77	113	0	56
Mountain Iron	0	12	25	37	0	16
New Brighton	0	73	206	279	0	89
New Hope	1	45	72	118	1	59
Newport	1	30	62	93	1	36
New Prague	0	9	22	31	0	17
New Ulm	0	44	144	188	0	55
North Branch	0	44	87	131	0	55
Northfield	0	36	69	105	0	49
North Mankato	1	14	82	97	1	16
North Oaks	0	8	14	22	0	10
North St. Paul	0	37	86	123	0	44
Norwood	0	7	11	18	0	14

TABLE 1.25

2009 CRASHES IN CITIES OF 2,500 OR MORE POPULATION

	Crashes				Persons	
City	Fatal	Personal Injury	Property Damage	Total	Killed	Injured
Oakdale	3	92	189	284	3	131
Oak Grove	1	20	27	48	1	39
Oak Park Heights	0	23	68	91	0	32
Olivia	0	6	16	22	0	8
Orono	1	18	60	79	1	21
Otsego	2	26	49	77	2	33
Owatonna	0	87	202	289	0	117
Park Rapids	1	10	7	18	1	15
Perham	0	5	35	40	0	6
Pine City	0	12	18	30	0	19
Pine Island	0	5	19	24	0	9
Pipestone	1	8	29	38	1	12
Plainview	0	4	9	13	0	4
Plymouth	2	176	434	612	2	247
Princeton	1	24	24	49	1	42
Prior Lake	2	40	28	70	2	59
Proctor	0	7	14	21	0	8
Ramsey	0	64	117	181	0	86
Red Wing	0	57	253	310	0	81
Redwood Falls	2	12	33	47	2	21
Richfield	0	177	427	604	0	229
Robbinsdale	0	47	126	173	0	59
Rochester	3	427	1,091	1,521	3	571
Rockford	0	6	16	22	0	6
Rockville	0	7	13	20	0	7
Rogers	0	76	146	222	0	105
Roseau	0	5	10	15	0	5
Rosemount	0	80	139	219	0	109
Roseville	2	155	578	735	2	203
Rush City	0	5	7	12	0	8
St. Anthony	0	25	51	76	0	39
St. Augusta	0	10	13	23	0	11
St. Charles	0	2	17	19	0	4
St. Cloud	0	436	1,158	1,594	0	569
St. Francis	1	19	8	28	1	26
St. James	0	8	28	36	0	10
St. Joseph	0	6	45	51	0	6
St. Louis Park	1	239	556	796	1	349
St. Michael	1	33	79	113	1	50
St. Paul	12	1,228	4,548	5,788	12	1,677
St. Paul Park	0	7	29	36	0	10
St. Peter	1	34	92	127	1	45
Sandstone	0	3	5	8	0	4
Sartell	0	36	87	123	0	45
Sauk Center	0	11	45	56	0	16
Sauk Rapids	0	25	82	107	0	40
Savage	0	83	195	278	0	108
Scandia	0	11	18	29	0	19
Shakopee	1	127	312	440	1	173

TABLE 1.25

2009 CRASHES IN CITIES OF 2,500 OR MORE POPULATION

	Crashes				Persons	
City	Fatal	Personal Injury	Property Damage	Total	Killed	Injured
Shoreview	0	81	206	287	0	116
Shorewood	0	28	64	92	0	34
Sleepy Eye	0	13	27	40	0	18
South St. Paul	1	97	237	335	2	132
Spring Lake Park	0	29	54	83	0	36
Spring Valley	0	10	16	26	0	11
Staples	0	3	12	15	0	3
Stewartville	0	8	23	31	0	12
Stillwater	0	49	144	193	0	64
Thief River Falls	0	32	57	89	0	37
Two Harbors	0	11	24	35	0	15
Vadnais Heights	0	63	169	232	0	77
Victoria	1	25	33	59	1	42
Virginia	0	47	144	191	0	65
Wabasha	0	6	10	16	0	8
Waconia	0	17	50	67	0	21
Wadena	0	12	40	52	0	19
Waite Park	0	55	115	170	0	77
Waseca	0	10	74	84	0	11
Watertown	0	3	19	22	0	4
Wayzata	0	25	94	119	0	28
West St. Paul	1	122	224	347	1	160
White Bear Lake	2	149	342	493	2	197
Willmar	1	114	271	386	1	170
Windom	0	15	34	49	0	19
Winona	2	79	233	314	2	108
Woodbury	0	207	415	622	0	289
Worthington	0	59	135	194	0	89
Wyoming	0	39	57	96	0	62
Zimmerman	0	17	31	48	0	21
Zumbrota	0	5	12	17	0	8

TABLE 1.26

2009 CRASHES BY TIME AND DAY

Hour Begin-Ning	All Days		Sunday		Monday		Tuesday		Wednesday		Thursday		Friday		Saturday	
	Total	Fatal	Total	Fatal	Total	Fatal	Total	Fatal	Total	Fatal	Total	Fatal	Total	Fatal	Total	Fatal
Midnight	1,075	10	245	5	101	0	91	1	114	2	141	1	144	0	239	1
1:00	1,171	8	257	3	102	0	121	2	127	0	148	0	146	0	270	3
2:00	1,235	6	274	0	118	1	116	0	117	1	146	0	170	1	294	3
3:00	926	6	201	1	95	1	115	0	95	0	121	0	115	0	184	4
4:00	842	6	142	1	121	1	95	0	122	2	112	1	100	1	150	0
5:00	1,302	14	145	1	198	2	206	1	173	2	174	2	206	3	200	3
6:00	2,110	17	129	1	316	1	405	0	370	2	340	3	329	3	221	7
7:00	4,119	15	167	2	673	2	815	1	768	3	755	2	641	2	300	3
8:00	4,041	13	185	0	601	2	780	1	746	4	688	1	660	3	381	2
9:00	3,412	14	281	0	457	4	551	3	563	2	552	2	579	1	429	2
10:00	3,452	17	400	6	525	4	457	0	496	3	524	4	522	0	528	0
11:00	3,791	15	464	1	554	3	485	2	570	3	550	0	554	3	614	3
Noon	4,540	18	528	3	682	2	663	4	666	2	674	2	710	3	617	2
1:00	4,285	15	447	2	531	1	660	5	664	2	610	1	762	2	611	2
2:00	4,992	25	473	2	704	1	772	3	765	5	743	5	886	4	649	5
3:00	5,858	32	465	4	859	4	930	6	934	7	982	3	1,103	3	585	5
4:00	5,785	27	416	1	838	5	951	6	969	3	973	2	1,070	5	568	5
5:00	5,896	20	391	1	869	1	1,073	2	993	0	970	4	1,066	6	534	6
6:00	3,967	16	376	3	513	2	675	1	624	1	644	1	710	4	425	4
7:00	2,694	17	289	0	357	1	405	1	377	3	408	3	480	5	378	4
8:00	2,160	15	256	1	267	1	297	2	314	1	356	2	340	2	330	6
9:00	2,250	11	232	1	276	0	318	4	347	1	322	1	426	3	329	1
10:00	1,811	23	162	4	187	1	228	3	255	2	316	3	353	4	310	6
11:00	1,361	11	131	2	125	1	133	0	183	0	189	0	323	4	277	4
Unknown	423	0	46	0	53	0	62	0	74	0	59	0	68	0	61	0
Total	73,498	371	7,102	45	10,122	41	11,404	48	11,426	51	11,497	43	12,463	62	9,484	81

FIGURE 1.03

Total Crashes vs Fatal Crashes, by Time, 2009

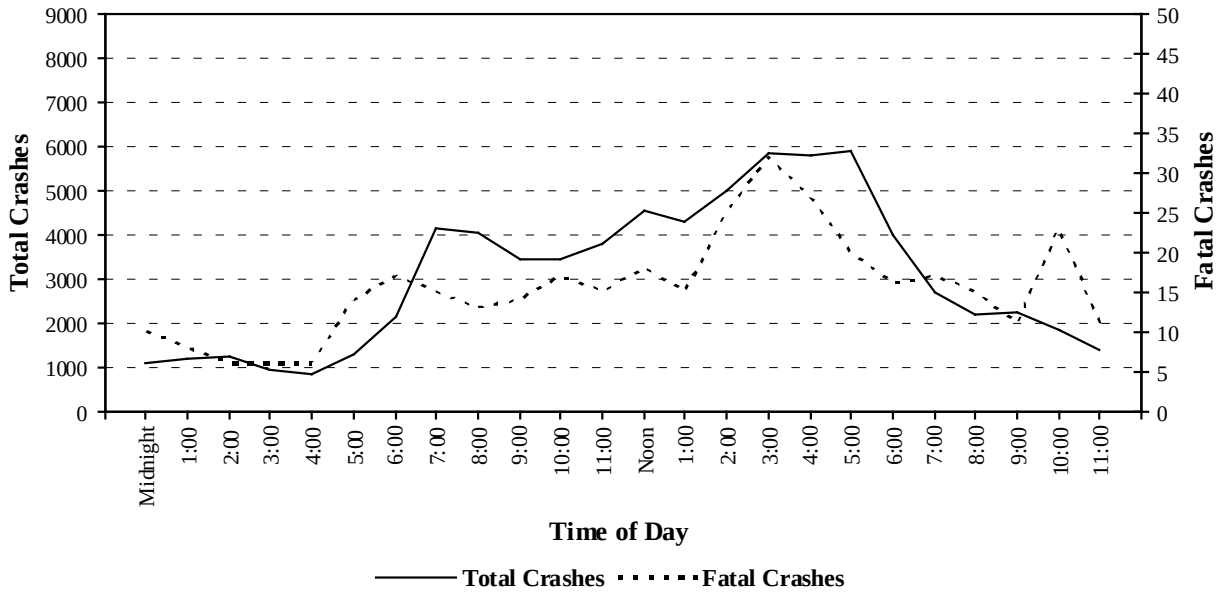


TABLE 1.27

2009 CRASHES, FATALITIES, AND INJURIES BY MONTH

Month	Fatal Crashes	Injury Crashes	Property Damage Crashes	Total Crashes	Killed	Injured
January	23	2,330	7,740	10,093	25	3,213
February	19	1,479	4,011	5,509	21	2,066
March	27	1,511	3,817	5,355	30	2,136
April	26	1,529	2,909	4,464	30	2,184
May	41	1,739	3,295	5,075	46	2,474
June	45	1,940	3,418	5,403	46	2,683
July	37	2,038	3,271	5,346	48	2,935
August	31	1,894	3,458	5,383	39	2,676
September	37	1,827	3,305	5,169	42	2,539
October	28	2,015	4,633	6,676	30	2,857
November	31	1,610	3,807	5,448	34	2,237
December	26	2,247	7,304	9,577	30	3,074
Total	371	22,159	50,968	73,498	421	31,074

TABLE 1.28

HOLIDAY CRASH SUMMARY, 2004 - 2009

Holiday Period	Year	Hours*	Fatal Crashes	Personal Injury Crashes	Property Damage Crashes	Total Crashes	Killed	Injured
Memorial Day	2004	78	6	194	362	562	9	283
(For 2009, the holiday	2005	78	8	177	342	527	9	295
period was 6 pm Fri,	2006	78	3	188	344	535	4	287
May 22 -- midnight	2007	78	5	167	259	431	5	243
Monday, May 25.)	2008	78	2	168	275	445	2	243
	2009	78	9	168	259	436	13	254
July 4th	2004	78	9	235	420	664	9	379
(For 2009, the holiday	2005	78	7	207	336	550	9	332
period was 6 pm Thur,	2006	102	5	266	389	660	5	377
July 2 -- midnight	2007	30	0	73	134	207	0	103
Sunday, July 5.)	2008	78	8	188	247	443	8	290
	2009	78	7	191	263	461	10	303
Labor Day	2004	78	4	213	357	574	4	358
(For 2009, the holiday	2005	78	8	187	315	510	8	269
period was 6 pm Fri,	2006	78	1	182	325	508	1	272
Sept 4 -- midnight	2007	78	6	204	320	530	6	300
Monday, Sept 7.)	2008	78	4	197	252	453	4	286
	2009	78	2	150	218	370	3	197
Thanksgiving	2004	102	10	419	981	1,410	13	646
(For 2009, the holiday	2005	102	8	390	1,066	1,464	11	592
period was 6 pm Wed,	2006	102	8	200	469	677	8	299
Nov 25 – midnight	2007	102	4	203	561	768	4	298
Sunday, Nov 29.)	2008	102	7	251	700	958	7	400
	2009	102	5	168	397	570	5	263
Christmas	2004	78	9	178	511	698	9	284
(For 2009, the holiday	2005	78	1	153	325	479	1	227
period was 6 pm Thur,	2006	78	0	150	333	483	0	214
Dec 24—midnight	2007	102	10	456	1,480	1,946	11	682
Sunday, Dec 27.)	2008	102	3	197	485	685	3	279
	2009	78	1	168	669	838	1	261
New Year's	2004/05	78	3	219	598	820	3	333
(For 2009, the	2005/06	78	6	134	422	562	8	211
holiday period was	2006/07	78	8	286	735	1,029	9	451
6 pm Thur, Dec 31 --	2007/08	102	4	174	525	703	4	263
Midnight Sunday,	2008/09	102	3	305	989	1,297	3	467
January 3, 2010.)	2009/10	78	3	133	495	631	4	197

* 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 2009
Drinking and driving remains a serious problem in Minnesota and across the nation. For 2009, the National Safety Council has made a conservative estimate of $256 million as the cost of alcohol-related crashes in Minnesota. Predictably, there is a strong positive relationship between alcohol use and crash severity. That is, as crash severity increases, alcohol is more likely to have been a factor in the crash. Last year, 6% of minor injuries, 12% of moderate injuries, 22% of severe injuries, and 34% of deaths were alcohol-related. In all, 141 known people died and 2,592 known people were injured in crashes classified as alcohol-related. (NHTSA estimates will be higher).

Impaired driving incidents (DWIs) decrease
There were 32,756 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 67% of the DWI offenders last year, however, females are getting arrested more often. In 2009, they accounted for 24% of the incidents. (10 years ago, they were 19% of the offenders.) Impaired driving is especially a problem among young adults. A person can legally buy alcohol at age 21 (raised from 19 in 1986), and drinking and driving too often follows that. Last year, 21-to-34 year-olds committed fully 52% of the incidents on record. Drivers under age 21 accounted for 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 31% of all traffic deaths, and for fully 43% 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, 97 (69%) of the 141 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 44 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 61% of the alcohol-related crashes. The late night hours 9 p.m.-3 a.m. accounted for 12% of all crashes, but 50% of the alcohol crashes.

Fatal alcohol crashes usually involve just one vehicle
Of the 127 alcohol-related fatal crashes in 2009, 95 (75%) involved just one motor vehicle in transport. Of the 95 single vehicle alcohol-related fatal crashes, 44 involved a single vehicle colliding with a fixed object, and 29 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 2009, there were 266 motor vehicle drivers who were killed. (Note that this total does not include pedestrians or bicyclists). Of the 266 killed drivers, the Department of Public Safety was able to get alcohol test results for 236 (89%). Of the 236 tested, 160 (68%) tested negative, 13 (5%) tested between .01 and .07, 4 (2%) tested between .08 and .09, and 59 (25%) tested .10 or greater.

Majority of alcohol-related fatalities test above the legal limit
The 141 alcohol-related fatalities in 2009 consisted of 70 car or truck drivers, 28 car or truck passengers, 19 motorcycle drivers, three motorcycle passengers, five ATV drivers, 12 pedestrians, three bicyclists, and one ATV passenger. Of the 141, the Department of Public Safety was able to get alcohol test results for 120. Of these, 89 (74%) 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 continue to help this downward trend continue.

TABLE 2.01

ALCOHOL-RELATED FATAL CRASH SUMMARY, 1980 - 2009

	Alcohol Concentration Test Results on Fatally Injured Drivers Only										All Traffic Fatalities				
	Drivers Killed			Results on Drivers Tested								Alcohol-Related Fatalities			
	Total	Tested for Alcohol		Negative for Alcohol		.01 to 09 Alcohol				.10 or Higher Alcohol		Total	Known *		Estimated **	
Year		number	% of total	number	% of tested	number	% of tested			number	% of tested		number	% of total	number	% of total
1980	519	337	65	103	31	37	11			197	58	863				
1981	437	288	66	110	38	28	10			150	52	763				
1982	321	232	72	106	46	14	6			112	48	581			322	56
1983	345	258	75	113	44	28	11			117	45	558			314	56
1984	383	318	83	133	42	36	11			149	47	584	305	52	332	57
1985	372	295	79	156	53	31	10			108	37	610	261	43	287	47
1986	347	281	81	143	51	24	8			114	41	572	264	46	284	50
1987	297	265	89	132	50	18	7			115	43	530	224	42	248	47
1988	361	313	87	163	52	32	10			118	38	615	277	45	294	48
1989	368	313	85	158	51	26	8			129	41	605	275	45	289	48
						.01 to .07		.08 to 09								
1990	334	260	78	129	50	19	7	4	2	108	41	568	235	41	258	46
1991	327	242	74	135	56	20	8	2	1	85	35	531	212	40	233	44
1992	344	237	69	135	57	9	3	6	2	89	38	581	229	39	240	41
1993	355	283	80	174	61	14	5	5	2	90	32	538	196	36	216	40
1994	377	303	80	183	60	16	5	7	3	97	32	644	226	35	250	39
1995	383	343	90	198	58	22	7	8	2	115	34	597	246	41	269	45
1996	359	314	87	209	67	16	5	6	2	83	26	576	205	36	222	38
1997	384	345	90	226	66	15	5	4	1	100	29	600	178	30	197	33
1998	406	369	91	218	59	23	6	6	2	122	33	650	273	42	285	44
1999	426	370	87	254	69	9	2	7	2	100	27	626	195	31	206	33
2000	403	375	93	226	60	16	4	6	2	127	34	625	245	39	258	41
2001	361	322	89	198	62	17	5	6	2	101	31	568	211	37	226	40
2002	430	365	85	223	61	21	6	3	1	118	32	657	239	36	255	39
2003	435	376	86	219	58	18	5	5	1	134	36	655	255	39	267	41
2004	389	337	87	219	65	11	3	4	1	103	31	567	177	31	184	32
2005	379	348	92	213	61	17	5	5	1	113	33	559	197	35	201	36
2006	346	321	93	207	64	15	5	5	2	94	29	494	166	34	183	37
2007	381	336	88	207	62	15	4	7	2	107	32	510	190	37	198	39
2008	316	286	90	176	62	15	5	6	2	89	31	455	163	36	172	38
2009	266	236	89	160	68	13	5	4	2	59	25	421	141	34	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, 1993 - 2009

		Gender						Area of State			
		Male		Female		Not Stated		Metro		Non-Metro	
Year	Total	Number	Percent	Number	Percent	Number	Percent	Number	Percent	Number	Percent
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
2009	32,756	22,078	67.4	7,906	24.1	2,772	8.5	16,253	49.6	16,503	50.4

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

TABLE 2.03

IMPAIRED DRIVING INCIDENTS ("DWIs") FOR SELECTED AGE GROUPS, 1993 - 2009

		Age										
Year	Total	0-14	15	16	17	18	19	20	Total Under 21	21-34	35-49	50 & Older
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
2009	32,756	6	6	75	197	524	801	896	2,505	17,165	9,196	3,889

FIGURE 2.01

PERCENT OF IMPAIRED DRIVING INCIDENTS ("DWIs") COMMITTED BY OFFENDERS IN FOUR AGE GROUPS, 1990 - 2009

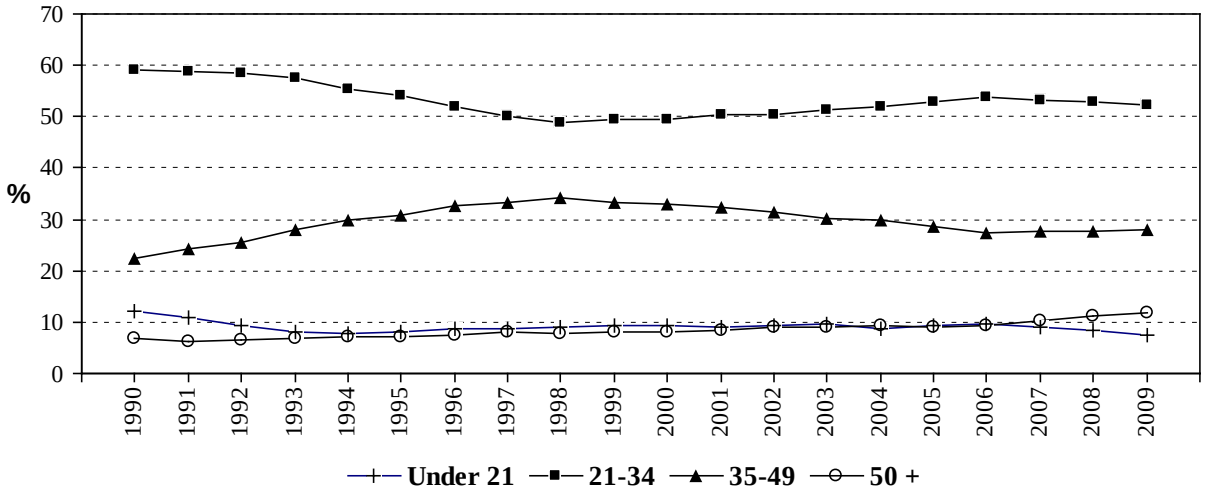


TABLE 2.04

IMPAIRED DRIVING INCIDENTS ("DWIs") BY AGE, 1993 - 2009

	Age Group																
Year	**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+**	**Total**
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
2009	6	1,603	7,570	6,394	4,097	3,386	2,937	2,873	1,893	1,055	541	225	119	37	12	7	32,756

TABLE 2.05

AGE OF PERSONS KILLED AND INJURED IN ALL CRASHES AND IN ALCOHOL - RELATED CRASHES, 2009

	Persons Killed		Persons Injured by Severity						Total Persons Injured	
			Severe		Moderate		Minor			
Age Group	All	Alcohol-Related[1]	All	Alcohol-Related[2]	All	Alcohol-Related[2]	All	Alcohol-Related[2]	All	Alcohol-Related[2]
00 – 04	10	2	4	0	59	2	385	11	448	13
05 - 09	4	0	25	0	145	11	503	15	673	26
10 - 14	5	0	28	0	212	5	689	21	929	26
15	3	0	14	0	99	5	226	7	339	12
16	5	0	35	3	211	10	618	18	864	31
17	8	4	38	4	235	16	691	39	964	59
18	8	1	47	9	263	24	764	43	1,074	76
19	14	7	27	3	244	45	696	64	967	112
20	7	2	36	9	268	44	661	62	965	115
Under 21:	64	16	254	28	1,736	162	5,233	280	7,223	470
00 - 14	19	2	57	0	416	18	1,577	47	2,050	65
15 - 19	38	12	161	19	1,052	100	2,995	171	4,208	290
20 - 24	38	19	164	59	1,102	212	2,939	327	4,205	598
25 - 29	30	19	132	43	800	168	2,322	208	3,254	419
30 - 34	24	10	90	30	577	94	1,771	149	2,438	273
35 - 39	30	12	87	28	556	78	1,588	84	2,231	190
40 - 44	35	18	93	23	564	72	1,494	88	2,151	183
45 - 49	37	20	104	21	559	65	1,611	100	2,274	186
50 - 54	26	14	98	22	513	60	1,440	58	2,051	140
55 - 59	30	7	78	10	406	28	1,236	54	1,720	92
60 - 64	30	4	73	12	338	14	836	28	1,247	54
65 - 69	12	0	31	5	222	13	529	23	782	41
70 - 74	15	2	24	1	173	6	377	7	574	14
75 - 79	14	0	31	2	138	4	350	6	519	12
80 - 84	20	0	21	1	109	4	226	1	356	6
85 & Older	23	2	8	0	70	0	165	3	243	3
Not Stated	0	0	19	3	119	7	633	16	771	26
Total	421	141	1,271	279	7,714	943	22,089	1,370	31,074	2,592

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

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

***** As shown, there were 141 alcohol-related traffic deaths in the year 2009. Twelve of those deaths were to pedestrians, and 11 of those 12 pedestrians were drinking. In 4 of the 11 fatal crashes involving a drinking pedestrian, the motor vehicle driver had also been drinking. Additionally, three bicyclists were among the 141 alcohol-related deaths. In two of those crashes, the bicyclist was drinking but the motor vehicle driver was not. In the other crash, the bicyclist was not drinking but the motor vehicle driver was.

TABLE 2.06

2009 ALCOHOL - RELATED FATALITIES' LEVEL OF ALCOHOL CONCENTRATION BY TRAFFIC ROLE

Traffic Role	Killed	Tested	.00	.01 - .07	.08 - .09	.10 +
Car or Truck Driver	70	62	8	7	2	45
Car or Truck Passenger	28	19	7	1	0	11
Motorcycle Driver	19	18	1	6	2	9
Motorcycle Passenger	3	2	0	0	0	2
ATV Driver	5	5	0	0	0	5
ATV Passenger	1	0	0	0	0	0
Pedestrian	12	11	0	0	1	10
Bicyclist	3	3	1	0	0	2
Total	141	120	17	14	5	84

TABLE 2.07

PERCENT OF DEATHS, INJURIES, AND PROPERTY DAMAGE CRASHES DETERMINED TO BE ALCOHOL - RELATED, 2000 - 2009

	2000	2001	2002	2003	2004	2005	2006	2007	2008	2009
Deaths* (Known)	39%	37%	36%	39%	31%	35%	34%	37%	36%	34%
(Estimated)	41%	40%	39%	41%	32%	36%	37%	39%	38%	NA
Injuries**	10%	10%	10%	NA	9%	9%	10%	9%	9%	8%
PDO Crashes**	4%	4%	4%	NA	3%	4%	4%	4%	4%	4%

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

** Based only on police officer's perception of possible alcohol involvement. (PDO = Property Damage Only).

TABLE 2.08

FIRST HARMFUL EVENT IN ALCOHOL-RELATED FATAL CRASHES AND ALL FATAL CRASHES, 2009

	All Fatal Crashes		Alcohol-Related Fatal Crashes *	
First Harmful Event	**Number**	**Percent**	**Number**	**Percent**
Collision with:				
Another Motor Vehicle	153	41.2%	32	25.2%
Parked Motor Vehicle	3	0.8	1	0.8
Train	4	1.1	0	0.0
Bicyclist	10	2.7	3	2.4
Pedestrian	39	10.5	12	9.4
Deer	4	1.1	2	1.6
Fixed Object	79	21.3	44	34.6
Other Collision Type	4	1.1	1	0.8
Non-Collision:				
Overturn	62	16.7	29	22.8
Submersion	2	0.5	2	1.6
Other Type Non-Collision	4	1.1	0	0.0
Unknown	7	1.9	1	0.8
Total	371	100.0%	127	100.0%

* 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, 2000 - 2009

Year	Killed	Tested	.00	.01 - .07	.08 - .09	.10 +
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%)
2009	266	236	160 (68%)	13 (5%)	4 (2%)	59 (25%)

* Percents based on drivers tested.

TABLE 2.10

DRIVERS KILLED WHO TESTED .01 OR HIGHER, 2000 - 2009 ("Any Alcohol")

Year	Total	Male		Female		Occurred Between Midnight - 3 AM		Under Legal Age	
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%)
2009	76	63	(83%)	13	(17%)	12	(16%)	7	(9%)

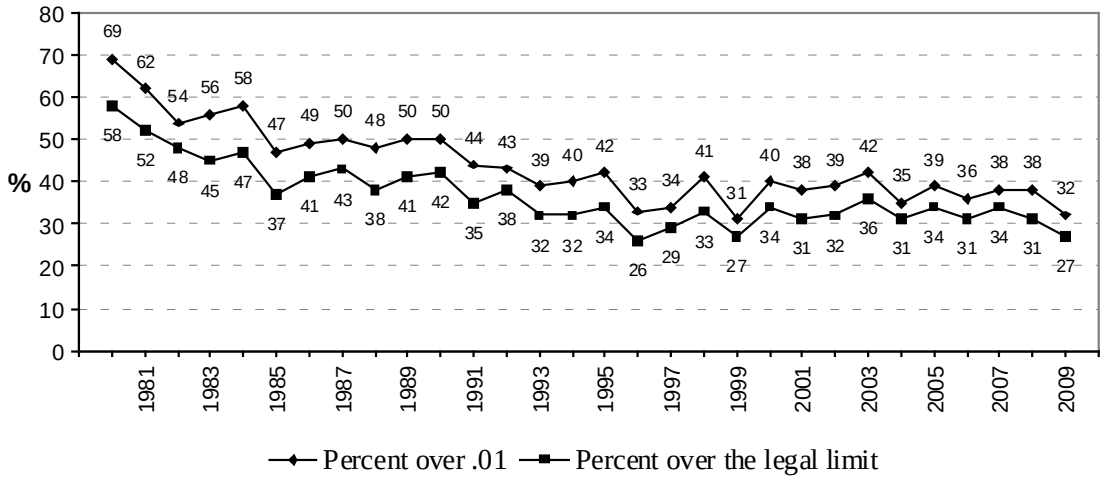
TABLE 2.11

DRIVERS KILLED WHO TESTED OVER THE LEGAL LIMIT, 2000 - 2009 (The legal limit in Minnesota was lowered to .08 in mid-2005)

Year	Total	Male		Female		Occurred Between Midnight - 3 AM		Under Legal Age	
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%)
2009	63	53	(84%)	10	(16%)	11	(17%)	6	(10%)

FIGURE 2.02

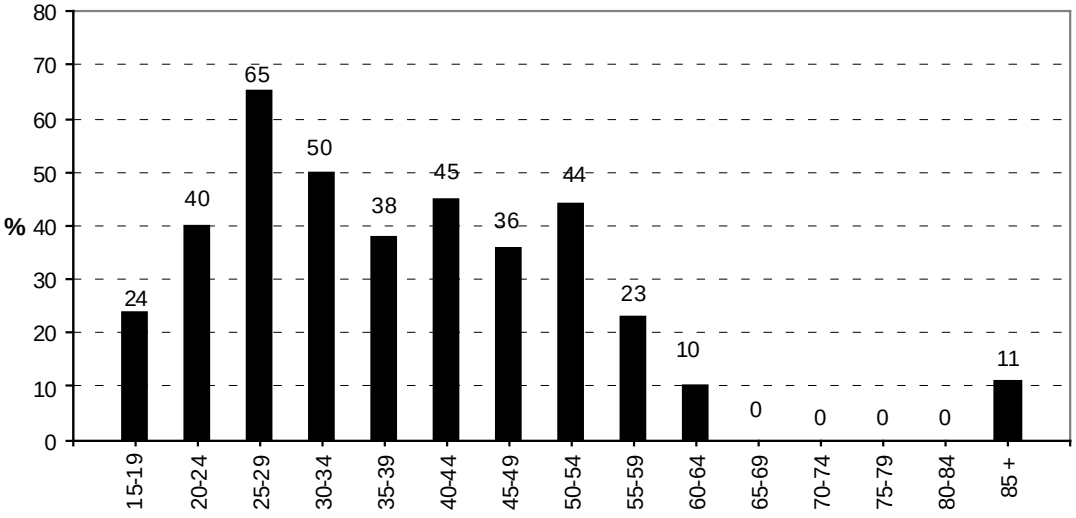
Killed Drivers Tested for Alcohol: 1980 - 2009
Percent Over .01 Alcohol Level and Percent Over Legal Limit
(The legal limit in Minnesota was lowered to .08 in 2005)



Year	Percent over .01	Percent over the legal limit
1980	69	58
1981	62	52
1982	54	48
1983	56	45
1984	58	47
1985	47	37
1986	49	41
1987	50	43
1988	48	38
1989	50	41
1990	50	42
1991	44	35
1992	43	38
1993	39	32
1994	40	32
1995	42	34
1996	33	26
1997	34	29
1998	41	33
1999	31	27
2000	40	34
2001	38	31
2002	39	32
2003	42	36
2004	35	31
2005	39	34
2006	36	31
2007	38	34
2008	38	31
2009	32	27

FIGURE 2.03

Percent of Drivers Killed Who Had Been Drinking, by Age, 2009



Age Group	%
15-19	24
20-24	40
25-29	65
30-34	50
35-39	38
40-44	45
45-49	36
50-54	44
55-59	23
60-64	10
65-69	0
70-74	0
75-79	0
80-84	0
85 +	11

TABLE 2.12

2009 DRIVER FATALITIES' LEVEL OF ALCOHOL CONCENTRATION BY AGE

Age	Killed	Tested	Alcohol Concentration								Alcohol Concentration						
			.00		.01 - .07		.08 - .09		.10 +								
			number	percent	number	percent	number	percent	number	percent	.00	.01-.04	.05-.09	.10-.14	.15-.19	.20-.24	.25 +
00 - 14	0	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	0
16	2	2	2		0		0		0		2	0	0	0	0	0	0
17	5	5	4		0		0		1		4	0	0	0	0	1	0
18	6	6	5		0		0		1		5	0	0	0	0	0	1
19	8	8	5		0		0		3		5	0	0	0	1	2	0
20	4	4	2		1		0		1		2	0	1	0	0	0	1
Under 21	25	25	18		1		0		6		18	0	1	0	1	3	2
00 - 14	0	0	0	0.0	0	0.0	0	0.0	0	0.0	0	0	0	0	0	0	0
15 - 19	21	21	16	76.2	0	0.0	0	0.0	5	23.8	16	0	0	0	1	3	1
20 - 24	26	25	15	60.0	3	12.0	0	0.0	7	28.0	15	0	3	1	2	3	1
25 - 29	20	20	7	35.0	3	15.0	1	5.0	9	45.0	7	3	1	1	0	3	5
30 - 34	16	14	7	50.0	0	0.0	0	0.0	7	50.0	7	0	0	0	1	3	3
35 - 39	27	26	16	61.5	1	3.8	1	3.8	8	30.8	16	1	1	0	3	2	3
40 - 44	22	22	12	54.6	2	9.1	0	0.0	8	36.7	12	2	0	2	2	2	2
45 - 49	25	22	14	63.6	2	9.1	0	0.0	6	27.3	14	1	1	3	0	3	0
50 - 54	17	16	9	56.2	1	6.2	0	0.0	6	37.5	9	0	1	2	3	1	0
55 - 59	18	13	10	76.9	0	0.0	1	7.7	2	15.4	10	0	1	1	1	0	0
60 - 64	25	20	18	90.0	0	0.0	1	5.0	1	5.0	18	0	1	0	0	1	0
65 - 69	9	8	8	100.0	0	0.0	0	0.0	0	0.0	8	0	0	0	0	0	0
70 - 74	8	8	8	100.0	0	0.0	0	0.0	0	0.0	8	0	0	0	0	0	0
75 - 79	7	2	2	100.0	0	0.0	0	0.0	0	0.0	2	0	0	0	0	0	0
80 - 84	15	10	10	100.0	0	0.0	0	0.0	0	0.0	10	0	0	0	0	0	0
85 +	10	9	8	88.9	1	11.1	0	0.0	0	0.0	8	0	1	0	0	0	0
Total	266	236	160	67.8	13	5.5	4	1.7	59	25.0	160	7	10	10	13	21	15

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

TABLE 2.13

2009 ALCOHOL - RELATED CRASHES BY MONTH

Month	Fatal Crashes	Injury Crashes	Property Damage Crashes	Total Crashes	Killed	Injured
January	7	131	255	393	7	203
February	5	116	139	260	5	167
March	7	131	149	287	8	189
April	9	146	161	316	10	218
May	20	160	147	327	25	230
June	20	163	160	343	20	205
July	13	182	139	334	16	271
August	10	167	162	339	12	228
September	11	146	136	293	11	199
October	12	182	188	382	12	257
November	7	158	138	303	7	220
December	6	141	207	354	8	205
Total	127	1,823	1,981	3,931	141	2,592

TABLE 2.14

2009 ALCOHOL - RELATED CRASHES BY ROADWAY TYPE

Roadway Type	Fatal Crashes	Injury Crashes	Property Damage Crashes	Total Crashes	Killed	Injured
Urban Interstate	3	139	251	393	3	204
Rural Interstate	2	33	31	66	2	39
Urban US Trunk Hwy	2	83	95	180	2	125
Rural US Trunk Hwy	15	98	80	193	20	140
Urban MN Trunk Hwy	11	122	137	270	11	175
Rural MN Trunk Hwy	13	167	124	304	14	241
County State Aid Hwy	49	570	445	1,064	55	830
County Road	8	75	37	120	8	113
Township Road	9	93	48	150	10	136
Mun State Aid Hwy	7	243	346	596	8	330
Municipal Street	4	191	368	563	4	246
Other	4	9	19	32	4	13
Total	127	1,823	1,981	3,931	141	2,592

FIGURE 2.04

2009 Alcohol-Related Crashes by Time of Day

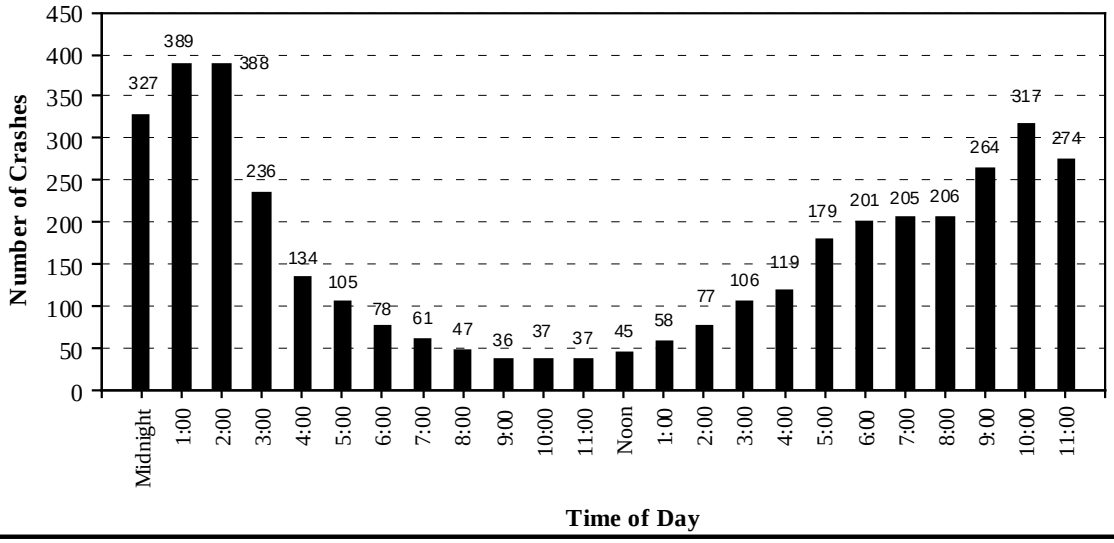


FIGURE 2.05

2009 Alcohol-Related Crashes by Day of Week

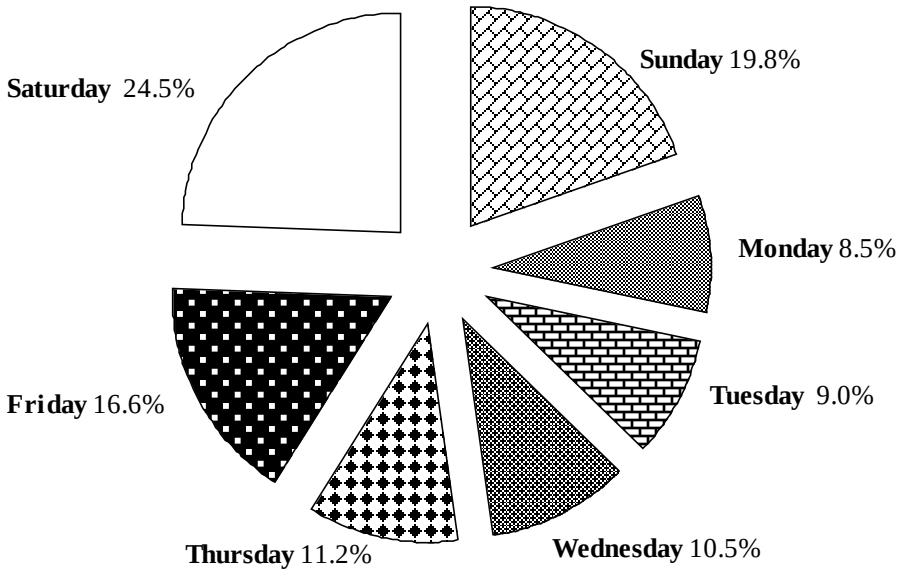


TABLE 2.15

2009 ALCOHOL-RELATED CRASHES BY TIME OF DAY AND DAY OF WEEK

Hour Beginning	Sun-day	Mon-day	Tues-day	Wednes-day	Thurs-day	Fri-day	Satur-day	Total Crashes	Total Killed	Total Injured
Midnight	84	29	21	29	36	50	78	327	7	205
1:00 AM	94	21	35	32	44	52	111	389	8	231
2:00 AM	102	30	25	28	36	50	117	388	8	270
3:00 AM	79	17	9	15	17	23	76	236	6	160
4:00 AM	54	11	2	15	12	9	31	134	6	74
5:00 AM	37	6	7	8	3	13	31	105	9	68
6:00 AM	22	7	3	4	8	8	26	78	5	54
7:00 AM	17	6	5	7	5	8	13	61	1	36
8:00 AM	9	2	4	8	5	3	16	47	2	23
9:00 AM	14	1	2	3	2	6	8	36	3	22
10:00 AM	6	4	1	2	6	12	6	37	1	16
11:00 AM	8	3	4	2	1	6	13	37	2	23
Noon	12	5	6	5	6	4	7	45	1	26
1:00 PM	7	5	4	12	9	9	12	58	0	41
2:00 PM	12	11	5	10	11	9	19	77	7	48
3:00 PM	17	9	13	13	11	21	22	106	9	66
4:00 PM	16	9	17	12	18	17	30	119	4	73
5:00 PM	27	16	24	20	22	35	35	179	4	117
6:00 PM	21	33	23	30	22	33	39	201	8	131
7:00 PM	31	20	21	24	24	40	45	205	9	150
8:00 PM	26	22	21	22	28	38	49	206	10	159
9:00 PM	22	19	30	38	40	58	57	264	3	195
10:00 PM	32	25	45	37	44	77	57	317	17	209
11:00 PM	27	23	24	35	31	69	65	274	11	192
Unknown	1	0	2	0	1	1	0	5	0	3
Total	777	334	353	411	442	651	963	3,931	141	2,592

III: SAFETY EQUIPMENT USE BY VEHICLE OCCUPANTS IN 2009 CRASHES

A brief history of restraint legislation

Studies estimate that using safety restraint devices reduces the risk of death and serious injury by 40% to 60%. In view of this, the Minnesota Legislature enacted laws mandating safety equipment use. The Child Passenger Protection Act took effect in 1982, and was amended in 1983 and 1987. It requires children under the age of four to be properly restrained in a federally approved child car seat. The state's safety belt law went into effect in 1986 and was amended in 1988 and 1991. The law requires all front seat occupants (and children ages four through ten, regardless of seating position) to be restrained. The 1986 belt law was 'Secondary' in nature. Thus, an officer could not issue a citation for non-belt use unless there was another moving violation. In 2009 the law was updated to 'Primary'. In addition, children aged 4 through 7 must now be properly restrained in a 'booster seat'.

Tables in this section focus on restraint use by people in crashes who were occupants of motor vehicles normally equipped with seat belts. The data pose one problem in that restraint use was reported as "unknown" for 13.9% of the persons killed and 11.2% of the persons injured in 2009.

Restraint use responds to legislation

Observational surveys of safety belt use conducted annually at random sites around Minnesota show that legislation affects safety belt wearing behavior, thus, saving lives and preventing injuries. In June 1986, before the first safety belt law took effect, 20% of front seat vehicle occupants used belts. The usage rate jumped to 33% after the 1986 law took effect; to 47% after a $10 fine was added in 1988; and to 55% after the fine was increased to $25 in 1991. In 1993 the fine for a child safety seat violation was raised to $50 which also helped increase the overall seat belt usage rate. Minnesota's 'Primary' seat belt law took effect on June 9th, 2009. In August, the observational seat belt study revealed a 90% usage rate.

Occupant fatalities decrease in 2009

In 2009, 302 motor vehicle occupants died in crashes which represents a 7% decrease from the previous year. And, vehicle occupants injured (27,546) also decreased 7% from 2008. The worsening economy in 2009 was a likely factor, 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 2009, that number decreased to 917. This is encouraging news. By definition, minor (or "possible") and moderate (or "non-incapacitating") injuries do not produce long-term and severe suffering, while severe injuries often cause such suffering, including consequences such as permanent brain damage and dismemberment.

Northwest region/Township roads

Among the motor vehicle occupants that were killed or injured in the northwest region of Minnesota, 22% were not using a restraint. This is the highest rate of non-use of any region. The southwest region was second highest: 17%. The seven-county metro area had the lowest rate of non-use: just 6%. Concerning types of roadway, 'Township Roads' had the highest percentage of non-seat belt use (24%).

Ejection update: always wear your seat belt

Of the 302 occupants killed in 2009, one-fourth were ejected or partially ejected from the vehicles they were riding in. And, 92% of these ejected fatalities were not wearing a seat belt.

Airbag update: always wear your seat belt

In 2009, airbag deployment was reported 13,485 times when the occupant was also wearing a seat belt. Fifty-four percent of these incidents resulted in no apparent injury. Airbags deployed 966 times when occupants were not wearing seat belts. Only 28% of these cases resulted in no apparent injury.

TABLE 3.01

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

Date of Survey	Area of State			Class of Roadway	
	Overall	Metro	Non-Metro	Major Roads	Local Roads
June 1986	20%	30%	15%	23%	17%
August 1986	33	43	26	35	31
August 1987	32	40	28	35	29
August 1988	47	51	45	48	46
August 1989	44	52	40	44	45
August 1990	47	54	42	49	46
August 1991	53	62	47	53	52
August 1992	51	62	46	55	48
August 1993	55	59	52	57	53
August 1994*	57	58	54	65	54
August 1995	65	68	56	68	64
August 1996	64	67	58	68	62
August 1997	65	67	59	69	63
August 1998	64	67	56	68	63
August 1999	72	73	68	72	68
August 2000	73	74	69	75	71
August 2001	74	75	72	75	69
August 2002	80	83	72	81	76

Date of Survey	Overall	Vehicle Type				Gender	
		Car	SUV	Van	Pickup	Male	Female
August 2003	79%	82%	79%	83%	69%	76%	83%
August 2004	82	83	87	87	71	78	88
August 2005	84	86	87	83	75	80	89
August 2006	83	83	87	88	76	79	88
August 2007**	88	89	90	90	81	84	92
August 2008	87	88	92	88	76	83	92
August 2009	90	91	91	95	84	89	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, 2009

	Killed		Severe Injury		Moderate Injury		Minor Injury		Total Persons Killed or Injured	
Ejection Status	**Number**	**Percent**	**Number**	**Percent**	**Number**	**Percent**	**Number**	**Percent**	**Number**	**Percent**
Not Ejected	218	72.2	757	82.6	5,990	93.3	19,130	94.7	26,095	93.7
Partly Ejected	18	6.0	24	2.6	18	0.3	19	0.1	79	0.3
Ejected	57	18.9	99	10.8	122	1.9	131	0.6	409	1.5
Not Stated	9	3.0	37	4.0	293	4.6	926	4.6	1,265	4.5
Total	302	100%	917	100%	6,423	100%	20,206	100%	27,848	100%

TABLE 3.03

MOTOR VEHICLE OCCUPANTS KILLED OR INJURED, BY AGE AND INJURY SEVERITY, 2009

		Injured			
Age Group	**Killed**	**Severe**	**Moderate**	**Minor**	**Total**
00 - 04	6	2	47	360	409
05 - 09	2	15	105	424	544
10 - 14	4	11	129	507	647
15 - 19	33	126	920	2,795	3,841
20 - 24	26	128	925	2,717	3,770
25 - 29	24	109	690	2,140	2,939
30 - 34	20	69	493	1,653	2,215
35 - 39	23	68	479	1,471	2,018
40 - 44	18	64	452	1,359	1,875
45 - 49	23	61	447	1,457	1,965
50 - 54	14	64	403	1,296	1,763
55 - 59	20	52	323	1,126	1,501
60 - 64	21	45	281	757	1,083
65 - 69	10	21	188	489	698
70 - 74	12	22	148	359	529
75 - 79	10	28	126	339	493
80 - 84	16	17	100	217	334
85 & Older	20	5	65	164	234
Not Stated	0	10	102	576	688
Total	302	917	6,423	20,206	27,546

FIGURE 3.01
Safety Equipment Use Among Motor Vehicle Occupants Killed or Injured, by Age, 2009

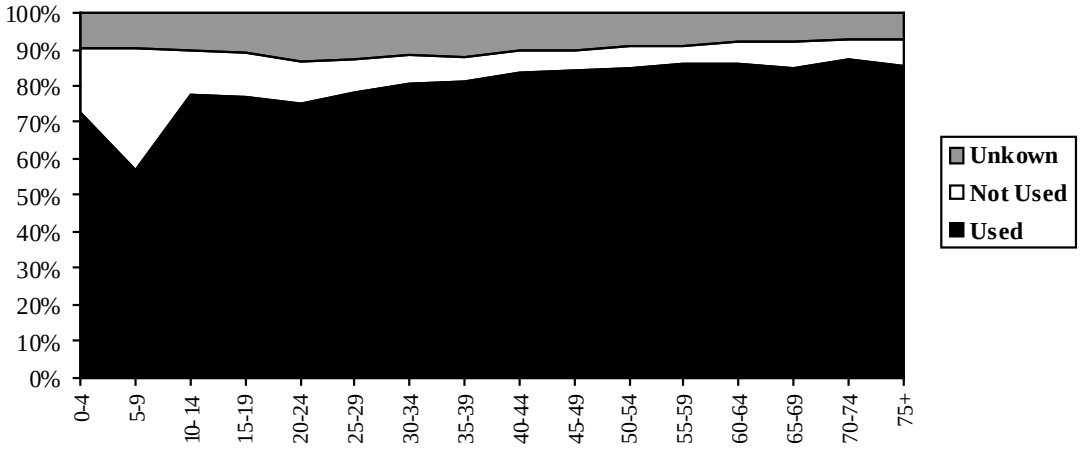


TABLE 3.04

SAFETY EQUIPMENT USE BY VEHICLE OCCUPANTS, BY GENDER AND INJURY SEVERITY, 2009

	Killed			Injured						
				Severe		Moderate		Minor		
	Female	Male	Total	Female	Male	Female	Male	Female	Male	Total
Used	55	73	128	270	235	2,657	2,107	9,790	6,836	22,074
Not Used	34	98	132	92	163	323	499	602	699	2,397
Unknown	19	23	42	54	100	351	446	985	986	3,075
Total	108	194	302	416	498	3,331	3,052	11,337	8,521	27,546

Note: Gender was not reported for 351 persons injured (mostly those with minor injuries), causing the "Total" to be 351 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, 2009

Age Group	Restraint Use	Killed #	Killed %	Injured Severe #	Injured Severe %	Injured Moderate #	Injured Moderate %	Injured Minor #	Injured Minor %	Injured Total #	Injured Total %
00 - 03	Used	1	20.0	1	50.0	18	58.1	222	77.9	241	75.8
Years	Not Used	2	40.0	1	50.0	8	25.8	42	14.7	51	16.0
	Unknown	2	40.0	0	0.0	5	16.1	21	7.4	26	8.2
	Subtotal	5	100.0	2	100.0	31	100.0	285	100.0	318	100.0
04 – 07	Used	1	50.0	3	30.0	39	52.0	145	46.6	187	47.2
Years	Not Used	0	0.0	6	60.0	33	44.0	130	41.8	169	42.7
	Unknown	1	50.0	1	10.0	3	4.0	36	11.6	40	10.1
	Subtotal	2	100.0	10	100.0	75	100.0	311	100.0	396	100.0
Total	Used	2	28.6	4	33.3	57	53.8	367	61.6	428	59.9
00 - 07	Not Used	2	28.6	7	58.3	41	38.7	172	28.9	220	30.8
Years	Unknown	3	42.9	1	8.3	8	7.6	57	9.6	66	9.2
	Subtotal	7	100.0	12	100.0	106	100.0	596	100.0	714	100.0
00 - 04	Used	2	33.3	1	50.0	31	66.0	268	74.4	300	73.4
Years	Not Used	2	33.3	1	50.0	11	23.4	60	16.7	72	17.6
	Unknown	2	33.3	0	0.0	5	10.6	32	8.9	37	9.0
	Subtotal	6	100.0	2	100.0	47	100.0	360	100.0	409	100.0
05 - 09	Used	0	0.0	6	40.0	63	60.0	241	56.8	310	57.0
Years	Not Used	0	0.0	8	53.3	37	35.2	139	32.8	184	33.8
	Unknown	2	100.0	1	6.7	5	4.8	44	10.4	50	9.2
	Subtotal	2	100.0	15	100.0	105	100.0	424	100.0	544	100.0
10 - 14	Used	3	75.0	9	81.8	87	67.4	407	80.3	503	77.7
Years	Not Used	1	25.0	1	9.1	20	15.5	55	10.8	76	11.8
	Unknown	0	0.0	1	9.1	22	17.0	45	8.9	68	10.5
	Subtotal	4	100.0	11	100.0	129	100.0	507	100.0	647	100.0
15 - 19	Used	5	15.2	64	50.8	628	68.3	2,281	81.6	2,973	77.4
Years	Not Used	21	63.6	32	25.4	178	19.4	251	9.0	461	12.0
	Unknown	7	21.2	30	23.8	114	12.4	263	9.4	407	10.6
	Subtotal	33	100.0	126	100.0	920	100.0	2,795	100.0	3,841	100.0
20 - 24	Used	7	26.9	55	43.0	633	68.4	2,154	79.3	2,842	75.4
Years	Not Used	12	46.2	45	35.2	161	17.4	223	8.2	429	11.4
	Unknown	7	26.9	28	21.9	131	14.2	340	12.5	499	13.2
	Subtotal	26	100.0	128	100.0	925	100.0	2,717	100.0	3,770	100.0
25 - 29	Used	6	25.0	48	44.0	480	69.6	1,779	83.1	2,307	78.5
Years	Not Used	14	58.3	45	41.3	97	14.1	122	5.7	264	9.0
	Unknown	4	16.7	16	14.7	113	16.4	239	11.2	368	12.5
	Subtotal	24	100.0	109	100.0	690	100.0	2,140	100.0	2,939	100.0
30 - 34	Used	9	45.0	29	42.0	366	74.2	1,399	84.6	1,794	81.0
Years	Not Used	8	40.0	27	39.1	66	13.4	78	4.7	171	7.7
	Unknown	3	15.0	13	18.8	61	12.4	176	10.6	250	11.3
	Subtotal	20	100.0	69	100.0	493	100.0	1,653	100.0	2,215	100.0
35 - 39	Used	7	30.4	38	55.9	365	76.2	1,247	84.8	1,650	81.8
Years	Not Used	13	56.5	19	27.9	49	10.2	60	4.1	128	6.3
	Unknown	3	13.0	11	16.2	65	13.6	164	11.2	240	11.9
	Subtotal	23	100.0	68	100.0	479	100.0	1,471	100.0	2,018	100.0

TABLE 3.05 CONTINUED

SAFETY EQUIPMENT USE BY VEHICLE OCCUPANTS KILLED OR INJURED, BY AGE AND INJURY SEVERITY, 2009

Age Group	Restraint Use	Killed		Injured							
				Severe		Moderate		Minor		Total	
		#	%	#	%	#	%	#	%	#	%
40 - 44	Used	13	72.2	35	54.7	356	78.8	1,180	86.8	1,571	83.8
Years	Not Used	5	27.8	18	28.1	42	9.3	53	3.9	113	6.0
	Unknown	0	0.0	11	17.2	54	12.0	126	9.3	191	10.2
	Subtotal	18	100.0	64	100.0	452	100.0	1,359	100.0	1,875	100.0
45 - 49	Used	8	34.8	37	60.7	352	78.8	1,273	87.4	1,662	84.6
Years	Not Used	12	52.2	11	18.0	32	7.2	53	3.6	96	4.9
	Unknown	3	13.0	13	21.3	63	14.1	131	9.0	207	10.5
	Subtotal	23	100.0	61	100.0	447	100.0	1,457	100.0	1,965	100.0
50 - 54	Used	6	42.9	42	65.6	322	79.9	1,140	88.0	1,504	85.3
Years	Not Used	8	57.1	12	18.8	40	9.9	46	3.6	98	5.6
	Unknown	0	0.0	10	15.6	41	10.2	110	8.5	161	9.1
	Subtotal	14	100.0	64	100.0	403	100.0	1,296	100.0	1,763	100.0
55 - 59	Used	6	30.0	37	71.2	277	85.8	991	88.0	1,305	86.9
Years	Not Used	9	45.0	11	21.2	18	5.6	37	3.3	66	4.4
	Unknown	5	25.0	4	7.7	28	8.7	98	8.7	130	8.7
	Subtotal	20	100.0	52	100.0	323	100.0	1,126	100.0	1,501	100.0
60 - 64	Used	14	66.7	32	71.1	236	84.0	671	88.6	939	86.7
Years	Not Used	6	28.6	9	20.0	16	5.7	30	4.0	55	5.1
	Unknown	1	4.8	4	8.9	29	10.3	56	7.4	89	8.2
	Subtotal	21	100.0	45	100.0	281	100.0	757	100.0	1,083	100.0
65 - 69	Used	4	40.0	17	81.0	152	80.8	429	87.7	598	85.7
Years	Not Used	5	50.0	4	19.0	17	9.0	24	4.9	45	6.4
	Unknown	1	10.0	0	0.0	19	10.1	36	7.4	55	7.9
	Subtotal	10	100.0	21	100.0	188	100.0	489	100.0	698	100.0
70 - 74	Used	9	75.0	17	77.3	122	82.4	324	90.2	463	87.5
Years	Not Used	3	25.0	2	9.1	11	7.4	12	3.3	25	4.7
	Unknown	0	0.0	3	13.6	15	10.1	23	6.4	41	7.8
	Subtotal	12	100.0	22	100.0	148	100.0	359	100.0	529	100.0
75 &	Used	29	63.0	33	66.0	252	86.6	636	88.2	921	86.7
Older	Not Used	13	28.3	11	22.0	17	5.8	39	5.4	67	6.3
	Unknown	4	8.7	6	12.0	22	7.6	46	6.4	74	7.0
	Subtotal	46	100.0	50	100.0	291	100.0	721	100.0	1,062	100.0
Age	Used	0	0.0	6	60.0	68	66.7	358	62.3	432	62.9
Not	Not Used	0	0.0	0	0.0	12	11.8	35	6.1	47	6.8
Stated	Unknown	0	0.0	4	40.0	22	21.6	182	31.6	208	30.3
	Subtotal	0	0.0	10	100.0	102	100.0	575	100.0	687	100.0
All	**Used**	128	42.4	506	55.2	4,790	74.6	16,778	83.0	22,074	80.1
Ages	**Not Used**	132	43.7	256	27.9	824	12.8	1,317	6.5	2,397	8.7
	Unknown	42	13.9	155	16.9	809	12.6	2,111	10.4	3,075	11.2
	Subtotal	302	100.0	917	100.0	6,423	100.0	20,206	100.0	27,546	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, 2000 - 2009

	2000	2001	2002	2003	2004	2005	2006	2007	2008	2009
Killed										
Used	29.4	31.1	37.9	39.4	39.5	40.2	40.0	41.4	45.2	42.4
Not Used	54.4	54.8	55.0	48.9	51.8	51.2	52.0	48.9	46.2	43.7
Unknown	16.2	14.1	7.2	11.8	8.7	8.6	8.0	9.8	8.6	13.9
Injured										
Severe Injuries										
Used	45.7	47.1	46.0	NA	49.3	49.6	49.9	52.2	51.4	55.2
Not Used	33.5	34.4	34.5	NA	32.8	30.8	32.8	31.6	29.8	27.9
Unknown	20.8	18.5	19.5	NA	17.9	19.6	17.3	16.2	18.8	16.9
Moderate Injuries										
Used	63.1	65.3	65.1	NA	70.3	70.9	69.0	71.6	72.4	74.6
Not Used	22.9	21.1	21.1	NA	17.4	15.9	16.8	15.4	14.8	12.8
Unknown	14.0	13.5	13.8	NA	12.4	13.2	14.2	13.0	12.8	12.6
Minor Injuries										
Used	72.6	73.6	73.7	NA	78.8	80.6	80.2	81.6	81.8	83.0
Not Used	11.9	11.2	10.6	NA	9.7	8.8	8.6	7.6	7.4	6.5
Unknown	15.5	15.2	15.7	NA	11.4	10.6	11.3	10.8	10.8	10.4
Total Injured										
Used	67.6	69.2	69.0	NA	74.8	76.6	76.1	78.0	78.5	80.1
Not Used	17.1	16.0	15.7	NA	13.2	11.7	11.6	10.4	10.0	8.7
Unknown	15.3	14.8	15.3	NA	12.0	11.7	12.3	11.6	11.6	11.2

TABLE 3.07

SAFETY EQUIPMENT USE BY MOTOR VEHICLE OCCUPANTS KILLED OR INJURED, BY ROADWAY TYPE, 2009

	Used		Not Used		Unknown		Total	
Roadway Type	**Number**	**Percent**	**Number**	**Percent**	**Number**	**Percent**	**Number**	**Percent**
Interstate	3,195	88.5	235	6.5	180	5.0	3,610	100.0%
US Trunk Hwy	3,163	85.5	344	9.3	191	5.2	3,698	100.0%
MN Trunk Hwy	4,381	83.0	485	9.2	412	7.8	5,278	100.0%
CSAH	6,340	77.7	755	9.2	1,068	13.1	8,163	100.0%
County Road	364	66.1	98	17.8	89	16.2	551	100.0%
Township Road	387	60.1	158	24.5	99	15.4	644	100.0%
MSAH	3,068	76.7	269	6.7	662	16.6	3,999	100.0%
Municipal Street	1,230	69.0	165	9.3	387	21.7	1,782	100.0%
Other Road	74	60.2	20	16.3	29	23.6	123	100.0%
Total	22,202	79.7	2,529	9.1	3,117	11.2	27,848	100.0%

CSAH = County State Aid Highway

TABLE 3.08

SAFETY EQUIPMENT USE BY MOTOR VEHICLE OCCUPANTS KILLED OR INJURED, BY REGION OF THE STATE, 2009

EMS Region	Percent Used	Percent Not Used	Percent Unknown	Number of People
Metropolitan	81.5	6.0	12.4	15,036
Central	80.7	10.6	8.7	3,692
Northeast	78.9	11.3	9.8	1,800
Northwest	62.2	21.5	16.3	741
South Central	77.4	12.1	10.6	1,211
Southeast	79.8	10.6	9.6	2,553
Southwest	74.4	17.2	8.4	1,659
West Central	75.9	14.3	9.9	1,156
Statewide	79.7	9.1	11.2	27,848

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

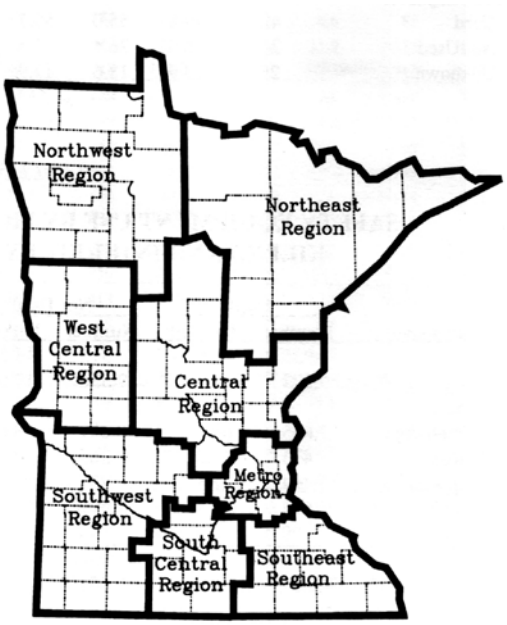


TABLE 3.09

AIRBAG DEPLOYMENTS, 2002 - 2009

Year	Injury Severity	Airbag Deployed: Belt Used	Airbag Deployed: Belt Not Used	Deployment Not Indicated: Belt Used	Deployment Not Indicated: Belt Not Used	Belt Use Unknown	Total
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	2,441	130	101,861	5,022	79,687	189,141
	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	7,480	419	110,451	5,523	57,101	180,974
	Total	14,273	1,501	131,059	9,485	61,525	217,843
2005	Killed	74	75	103	150	38	440
	Severe Injury	308	147	457	328	302	1,542
	Moderate Injury	2,172	367	4,117	1,045	1,174	8,875
	Minor Injury	4,195	375	14,846	1,706	2,504	23,626
	No Apparent Injury	7,529	390	109,215	4,714	50,655	172,503
	Total	14,278	1,354	128,738	7,943	54,673	206,986
2006	Killed	80	63	69	131	30	373
	Severe Injury	265	142	398	293	230	1,328
	Moderate Injury	1,917	323	3,491	993	1,114	7,838
	Minor Injury	4,067	351	13,747	1,552	2,504	22,221
	No Apparent Injury	7,130	375	96,018	3,779	44,881	152,183
	Total	13,459	1,254	113,723	6,748	48,759	183,943
2007	Killed	89	76	76	119	39	399
	Severe Injury	294	152	350	237	200	1,233
	Moderate Injury	2,044	338	3,489	850	1,009	7,730
	Minor Injury	4,336	365	13,941	1,334	2,417	22,393
	No Apparent Injury	7,535	361	104,297	3,783	43,270	159,246
	Total	14,298	1,292	122,153	6,323	46,935	191,001
2008	Killed	81	46	66	104	28	325
	Severe Injury	278	113	290	216	207	1,104
	Moderate Injury	1,851	297	3,128	718	879	6,873
	Minor Injury	4,233	341	13,504	1,267	2,345	21,690
	No Apparent Injury	7,594	323	102,417	3,345	36,239	149,918
	Total	14,037	1,120	119,405	5,650	39,698	179,910
2009	Killed	73	57	55	75	42	302
	Severe Injury	251	96	255	160	155	917
	Moderate Injury	1,767	271	3,023	553	809	6,423
	Minor Injury	4,076	272	12,702	1,045	2,111	20,206
	No Apparent Injury	7,318	270	98,055	3,308	31,781	140,732
	Total	13,485	966	114,090	5,141	34,898	168,580

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

Some good news in 2009
In the past decade many older people have returned to motorcycling. By the end of the calendar year 2009, the numbers of licensed motorcycle operators and the numbers of registered motorcycles in Minnesota had reached their highest levels in history. As a result, the numbers of overall motorcyclist crashes, fatalities, and injuries had been increasing for many years.

Despite these increasing trends, improvement has been made. In 2009, there were 1,329 crashes that involved at least one motorcycle. This represents a 19% decrease from the previous year.

Motorcyclist fatalities in 2009 decreased 26% (from 72 to 53). Of the 53 killed, 45 were drivers and 8 were passengers. And, injuries to motorcyclists decreased 20% (from 1,505 to 1,200). A full 57% of all motorcyclists killed or injured in 2009 were to people aged 40 and over.

Alcohol use among fatalities remains high
State law requires that drivers who die in traffic crashes be tested for blood alcohol level. In 2009, 45 motorcycle drivers were killed and 42 of them were tested. Seventeen (40%) of the 42 drivers tested positive for alcohol, and 11 of the 42 (26%) tested at .08 or greater.

Greater crash severity
When a motorcycle is involved in a traffic crash, the chances for a fatality are greatly increased. In fact, 3.5 out of every 100 motorcycle crashes in 2009 was a fatal crash. For all crashes in Minnesota, only 0.5 out of every 100 crashes is a fatal crash.

Helmet use
Currently, Minnesota does not have a mandatory helmet use law for motorcyclists 18 or older. Laws may be debated, but the benefits helmets offer are clear, they protect the head in the event of a collision. In 2009, only 11 (21%) of the 53 motorcycle riders killed were known to be wearing a helmet. Of the 1,200 motorcyclists injured, only 452 (38%) 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 2009, 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. In addition, 2009 data indicate that one out of every five motorcycle operators that were involved in a fatal crash did not have a valid endorsement to drive a motorcycle.

These facts surely indicate that further training is needed for a large segment of the motorcycle driver population.

Males are most often victims
The motorcycle crash experience in Minnesota remains largely a male one. In 2009, 45 of the 53 motorcyclists killed, and 969 of the 1,200 injured, were male. Males account for 81% of all motorcyclists killed or injured.

Contributing factors for motorcyclists
As noted, over half of motorcycle crashes are single-vehicle crashes. In these crashes, the factors that reporting officers cite most often are illegal or unsafe speed (20%), driver inexperience (11%), and driver inattention or distraction (11%).

In crashes that involve another motor vehicle, the reporting officers cite following too closely most often for the motorcyclists (22%).

Contributing factors for the other drivers
In motorcycle crashes that do involve another vehicle, the reporting officers more often associate contributing factors with the other driver than with the motorcyclist. For the other drivers, failure to yield right of way (40%), and driver inattention or distraction (22%) are cited most frequently. This clearly indicates that motor vehicle drivers tend to ignore motorcyclists.

TABLE 4.01

MOTORCYCLE CRASH SUMMARY, 1980 - 2009

	Motorcycle Crashes				Killed		Injured		Licensed Oper-	Regis-Tered Motor-	Mcy Deaths per 10,000 Reg.	Fatal Crash Rate Per 100 Crashes	
Year	**Fatal**	**Injury**	**PDO***	**Total**	**Mcy**	**Other**	**Mcy**	**Other**	**ators**	**cycles**	**Mcy**	**For Mcy**	**For all crashes**
1980	112	2,728	468	3,308	121	1	3,359	34	222,330	157,815	7.7	3.4	0.7
1981	92	2,516	455	3,063	96	0	2,874	196	238,926	166,151	5.8	3.0	0.7
1982	72	2,115	331	2,518	70	6	2,381	189	264,134	159,345	4.4	2.9	0.6
1983	70	2,377	364	2,811	73	0	2,678	191	252,808	155,502	4.7	2.5	0.5
1984	59	2,302	407	2,768	62	1	2,590	207	256,836	153,851	4.0	2.2	0.5
1985	75	2,238	435	2,748	77	1	2,500	204	272,317	151,449	5.1	2.7	0.5
1986	63	1,891	364	2,318	66	0	2,152	142	282,087	141,261	4.7	2.7	0.5
1987	51	1,692	378	2,121	51	3	1,853	145	288,424	134,590	3.8	2.4	0.5
1988	57	1,628	284	1,969	58	4	1,817	126	293,347	128,956	4.5	2.9	0.5
1989	37	1,463	248	1,748	37	0	1,617	104	290,000	123,308	3.0	2.1	0.5
1990	46	1,446	243	1,735	50	2	1,605	126	292,074	120,081	4.2	2.7	0.5
1991	38	1,198	225	1,461	40	0	1,357	104	296,624	117,492	3.4	2.6	0.5
1992	29	1,133	199	1,361	28	3	1,288	60	290,722	116,124	2.4	2.1	0.5
1993	33	1,022	190	1,245	34	3	1,151	104	291,756	114,548	3.0	2.7	0.5
1994	41	1,151	189	1,381	43	0	1,324	66	293,164	113,337	3.8	3.0	0.6
1995	32	941	153	1,126	35	2	1,063	76	295,849	113,981	3.1	2.8	0.5
1996	39	934	158	1,131	42	0	1,046	71	297,102	112,551	3.7	3.4	0.5
1997	23	821	127	971	24	1	916	65	298,863	113,443	2.1	2.4	0.5
1998	41	883	141	1,065	40	1	987	69	301,992	118,275	3.4	3.8	0.6
1999	30	867	127	1,024	29	2	991	64	307,009	122,676	2.4	2.9	0.6
2000	34	935	166	1,135	35	1	1,039	45	311,825	132,352	2.6	3.0	0.5
2001	41	997	175	1,213	42	1	1,094	54	317,421	142,882	2.9	3.4	0.5
2002	47	943	178	1,168	47	0	1,071	46	327,604	149,360	3.1	4.0	0.6
2003	58	NA	NA	NA	62	1	NA	NA	335,862	161,793	3.8	NA	NA
2004	50	1,112	182	1,344	50	1	1,251	67	346,169	174,195	2.9	3.7	0.6
2005	61	1,201	169	1,431	59	4	1,319	72	353,460	185,087	3.2	4.3	0.6
2006	70	1,279	147	1,496	70	0	1,413	79	360,143	197,735	3.5	4.7	0.6
2007	60	1,368	195	1,623	61	0	1,498	67	369,623	209,591	2.9	3.7	0.6
2008	71	1,350	212	1,633	72	0	1,505	62	380,232	224,625	3.2	4.3	0.5
2009	47	1,089	193	1,329	53	0	1,200	53	387,159	226,675	2.3	3.5	0.5
Record High*	112	2,728	537	3,308	121	9	3,359	207	387,159	226,675	7.7	4.7	0.8
(year)	(1980)	(1980)	(1976)	(1980)	(1980)	(1975)	(1980)	(1984)	(2009)	(2009)	(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

2009 MOTORCYCLE CRASHES BY FIRST HARMFUL EVENT

First Harmful Event	Fatal Crashes	Injury Crashes	Property Damage Crashes	Total Crashes	Motorcyclists Killed	Motorcyclists Injured
Collision With:						
Other Motor Vehicle	17	436	117	570	20	490
Parked Vehicle	0	7	20	27	0	6
Bicyclist	0	8	0	8	0	6
Pedestrian	0	3	0	3	0	2
Deer	3	85	7	95	3	94
Other Animal	0	10	0	10	0	14
Fixed Object	15	152	19	186	17	160
Non-Collision:						
Overturn/Rollover	7	164	12	183	7	187
Other / Unknown	5	224	18	247	6	241
Total	47	1,089	193	1,329	53	1,200

TABLE 4.03

2009 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	1	141	48	190	1	154
100,000 - 249,999	0	14	1	15	0	15
50,000 - 99,999	4	166	22	192	4	181
25,000 - 49,999	0	115	24	139	0	123
10,000 - 24,999	7	165	36	208	7	179
5,000 - 9,999	2	69	11	82	2	72
2,500 - 4,999	3	43	8	54	4	45
1,000 - 2,499	0	27	3	30	0	27
Under 1,000	30	349	40	419	35	404
Total	47	1,089	193	1,329	53	1,200

TABLE 4.04

2009 MOTORCYCLE CRASHES BY MONTH

Month	Fatal Crashes	Injury Crashes	Property Damage Crashes	Total Crashes	Motorcyclists Killed	Motorcyclists Injured
January	0	0	0	0	0	0
February	0	2	1	3	0	2
March	0	24	6	30	0	24
April	3	85	20	108	3	91
May	7	166	24	197	7	183
June	13	201	28	242	13	218
July	9	203	33	245	11	230
August	7	174	32	213	10	192
September	5	163	31	199	6	182
October	0	37	11	48	0	43
November	3	34	7	44	3	35
December	0	0	0	0	0	0
Total	47	1,089	193	1,329	53	1,200

FIGURE 4.01
2009 Motorcycle Crashes by Time of Day

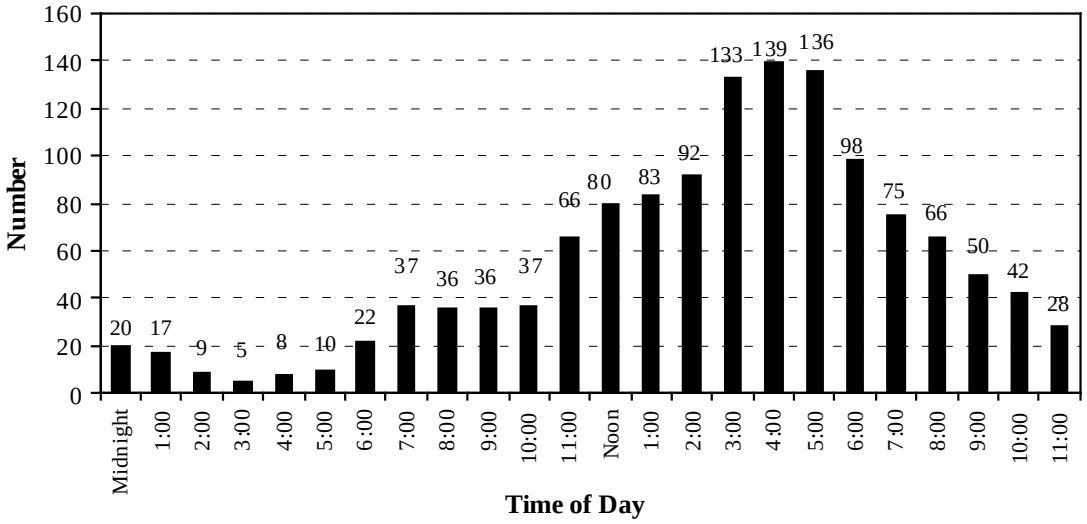


TABLE 4.05

2009 MOTORCYCLE CRASHES BY TIME AND DAY

Hour Beginning	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	20	1	3	0	1	0	3	0	3	0	0	0	3	0	7	1
1:00	17	1	4	0	1	0	3	1	0	0	4	0	0	0	5	0
2:00	9	0	0	0	0	0	0	0	2	0	2	0	1	0	4	0
3:00	5	0	1	0	0	0	0	0	2	0	0	0	1	0	1	0
4:00	8	0	1	0	3	0	1	0	0	0	2	0	0	0	1	0
5:00	10	0	1	0	4	0	0	0	2	0	1	0	0	0	2	0
6:00	22	3	2	0	2	0	2	0	8	1	3	0	4	1	1	1
7:00	37	2	1	0	5	1	2	0	7	0	12	0	7	0	3	1
8:00	36	2	3	0	3	0	5	0	8	2	6	0	5	0	6	0
9:00	36	1	3	0	5	0	3	0	6	0	4	0	7	0	8	1
10:00	37	1	7	1	6	0	1	0	1	0	9	0	8	0	5	0
11:00	66	1	15	0	5	0	5	0	5	0	4	0	7	1	25	0
Noon	80	3	12	0	9	0	12	2	10	0	4	0	9	0	24	1
1:00	83	3	15	0	15	1	13	1	3	0	4	0	17	1	16	0
2:00	92	1	20	1	10	0	5	0	11	0	14	0	16	0	16	0
3:00	133	2	19	0	18	0	11	1	10	0	18	0	20	0	37	1
4:00	139	2	27	0	18	1	15	0	18	0	18	0	23	1	20	0
5:00	136	4	24	0	18	0	12	0	14	0	18	1	15	1	35	2
6:00	98	4	19	0	13	1	13	1	11	0	11	0	14	1	17	1
7:00	75	5	5	0	10	0	6	0	7	0	16	2	18	2	13	1
8:00	66	4	16	1	9	0	7	1	8	1	11	0	6	1	9	0
9:00	50	2	1	0	4	0	7	1	7	0	7	0	14	1	10	0
10:00	42	5	4	0	2	0	5	1	6	1	12	1	8	1	5	1
11:00	28	0	3	0	0	0	0	0	5	0	6	0	3	0	11	0
Unknown	4	0	1	0	1	0	0	0	1	0	0	0	0	0	1	0
Total	1,329	47	207	3	162	4	131	9	155	5	186	4	206	11	282	11

TABLE 4.06

MOTORCYCLISTS KILLED OR INJURED BY AGE AND GENDER, 2009

				Injured											
	Killed			Severe			Moderate			Minor			Total		
Age Group	M	F	Total	M	F	Total	M	F	Total	M	F	Total	M	F	Total*
00 – 04	0	0	0	0	0	0	0	0	0	1	0	1	1	0	1
05 – 09	0	0	0	0	0	0	0	0	0	2	0	2	2	0	2
10 – 14	0	0	0	1	0	1	1	0	1	2	1	3	4	1	5
15 – 19	1	0	1	11	1	12	14	4	18	17	4	21	42	9	51
20 – 24	6	2	8	15	2	17	68	13	81	38	15	53	121	30	151
25 – 29	3	1	4	14	2	16	45	5	50	46	8	54	105	15	120
30 – 34	0	0	0	11	1	12	31	7	38	31	4	35	73	12	85
35 – 39	6	0	6	12	4	16	32	11	43	32	7	39	76	22	98
40 – 44	6	2	8	16	3	19	48	18	66	29	7	36	93	28	121
45 – 49	9	0	9	21	8	29	53	16	69	53	11	64	127	35	162
50 – 54	6	2	8	22	4	26	49	17	66	37	14	51	108	35	143
55 – 59	2	1	3	17	5	22	45	8	53	35	9	44	97	22	119
60 – 64	5	0	5	17	2	19	29	9	38	31	3	34	77	14	91
65 – 69	1	0	1	3	1	4	13	5	18	11	1	12	27	7	34
70 & Older	0	0	0	2	0	2	7	0	7	3	0	3	12	0	12
Not Stated	0	0	0	0	1	1	2	0	2	2	0	2	4	1	5
Total	45	8	53	162	34	196	437	113	550	370	84	454	969	231	1,200

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

FIGURE 4.02
Motorcyclists Killed or Injured by Age and Gender, 2009

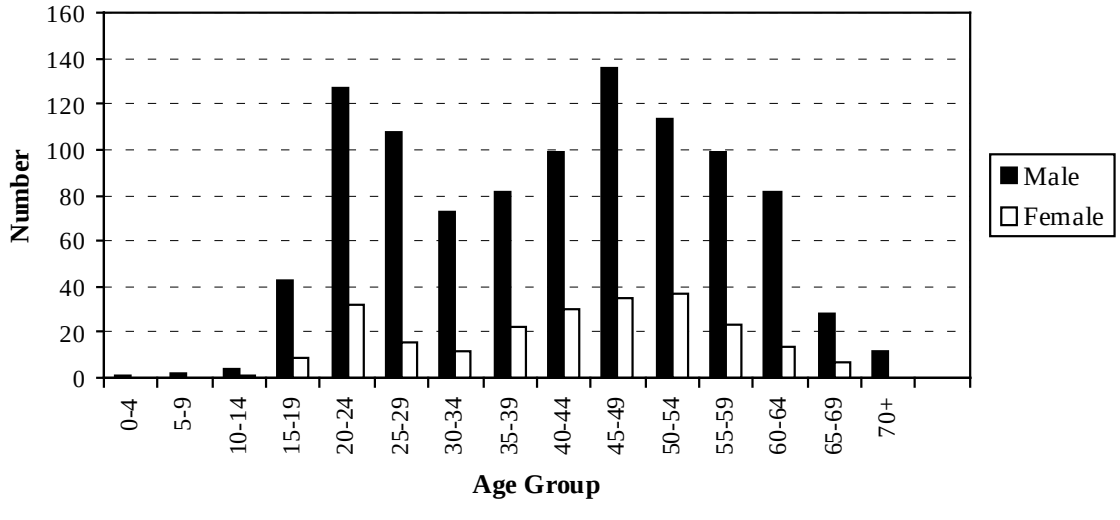


TABLE 4.07

HELMET USE BY MOTORCYCLISTS KILLED OR INJURED, 2000 - 2009

	Helmet Used		Helmet Not Used		Helmet Use Unknown		Total	
	Number	Percent	Number	Percent	Number	Percent	Number	Percent
Killed								
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
2009	11	20.8	37	69.8	5	9.4	53	100.0
Injured								
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
2009	452	37.7	432	36.0	316	26.3	1,200	100.0

TABLE 4.08

ENDORSEMENT STATUS OF MOTORCYCLE OPERATORS INVOLVED IN FATAL CRASHES, 2000 - 2009

	Valid Endorsement*		Permit Only		Canceled, Suspended, Revoked		No Endorsement		Total** for Year	
Year	Number	Percent	Number	Percent	Number	Percent	Number	Percent	Number	Percent
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
2009	39	79.6	0	0.0	1	2.0	8	16.3	49	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, 2000 – 2009

Year	Killed	Tested	Alcohol Concentration* (.00)	(.01 - .07)	(.08-.09)	(.10 or more)
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%)
2009	45	42	25 (60%)	6 (14%)	2 (5%)	9 (21%)

*Percentages are based on those motorcycle drivers tested.

TABLE 4.10

2009 MOTORCYCLE DRIVER FATALITIES' LEVEL OF ALCOHOL CONCENTRATION BY AGE

Age	Killed	Tested	Alcohol Concentration* (.01 - .07)	(.08-.09)	(.10 +)	Alcohol Concentration .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	0	0	0	0	0	0	0	0	0	0	0	0
18	1	1	0	0	0	1	0	0	0	0	0	0
19	0	0	0	0	0	0	0	0	0	0	0	0
20	2	2	1	0	0	1	0	1	0	0	0	0
Under 21	3	3	1	0	0	2	0	1	0	0	0	0
14 & Younger	0	0	0	0	0	0	0	0	0	0	0	0
15 – 19	1	1	0	0	0	1	0	0	0	0	0	0
20 – 24	6	6	2	0	0	4	0	2	0	0	0	0
25 – 29	3	3	1	1	0	1	1	1	0	0	0	0
30 – 34	0	0	0	0	0	0	0	0	0	0	0	0
35 – 39	6	5	1	0	1	3	1	0	0	1	0	0
40 – 44	7	7	1	0	3	3	1	0	1	1	1	0
45 – 49	8	8	1	0	1	6	0	1	0	0	1	0
50 – 54	6	6	0	0	3	3	0	0	1	2	0	0
55 – 59	2	2	0	1	0	1	0	1	0	0	0	0
60 & Older	6	4	0	0	1	3	0	0	0	0	1	0
Total	45	42	6	2	9	25	3	5	2	4	3	0

TABLE 4.11

CONTRIBUTING FACTORS IN 2009 MOTORCYCLE CRASHES

	Single Vehicle Crashes		*Multi-Vehicle Crashes*			
	Attributed to Motorcycle Drivers		**Attributed to Motorcycle Drivers**		**Attributed to Other Drivers**	
Contributing Factors	**Number**	**Percent**	**Number**	**Percent**	**Number**	**Percent**
Human Factors:						
Illegal/Unsafe Speed	137	20.3%	31	10.5%	7	1.5%
Driver Inexperience	76	11.2	15	5.1	6	1.3
Driver Inattention/Distraction	72	10.7	59	20.0	103	21.7
Chemical Impairment	52	7.7	9	3.1	5	1.1
Overcorrecting	35	5.2	2	0.7	0	0.0
Improper/Unsafe Lane Use	26	3.8	18	6.1	27	5.7
Improper Turn	12	1.8	2	0.7	28	5.9
Following Too Closely	11	1.6	66	22.4	20	4.2
Improper Passing/Overtaking	7	1.0	15	5.1	5	1.1
Vision Obscured	6	0.9	3	1.0	12	2.6
Driving Left of Center	5	0.7	3	1.0	4	0.8
Improper Park/Start/Stop	4	0.6	4	1.4	4	0.8
Non-Motorist Error	3	0.4	1	0.3	1	0.2
Disregard Traf Control Device	2	0.3	5	1.7	17	3.6
Failure To Yield Right of Way	2	0.3	26	8.8	190	40.1
Improper/No Signal	1	0.1	1	0.3	1	0.2
Impeding Traffic	0	0.0	0	0.0	1	0.2
Driver on Phone/CB/Radio	0	0.0	0	0.0	1	0.2
Unsafe Backing	0	0.0	0	0.0	15	3.2
Failure To Use Lights	0	0.0	0	0.0	1	0.2
Other Human Factor	33	4.9	9	3.1	8	1.7
Vehicular Factors:						
Skidding	63	9.3	5	1.7	2	0.4
Defective Tires	10	1.5	2	0.7	0	0.0
Defective Brakes	7	1.0	1	0.3	2	0.4
Other Vehicular Factors	11	1.6	3	1.0	1	0.2
Miscellaneous Factors:						
Weather Conditions	18	2.2	3	1.0	4	0.8
Other	83	12.3	12	4.1	9	1.9
Total	676	100.0%	295	100.0%	474	100.0%
Vehicles for Which There Was "No Clear Cont. Factor"	239		343		192	
Total Number Drivers	771		604		570	

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 2009, there were 3,653 truck-involved traffic crashes reported to the Department of Public Safety. This represents a 16% decrease from the previous year. There were 47 fatal truck crashes, killing a total of 58 people. In addition, there were 1,162 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 three of the 58 people killed in truck-involved crashes were in trucks. The other 55 deaths included four pedestrians, one motorcyclist, three bicyclists, and 44 persons in cars, SUVs, pickups, or vans. Of the 1,162 people injured, only 244 (21%) were truck occupants.

Contributing factors in truck crashes
Table 5.03 in this Section reveals that contributing factors cited by officers are very similar for truck and non-truck drivers. For example, driver inattention or distraction was most frequently cited for truck drivers (21% 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 12% of the other vehicles but only 7% of the trucks. And, failure to yield was reported for 13% of the other vehicles but only 10% 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 3% 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 2009, only 356 (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. Only 23% of the fatal crashes and 32% 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. 81% of fatal and 47% of truck-related injury crashes occurred in the rural areas of Minnesota.

TABLE 5.01

TRUCK CRASH SUMMARY, 2000 - 2009

	2000	2001	2002	2003	2004	2005	2006	2007	2008	2009
Total Crashes	**5,306**	**4,976**	**4,409**	**NA**	**5,521**	**5,313**	**4,558**	**4,631**	**4,344**	**3,653**
Fatal Crashes	73	61	76	71	70	66	62	71	64	47
Persons Killed	90	67	87	78	79	78	65	90	74	58
Injury Crashes	1,371	1,287	1,179	NA	1,401	1,315	1,156	1,144	1,056	889
Severe	134	127	82	NA	107	96	89	83	72	68
Moderate	490	479	449	NA	443	377	323	334	295	288
Minor	747	681	648	NA	851	842	744	727	689	533
Persons Injured	1,903	1,785	1,674	NA	1,935	1,753	1,544	1,745	1,425	1,162
Severe	173	157	115	NA	131	116	104	130	89	88
Moderate	659	632	597	NA	585	481	415	508	388	359
Minor	1,071	996	962	NA	1,219	1,156	1,025	1,107	948	715
Property Damage Crashes	3,862	3,628	3,154	NA	4,050	3,932	3,340	3,416	3,224	2,717

TABLE 5.02

PERSONS KILLED OR INJURED IN 2009 TRUCK CRASHES BY VEHICLE OCCUPIED

		Injured			
Vehicle Type	**Killed**	**Severe**	**Moderate**	**Minor**	**Total**
Automobile	18	42	157	329	528
Pickup Truck	6	11	33	65	109
SUV	12	9	33	84	126
Van	8	6	23	44	73
Pedestrian	4	2	2	3	7
Bicycle	3	1	4	4	9
Motorcycle	1	5	8	3	16
Ambulance	0	0	0	2	2
Police/Fire Vehicle	0	0	1	7	8
Roadway Maintenance Vehicle	0	0	5	11	16
Farm Equipment	1	0	1	2	3
School Bus	0	0	0	1	1
Bus-Non School	0	0	1	5	6
Two-Axle, Six-Tire, Single Unit Truck	0	2	13	38	53
Three or More Axle Single Unit Truck	0	0	10	17	27
Single Unit Truck with Trailer	0	1	3	9	13
Truck Tractor with No Trailer	0	1	0	2	3
Truck Tractor with Semi Trailer	2	7	58	75	140
Truck Tractor with Twin Trailers	0	0	1	1	2
Heavy Truck--Other or Unknown Type	1	1	1	4	6
Other or Unknown Vehicle Type	2	0	5	9	14
Total	58	88	359	715	1,162

TABLE 5.03

CONTRIBUTING FACTORS IN 2009 TRUCK CRASHES

Contributing Factors	Attributed to Truck Vehicles Number	Attributed to Truck Vehicles Percent	Attributed to Non-Truck Vehicles Number	Attributed to Non-Truck Vehicles Percent
Human Factors				
Driver Inattention/Distraction	522	20.8%	453	18.6%
Failure to Yield Right of Way	252	10.0	327	13.4
Improper or Unsafe Lane Use	225	9.0	233	9.6
Following Too Closely	183	7.3	149	6.1
Illegal/Unsafe Speed	182	7.2	299	12.3
Improper Turn	133	5.3	49	2.0
Unsafe Backing	122	4.9	11	0.5
Vision Obscured-Windshield	60	2.4	49	2.0
Improper Passing or Overtaking	54	2.1	112	4.6
Disregarding Traffic Control Device	53	2.1	80	3.3
Improper Parking, Starting, or Stopping	33	1.3	31	1.3
Driver Inexperience	29	1.2	39	1.6
Overcorrecting	23	0.9	40	1.6
Driving Left of Center (Not Passing)	15	0.6	39	1.6
Improper/No Signal	15	0.6	7	0.3
Impeding Traffic	7	0.3	8	0.3
Chemical Impairment	6	0.2	60	2.5
Driver on Phone/CB/2-Way Radio	4	0.2	4	0.2
Failure to Use Lights	1	0.0	5	0.2
Non-Motorist Error	0	0.0	4	0.2
Other Human Factors	83	3.3	52	2.1
Vehicular Factors				
Skidding	62	2.5	117	4.8
Defective Brakes	43	1.7	13	0.5
Oversize/Overweight Vehicle	35	1.4	1	0.0
Other Vehicular Factor	48	1.9	25	1.0
Miscellaneous Factors				
Weather	165	6.6	155	6.4
Other	157	6.3	74	3.0
Total Contributing Factors Cited	2,512	100.0%	2,436	100.0%
Vehicles for Which There Was "No Clear Contributing Factor"	1,671		1,406	
Total Number of Vehicles	3,784		3,331	

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 2009 CRASHES

Driver Age	Truck or Truck Tractor	Truck with Semi-Trailer	Truck with Twin Trailer	Truck with Other Trailer	Total
10 - 14	1	0	0	0	1
15 - 19	9	2	0	1	12
20 - 24	127	61	1	13	202
25 - 29	176	109	1	29	315
30 - 34	171	150	2	23	346
35 - 39	162	193	4	24	383
40 - 44	197	192	5	24	418
45 - 49	237	269	4	28	538
50 - 54	196	294	5	26	521
55 - 59	142	210	8	22	382
60 - 64	91	146	2	9	248
65 & Older	78	118	0	13	209
Not Stated	31	57	1	5	94
Total*	1,618	1,801	33	217	3,669

* There were 3,784 trucks involved in 2009 crashes. Table 5.04 tabulates the ages of drivers for the remaining 3,669 trucks where it was possible to identify a driver.

TABLE 5.05

DRIVERS IN 2009 TRUCK CRASHES BY PHYSICAL CONDITION*

	Truck Driver		Other Driver	
Physical Condition	Number	Percent	Number	Percent
Normal	3,371	91.9%	2,794	90.3%
Under the Influence	4	0.1	55	1.8
Had Been Drinking	2	0.1	18	0.6
Driver >.04 BAC	2	0.1	0	0.0
Had Been Using Drugs	1	0.0	3	0.1
Aggressive	1	0.0	4	0.1
Fatigued/Asleep	15	0.4	11	0.4
Physical Disability	0	0.0	1	0.0
Ill	5	0.1	2	0.1
Other	10	0.3	8	0.3
Unknown	258	7.0	197	6.4
Total **	3,669	100.0%	3,093	100.0%

* As noted by police officer on accident report.

** There were 3,784 trucks involved in 2009 crashes. This table tabulates the apparent physical condition of drivers for the remaining 3,669 trucks where it was possible to identify a driver. Similarly, there were 3,308 non-truck motor vehicles involved in 2009 truck crashes. The condition of the identifiable 3,093 non-truck drivers is presented here.

TABLE 5.06

2009 TRUCK CRASHES BY FIRST HARMFUL EVENT

First Harmful Event	Fatal Crashes	Injury Crashes	Property Damage Crashes	Total Crashes	Killed	Injured
Collision With:						
Other Motor Vehicle	35	676	1,988	2,699	45	925
Parked Motor Vehicle	2	36	225	263	2	49
Bicycle	3	9	0	12	3	9
Pedestrian	3	6	0	9	3	6
Deer	0	2	15	17	0	2
Other Animal	0	2	10	12	0	2
Fixed Object	0	40	256	296	0	40
Train	2	3	5	10	3	3
Non-Collision:						
Overturn	2	97	78	177	2	105
Jackknife	0	1	39	40	0	1
Runaway Car	0	0	2	2	0	0
Submersion	0	0	1	1	0	0
Fire or Explosion	0	0	4	4	0	0
Other Non-Collision	0	5	31	36	0	6
Other/Unknown	0	12	63	75	0	14
Total	47	889	2,717	3,653	58	1,162

TABLE 5.07

2009 TRUCK CRASHES BY MONTH

Month	Fatal Crashes	Injury Crashes	Property Damage Crashes	Total Crashes	Killed	Injured
January	4	87	368	459	5	111
February	3	65	216	284	3	88
March	6	59	177	242	7	72
April	2	51	146	199	2	69
May	2	58	172	232	2	81
June	8	82	209	299	8	114
July	4	73	194	271	8	104
August	6	78	199	283	11	110
September	5	66	189	260	5	84
October	0	80	235	315	0	94
November	6	66	212	284	6	90
December	1	124	400	525	1	145
Total	47	889	2,717	3,653	58	1,162

TABLE 5.08

2009 TRUCK CRASHES BY TIME AND DAY

Time of Day	Sunday	Monday	Tuesday	Wednesday	Thursday	Friday	Saturday	Total
Midnight - 2:59 AM	6	17	19	22	15	13	8	100
3:00 - 5:59 AM	7	22	20	24	20	19	21	133
6:00 - 8:59 AM	15	106	129	120	89	101	31	591
9:00 - 11:59 AM	27	164	135	159	154	124	40	803
Noon - 2:59 PM	28	168	177	174	165	157	54	923
3:00 - 5:59 PM	16	128	124	141	132	109	41	691
6:00 - 8:59 PM	20	43	45	50	42	42	20	262
9:00 - 11:59 PM	10	21	20	29	26	22	11	139
Unknown	0	2	2	3	2	1	1	11
Total	129	671	671	722	645	588	227	3,653

FIGURE 5.01
2009 Truck Crashes by Time of Day

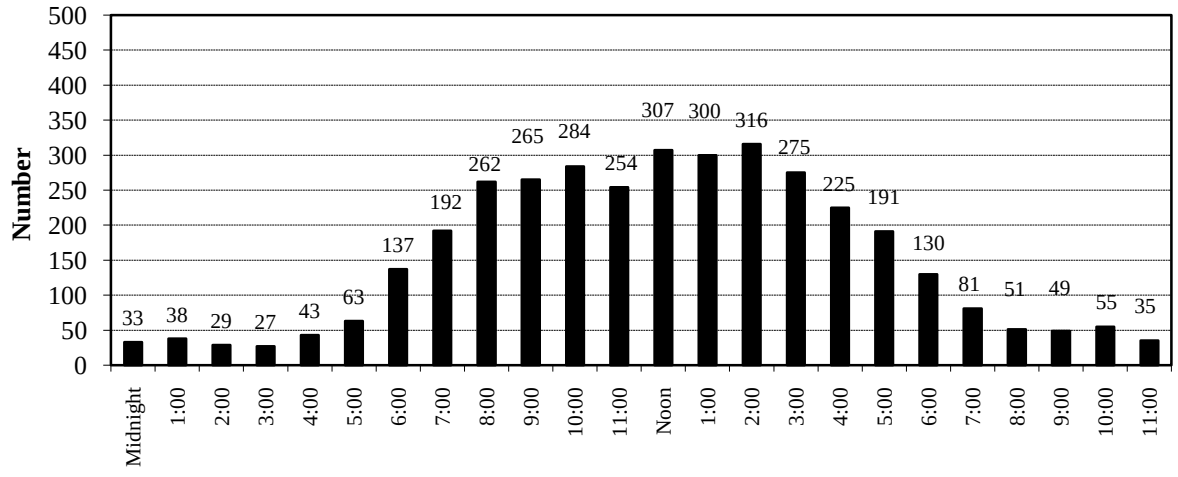


TABLE 5.09

2009 TRUCK CRASHES BY ROAD SURFACE CONDITION

Road Surface Condition	Fatal Crashes	Injury Crashes	Property Damage Crashes	Total Crashes	Killed	Injured
Dry	35	596	1,605	2,236	42	796
Wet	6	114	380	500	9	152
Snow	1	63	266	330	1	71
Slush	0	6	35	41	0	9
Ice or Packed Snow	4	104	394	502	4	128
Debris	0	0	1	1	0	0
Muddy	0	3	3	6	0	3
Other	1	2	17	20	2	2
Unknown	0	0	8	8	0	0
Left Blank	0	1	8	9	0	1
Total	47	889	2,717	3,653	58	1,162

TABLE 5.10

2009 TRUCK CRASHES BY WEATHER CONDITION

Weather Condition	Fatal Crashes	Injury Crashes	Property Damage Crashes	Total Crashes	Killed	Injured
Clear	33	496	1,458	1,987	41	673
Cloudy	9	236	692	937	12	296
Rain	1	50	143	194	1	62
Snow	2	72	288	362	2	87
Sleet/Hail/Freezing Rain	0	8	49	57	0	10
Fog/Smog/Smoke	2	2	8	12	2	3
Blowing Sand/Dust/Snow	0	15	53	68	0	20
Severe Cross Winds	0	5	2	7	0	6
Other	0	2	6	8	0	2
Unknown	0	1	10	11	0	1
Left Blank	0	2	8	10	0	2
Total	47	889	2,717	3,653	58	1,162

TABLE 5.11

2009 TRUCK CRASHES BY POPULATION OF AREA

Population of City or Township	Fatal Crashes	Injury Crashes	Property Damage Crashes	Total Crashes	Killed	Injured
250,000 & Over	5	113	489	607	5	149
100,000 – 249,999	0	17	42	59	0	20
50,000 - 99,999	1	128	442	571	1	156
25,000 - 49,999	2	75	282	359	2	100
10,000 - 24,999	0	90	377	467	0	108
5,000 - 9,999	1	52	171	224	1	71
2,500 - 4,999	1	33	117	151	4	39
1,000 - 2,499	1	19	80	100	1	28
Under 1,000	36	362	717	1,115	44	491
Total	47	889	2,717	3,653	58	1,162

TABLE 5.12

2009 TRUCK CRASHES BY TYPE OF ROADWAY

Roadway Type	Fatal Crashes	Injury Crashes	Property Damage Crashes	Total Crashes	Killed	Injured
Interstate Hwy	2	197	675	874	5	261
US Trunk Hwy	14	170	393	577	17	226
State Trunk Hwy	13	199	468	680	14	273
County State Aid Hwy	13	171	500	684	16	221
Municipal State Aid Hwy	1	80	327	408	1	98
County Road	1	20	32	53	2	21
Township Road	1	14	36	51	1	16
Local Street	1	33	259	293	1	40
Other Road	1	5	27	33	1	6
Total	47	889	2,717	3,653	58	1,162

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 increase
In 2008, there were 860 crashes in which a pedestrian was injured or killed by a motor vehicle. In 2009, that number rose to 883, a three percent increase from the previous year.

Deaths and injuries increase
In 2008, 25 pedestrians were killed and 867 pedestrians were injured. In 2009, 41 pedestrians were killed and 880 pedestrians were injured. Five 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 22% of the pedestrians killed and 39% of pedestrians injured. Male pedestrians were more likely than females to be killed: Males accounted for 56% of all pedestrian fatalities.

Urban/rural areas and time of day
In 2009, 91% of pedestrian crashes occurred in urban areas (defined as areas with populations over 5,000). In 2009, three out of ten (30%) 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, one out of five (19%) pedestrian crashes occurred during the evening hours 9:00-6:00am.

Prior actions of vehicles
Nearly half (46%) of all motor vehicles involved in pedestrian crashes and two out of three (67%) involved in fatal pedestrian crashes in 2009 were going straight ahead on the roadway prior to the crash. Over one out of three (36%) of all motor vehicles involved in pedestrian crashes were making a right or left turn.

Prior actions of pedestrians
Twenty-nine percent of pedestrians killed and 24% of pedestrians injured were trying to cross a road at an area with no crosswalk and no signal. However, 2% 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 35% 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 (23%). Obscured vision was a factor in 8% of all pedestrian crashes.

Drinking pedestrian fatalities
Of the 41 pedestrians killed, 33 were tested for the presence of alcohol in their blood system. Of those tested, 30% had blood alcohol concentrations (BACs) of .10 or higher. Thirty percent of killed pedestrians with BACs .10 or higher were 20–29-years-old. Two out of five (40%) killed pedestrians with BACs .10 or higher were 40-49-years-old. Seventy percent of pedestrians killed with BACs of .10 or higher were killed 9:00pm-3:00am.

TABLE 6.01

PEDESTRIAN CRASH SUMMARY, 2000 - 2009

	2000	2001	2002	2003	2004	2005	2006	2007	2008	2009
Pedestrian Crashes	1,253	1,175	1,151	NA	963	938	915	957	860	883
Pedestrians Killed	41	46	50	52	37	44	38	33	25	41
Pedestrians Injured	1,269	1,184	1,149	NA	976	936	906	975	867	880

TABLE 6.02

PEDESTRIANS KILLED OR INJURED BY AGE AND GENDER, 2009

				Injured											
Age	Killed			Severe			Moderate			Minor			Total		
Group	M	F	Total	M	F	Total	M	F	Total	M	F	Total	M	F	Total*
00 - 04	3	1	4	0	1	1	6	5	11	12	5	17	18	11	29
05 - 09	2	0	2	4	1	5	12	10	22	11	8	19	27	19	46
10 - 14	0	0	0	2	3	5	13	14	27	10	15	25	25	32	57
15 - 19	0	0	0	6	4	10	21	16	38	20	30	50	47	50	98
20 - 24	1	2	3	8	2	10	20	22	42	31	30	61	59	54	113
25 - 29	1	1	2	5	0	5	11	8	19	27	23	51	43	31	75
30 - 34	1	2	3	5	0	5	11	11	22	8	15	23	24	26	50
35 - 39	0	0	0	1	0	1	5	6	11	10	15	25	16	21	37
40 - 44	5	2	7	4	3	7	10	10	20	14	24	38	28	37	65
45 - 49	1	2	3	8	1	9	7	12	19	24	12	38	39	25	66
50 - 54	1	1	2	1	3	4	8	11	19	22	12	34	31	26	57
55 - 59	3	1	4	1	2	3	6	10	16	11	16	28	18	28	47
60 - 64	0	2	2	6	2	8	2	10	12	13	11	24	21	23	44
65 - 69	0	0	0	1	3	4	2	5	7	8	6	14	11	14	25
70 - 74	1	1	2	1	1	2	2	4	6	2	3	6	5	8	14
75 - 79	1	1	2	2	0	2	3	0	3	0	2	2	5	2	7
80 - 84	3	1	4	2	2	4	3	1	4	3	3	6	8	6	14
85 & Older	0	1	1	1	0	1	2	1	3	1	0	1	4	1	5
Not Stated	0	0	0	3	2	6	2	1	8	5	2	17	10	5	31
Total	23	18	41	61	30	92	146	157	309	232	232	479	439	419	880

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

FIGURE 6.01
Pedestrian Fatalities by Age Group, 2000-2009 Combined

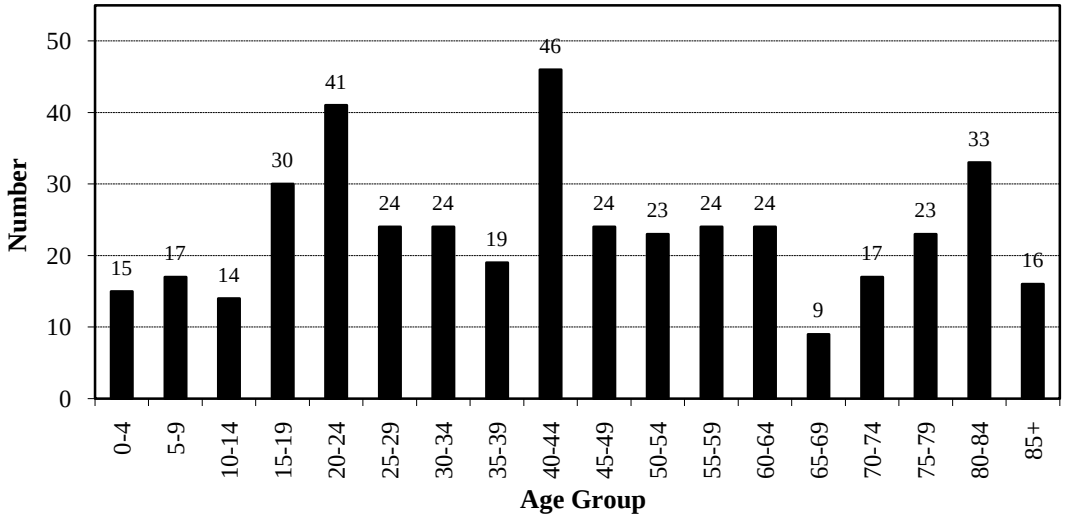


FIGURE 6.02
Pedestrians Killed or Injured by Age and Gender, 2009

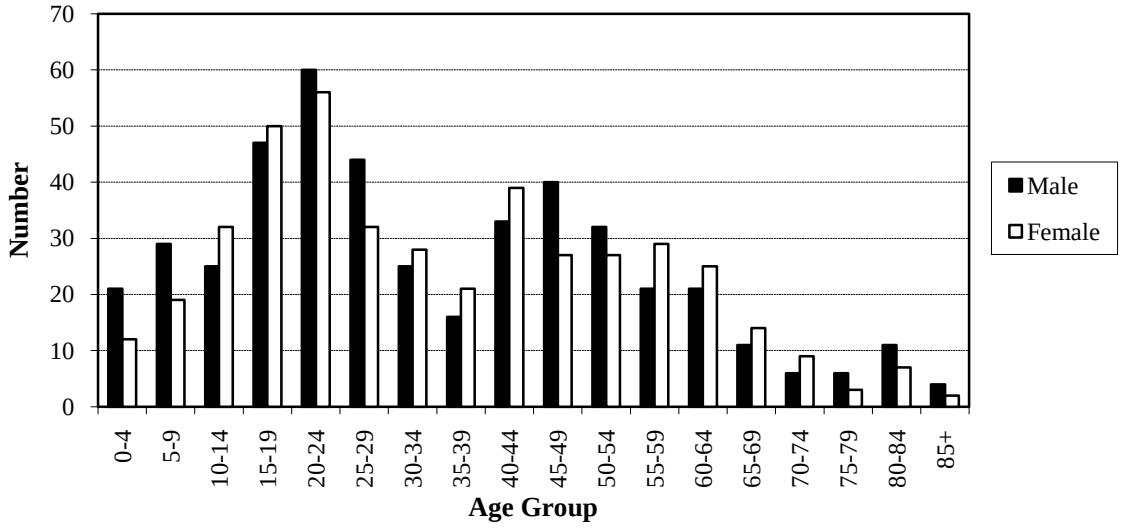


TABLE 6.03

2009 PEDESTRIAN CRASHES BY MONTH

Month	Fatal Crashes	Injury Crashes	Total Crashes	Killed	Injured
January	2	60	62	2	62
February	1	71	72	1	74
March	1	67	68	1	77
April	2	66	68	2	68
May	5	58	63	5	59
June	7	59	66	7	63
July	2	87	89	2	92
August	2	52	54	2	53
September	5	76	81	5	77
October	5	102	107	5	107
November	4	78	82	4	80
December	5	66	71	5	68
Total	41	842	883	41	880

TABLE 6.04

2009 PEDESTRIAN CRASHES BY POPULATION OF AREA

Population of City or Township	Fatal Crashes	Injury Crashes	Total Crashes	Pedestrians Killed	Pedestrians Injured
250,000 and Over	11	420	431	11	440
100,000 - 249,999	0	14	14	0	15
50,000 - 99,999	6	117	123	6	120
25,000 - 49,999	6	77	83	6	80
10,000 - 24,999	1	121	122	1	126
5,000 - 9,999	1	28	29	1	29
2,500 - 4,999	3	20	23	3	20
1,000 - 2,499	2	19	21	2	20
Under 1,000	11	26	37	11	30
Total	41	842	883	41	880

TABLE 6.05

2009 PEDESTRIAN CRASHES BY TIME AND DAY

Time of Day	Fatal Crashes	Sunday	Monday	Tuesday	Wednesday	Thursday	Friday	Saturday	Total
Midnight - 2:59 AM	4	21	3	5	3	1	8	12	53
3:00 - 5:59 AM	2	3	1	5	5	1	3	4	22
6:00 - 8:59 AM	4	4	9	30	13	22	17	3	98
9:00 - 11:59 AM	5	8	10	7	18	19	18	12	92
Noon - 2:59 PM	6	12	21	21	16	18	23	21	132
3:00 - 5:59 PM	6	12	33	51	32	27	35	24	214
6:00 - 8:59 PM	8	17	22	30	27	22	25	27	170
9:00 - 11:59 PM	6	15	7	8	15	12	24	16	97
Unknown	0	0	0	1	0	2	1	1	5
Total	41	92	106	158	129	124	154	120	883

FIGURE 6.03
2009 Pedestrian Crashes by Time of Day

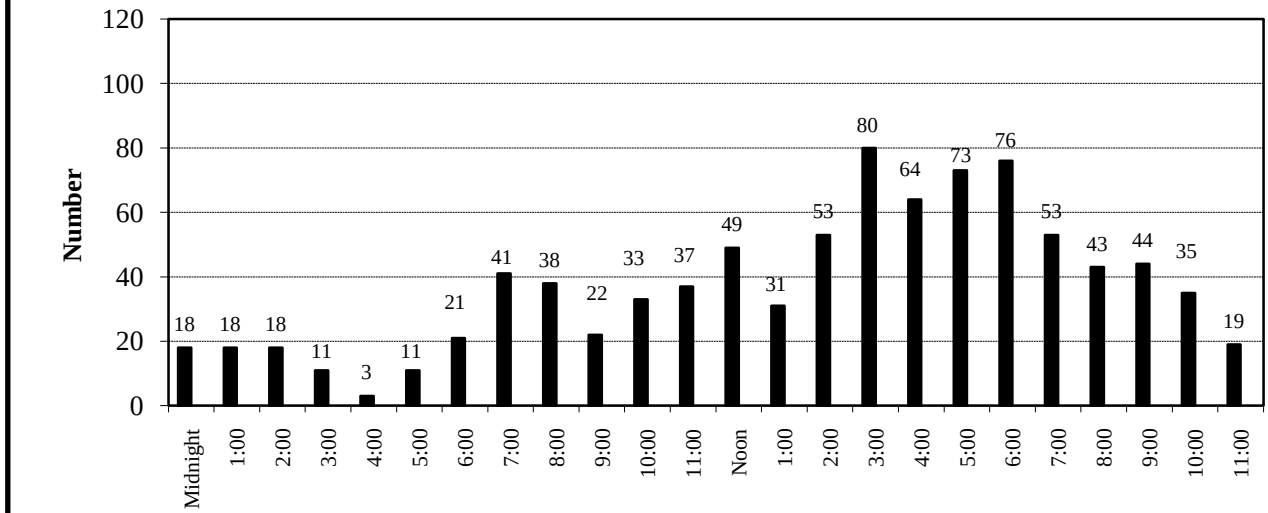


TABLE 6.06

PRIOR ACTION OF VEHICLES IN 2009 PEDESTRIAN CRASHES

Action	Vehicles in Fatal Crashes	Vehicles in Injury Crashes	Vehicles in All Crashes*
Going Straight	34	398	432
Wrong Way Opposing Traffic	0	2	2
Turning Right on Red	1	29	30
Turning Left on Red	0	3	3
Turning Right	0	69	69
Turning Left	3	213	216
Making U Turn	0	1	1
Starting From Parked	0	14	14
Starting in Traffic	1	8	9
Slowing in Traffic	0	6	6
Parking	0	3	3
Avoiding Object in Road	1	3	4
Changing Lanes	0	0	0
Passing	1	2	3
Backing	3	30	33
All Others	4	68	72
Unknown	3	18	21
Total	51	867	918

* 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 2009

	Pedestrians Killed		Pedestrians Injured	
Action	Number	Percent	Number	Percent
Crossing Road (No Crosswalk and No Signal)	12	29.3%	214	24.3%
Crossing Against Signal	5	12.2	28	3.2
Crossing With Signal	1	2.4	117	13.3
Crossing In Crosswalk (No Signal)	5	12.2	144	16.4
Walking In Road With Traffic	3	7.3	55	6.3
Walking In Road Against Traffic	1	2.4	30	3.4
Standing In Road	3	7.3	41	4.7
Emerging From Front/Behind Parked Vehicle	0	0.0	8	0.9
Child Getting On/Off School Bus	1	2.4	1	0.1
Working In Road	0	0.0	7	0.8
Getting On/Off Vehicle	0	0.0	11	1.3
Playing In Road	0	0.0	7	0.8
Not In Road	1	2.4	14	1.6
Other Pedestrian Action	1	2.4	32	3.6
Unknown	8	19.5	171	19.4
Total*	41	100.0%	880	100.0%

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

TABLE 6.08

CONTRIBUTING FACTORS IN 2009 PEDESTRIAN CRASHES

Contributing Factors	Attributed to Motor Vehicle Drivers Number	Percent
Human Factors		
Failure to Yield Right of Way	244	35.2%
Driver Inattention / Distraction	162	23.4
Vision Obscured	52	7.5
Illegal or Unsafe Speed	23	3.3
Unsafe Backing	20	2.9
Chemical Impairment	19	2.7
Improper / Unsafe Lane Use	18	2.6
Disregard of Traffic Control	14	2.0
Improper Turn	12	1.7
Improper Parking/Starting/Stopping	9	1.3
Driver Inexperience	7	1.0
Improper Passing / Overtaking	6	0.9
Following Too Closely	2	0.3
Driver on Phone/CB/Radio	2	0.3
Overcorrecting	1	0.1
Impeding Traffic	1	0.1
Failure To Use Lights	1	0.1
Other Human Factors	37	5.3
Vehicular Factors		
Skidding	7	1.0
Defective Brakes	2	0.3
Other Vehicular Factors	1	0.1
Miscellaneous Factors		
Weather Conditions	27	3.9
Other	26	3.8
Total Contributing Factors Cited	693	100.0%
Vehicles for Which There Was "No Clear Contributing Factor"	47	
Total Number of Drivers	918	

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, 2000 - 2009

			Alcohol Concentration*			
Year	Killed	Tested	(.00)	(.01 - .07)	(.08 - .09)	(.10 or more)
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%)
2009	41	33	22 (67%)	0 (0%)	1 (3%)	10 (30%)

* 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

2009 PEDESTRIAN FATALITIES' LEVEL OF ALCOHOL CONCENTRATION BY AGE

			Alcohol Concentration			
Age Group	Killed	Tested	(.00)	(.01 - .07)	(.08 - .09)	(.10 or more)
14 & Younger	6	1	1	0	0	0
15 – 19	0	0	0	0	0	0
20 – 24	3	3	1	0	0	2
25 – 29	2	2	1	0	0	1
30 – 34	3	3	2	0	0	1
35 – 39	0	0	0	0	0	0
40 – 44	7	6	2	0	1	3
45 – 49	3	3	2	0	0	1
50 – 54	2	2	0	0	0	2
55 – 59	4	4	4	0	0	0
60 – 64	2	0	0	0	0	0
65 – 69	0	0	0	0	0	0
70 – 74	2	2	2	0	0	0
75 – 79	2	2	2	0	0	0
80 – 84	4	4	4	0	0	0
85 & Older	1	1	1	0	0	0
Total	41	33	22	0	1	10

TABLE 6.11

2009 PEDESTRIAN FATALITIES' LEVEL OF ALCOHOL CONCENTRATION BY TIME OF DAY

			Alcohol Concentration			
Time of Day	**Killed**	**Tested**	**(.00)**	**(.01 - .07)**	**(.08 - .09)**	**(.10 or more)**
Midnight - 2:59 AM	4	4	1	0	0	3
3:00 - 5:59 AM	2	2	1	0	0	1
6:00 - 8:59 AM	4	4	4	0	0	0
9:00 - 11:59 AM	5	3	3	0	0	0
Noon - 2:59 PM	6	5	5	0	0	0
3:00 - 5:59 PM	6	3	3	0	0	0
6:00 - 8:59 PM	8	7	4	0	1	2
9:00 - 11:59 PM	6	5	1	0	0	4
Total	41	33	22	0	1	10

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 a 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 2009, there was a 2.4% decrease in bicycle crashes from the previous year. In 2009, there were 957 bicycle crashes compared to 981 bicycle crashes the previous year.

Injuries increase, fatalities decrease
The number of bicyclists injured increased in 2009. In 2009, 963 bicyclists were injured compared to 942 injured bicyclists in 2008, a 2.2% increase. Conversely, there were 10 bicyclist fatalities in 2009 compared to 13 fatalities in 2008, a 23.1% decrease.

Warm weather
Bicycle crashes are mostly a warm weather occurrence. In 2009, three out of five fatalities (60.0%), and injuries (61.8%) occurred during the four-month period June-September.

Time and day
Nearly one-third (32.2%) of all weekday bicycle crashes occurred during the afternoon rush hours 3:00-6:00pm. Over one out of four (26.1%) 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 (56.9%) bicycle crashes and three out of ten (30.0%) of fatal crashes occurred in cities where the population was over 50,000 people.

Males injured and killed most often
In 2009, ten male bicyclists were killed. In contrast, there were no female bicyclist fatalities. Males were also nearly three times more likely than females to be injured in a bicycle crash. Seven-hundred and three (74.9%) male bicyclists were injured compared to two hundred thirty-five (25.1%) female bicyclists.

Age and injury severity
Of the 10 bicyclists fatally injured in 2009, seven (70%) were 45 years of age or older. Conversely, of the 963 bicyclists injured 515 (53.5%) were 24 years of age or younger.

Prior action of bicyclists
Nearly two out of five (39.0%) of all bicyclists in all crashes were riding with traffic. Conversely, less than one out of twenty (4.6%) bicyclists in all crashes were riding against traffic. Two out of five (40.0%) bicyclists in fatal 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 (27.6%) bicyclists and two out of five (43.7%) other drivers. For bicyclists, non-motorist error (a violation committed by the bicyclist separate from those listed), and disregard for traffic control device and were cited the next most often. Driver inattention or distraction was the second contributing factor cited most often for other drivers.

TABLE 7.01

BICYCLE CRASH SUMMARY, 2000- 2009

	2000	2001	2002	2003	2004	2005	2006	2007	2008	2009
Bicycle Crashes	1,137	1,016	909	NA	985	965	944	1,020	981	957
Bicyclists Killed	14	7	7	6	10	7	8	4	13	10
Bicyclists Injured	1,080	960	860	NA	937	952	908	979	942	963

TABLE 7.02

2009 BICYCLE CRASHES BY MONTH

Month	Fatal Crashes	Injury Crashes	Property Damage Crashes	Total Crashes	Killed	Injured
January	0	6	0	6	0	6
February	0	14	0	14	0	14
March	0	23	0	23	0	24
April	0	64	0	64	0	65
May	2	120	0	122	2	125
June	2	149	0	151	2	150
July	2	154	0	156	2	156
August	0	135	1	136	0	138
September	2	146	0	148	2	147
October	2	55	0	57	2	57
November	0	66	1	67	0	68
December	0	13	0	13	0	13
Total	10	945	2	957	10	963

FIGURE 7.01
2009 Bicycle Crashes by Time of Day

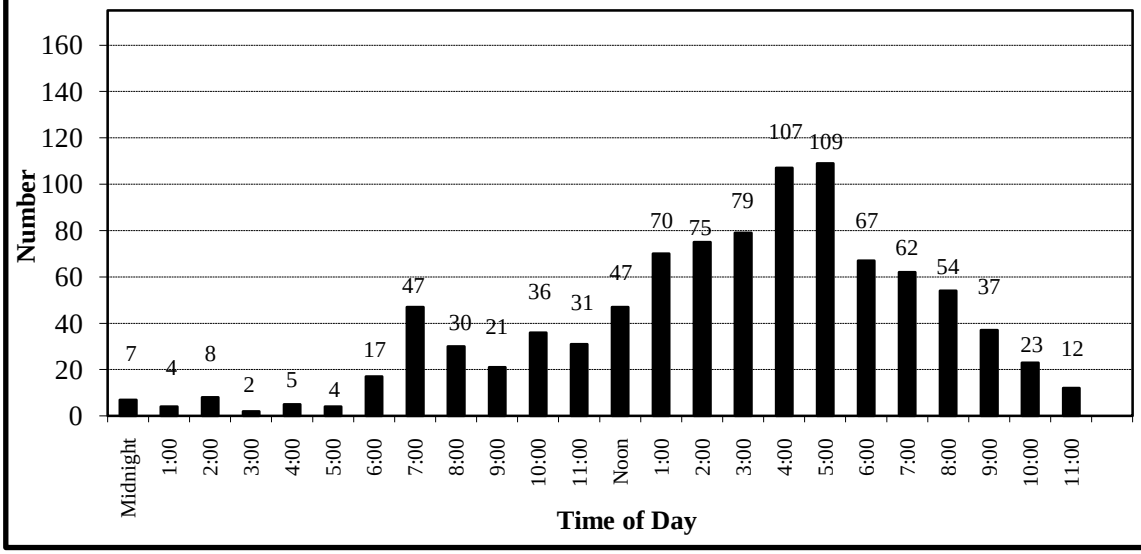


TABLE 7.03

2009 BICYCLE CRASHES BY TIME AND DAY

Time of Day	Sunday	Monday	Tuesday	Wednesday	Thursday	Friday	Saturday	Total
Midnight - 2:59 AM	3	1	2	1	1	3	8	19
3:00 - 5:59 AM	2	1	0	1	1	4	2	11
6:00 - 8:59 AM	3	21	16	18	14	17	5	94
9:00 - 11:59 AM	10	14	12	12	13	12	15	88
Noon - 2:59 PM	19	24	40	29	18	32	30	192
3:00 - 5:59 PM	20	50	51	57	52	38	27	295
6:00 - 8:59 PM	16	29	33	21	34	30	20	183
9:00 - 11:59 PM	1	17	9	12	8	19	6	72
Unknown	0	2	0	0	0	0	1	3
Total	74	159	163	151	141	155	114	957

TABLE 7.04

2009 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	1	367	0	368	1	375
100,000 - 249,999	0	26	0	26	0	27
50,000 - 99,999	2	148	1	151	2	148
25,000 - 49,999	2	114	1	117	2	118
10,000 - 24,999	1	172	0	173	1	172
5,000 - 9,999	0	47	0	47	0	49
2,500 - 4,999	0	31	0	31	0	32
1,000 - 2,499	0	14	0	14	0	15
Under 1,000	4	26	0	30	4	27
Total	10	945	2	957	10	963

FIGURE 7.02
Bicyclists Killed and Injured by Age and Gender, 2009

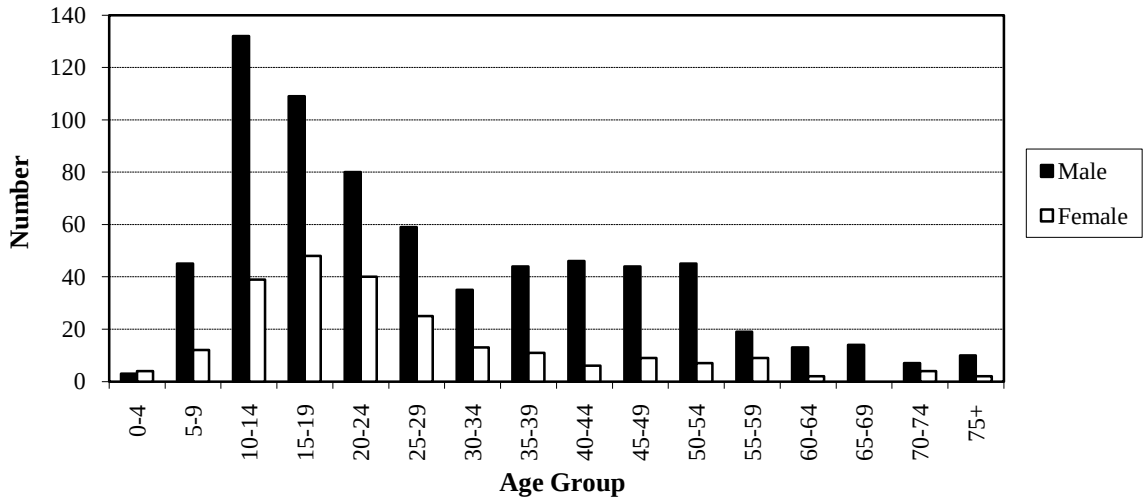


TABLE 7.05

BICYCLISTS KILLED OR INJURED BY AGE AND GENDER, 2009

	Killed			Injured											
				Severe			Moderate			Minor			Total		
Age Group	M	F	Total	M	F	Total*	M	F	Total*	M	F	Total*	M	F	Total*
00 – 04	0	0	0	1	0	1	1	0	1	1	4	5	3	4	7
05 – 09	0	0	0	4	0	4	11	5	17	30	7	37	45	12	58
10 – 14	1	0	1	10	1	11	41	11	52	80	27	107	131	39	170
15 – 19	1	0	1	4	2	6	35	18	53	69	28	99	108	48	158
20 – 24	0	0	0	2	2	4	21	16	38	57	22	80	80	40	122
25 – 29	0	0	0	1	1	2	20	13	34	38	11	50	59	25	86
30 – 34	1	0	1	1	1	2	13	3	16	20	9	29	34	13	47
35 – 39	0	0	0	0	1	1	15	5	20	29	5	34	44	11	55
40 – 44	0	0	0	1	0	1	17	3	20	28	3	32	46	6	53
45 – 49	1	0	1	4	0	4	17	1	18	22	8	30	43	9	52
50 – 54	1	0	1	1	1	2	16	2	18	27	4	31	44	7	51
55 – 59	2	0	2	0	0	0	7	4	11	10	5	15	17	9	26
60 – 64	1	0	1	0	0	0	5	0	5	7	2	9	12	2	14
65 – 69	0	0	0	2	0	2	5	0	5	7	0	7	14	0	14
70 – 74	1	0	1	0	0	0	3	2	5	3	2	5	6	4	10
75 & Older	1	0	1	0	0	0	5	0	5	4	2	6	9	2	11
Not Stated	0	0	0	2	0	2	2	1	6	4	3	21	8	4	29
Total	10	0	10	33	9	42	234	84	324	436	142	597	703	235	963

* 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 2009 CRASHES

Prior Action	Bicyclists in Fatal Crashes	Bicyclists in Injury Crashes	Bicyclists in Property Damage Crashes	Bicyclists in All Crashes*
Riding With Traffic	2	377	2	381
Riding Against Traffic	0	45	0	45
Making Right Turn	0	4	0	4
Making Left Turn	1	30	0	31
Making U-Turn	0	1	0	1
Riding Across Road	4	71	0	75
Slowing/Stopping/Starting	0	14	0	14
Other/Unknown	3	421	3	427
Total	10	963	5	978

* 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 2009 BICYCLE CRASHES

Contributing Factors	Attributed to Bicyclists Number	Attributed to Bicyclists Percent	Attributed to Motor Vehicle Drivers Number	Attributed to Motor Vehicle Drivers Percent
Human Factors				
Failure to Yield Right of Way	150	27.6%	242	43.7%
Non-Motorist Error	102	18.8	0	0.0
Disregard Traffic Control Device	68	12.5	20	3.6
Driver Inattention/Distraction	34	6.3	151	27.3
Improper/Unsafe Lane Use	29	5.3	7	1.3
Driver Inexperience	14	2.6	6	1.1
Chemical Impairment	16	2.9	5	0.9
Improper Turn	3	0.6	10	1.8
Vision Obscured	5	0.9	37	6.7
Illegal/Unsafe Speed	6	1.1	6	1.1
Failure to Use Lights	18	3.3	0	0.0
Driving Left of Center	4	0.7	0	0.0
Improper Park/Start/Stop	2	0.4	4	0.7
Following Too Closely	3	0.6	1	0.2
Improper Passing/Overtaking	3	0.6	5	0.9
Impeding Traffic	2	0.4	2	0.4
Driver On Phone/CB	0	0.0	1	0.2
Unsafe Backing	0	0.0	4	0.7
Improper/No Signal	1	0.2	1	0.2
Other Human Factors	14	2.6	19	3.4
Vehicular Factors				
Defective Brakes	18	3.3	1	0.2
Skidding	0	0.0	2	0.4
Other Vehicular Factor	2	0.4	2	0.4
Miscellaneous Factors				
Weather Conditions	7	1.3	7	1.3
Other	42	7.7	21	3.8
Total	543	100.0%	554	100.0%
Vehicles for Which There Was "No Clear Contributing Factor"	336		433	
Total Number of Bicyclists/Drivers	969		974	

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 2009, there were 168 crashes resulting in 91 injuries in which a school bus was indirectly involved.

Number of crashes increases
School bus crashes have increased. In 2009, there were 670 traffic crashes directly involving at least one school bus. That total is a 2% increase from the previous year.

Four deaths in 2009
In 2009, there were four fatal school bus crashes resulting in four deaths. One of the fatalities was a child hit by the bus after exiting; one was an elderly pedestrian hit by a bus while in a crosswalk; two were drivers of other vehicles that were struck while failing to yield at intersections.

Morning and afternoon rush hours
Nearly two out of three (66%) school bus crashes and school bus crash injuries (66%) in 2009 occurred during the time periods of 6-9 a.m. and 3-6 p.m. Nine out of ten (93%) of school bus crashes occurred during school year months September through May.

School bus stop arm
Only 2% of all school bus crashes occurred when the school bus stop arm was deployed. Eleven injuries and one fatality occurred in school bus crashes where the school bus stop arm was in use.

Contributing factors
Although there were 670 school bus crashes in 2009, a few involved more than one school bus. In all there were 675 school buses in crashes. For 52% 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 (19%), and failure to yield right of way (17%). The third most frequently cited contributing factor was improper turn (12%). The most commonly cited contributing factors attributed to drivers of other vehicles in school bus crashes were driver inattention and distraction (20%), failure to yield right of way (14%), and illegal or unsafe speed (11%).

TABLE 8.01

SCHOOL BUS CRASH SUMMARY, 2000 - 2009

	2000	2001	2002	2003	2004	2005	2006	2007	2008	2009
Total Crashes	890	852	719	NA	702	717	625	680	663	670
Fatal Crashes	2	4	3	3	3	7	1	7	1	4
Persons Killed	2	4	5	3	3	7	1	8	4	4
Injury Crashes	203	182	144	NA	150	140	137	126	107	144
Persons Injured	388	355	299	NA	266	250	241	243	188	233
Property Damage Crashes	685	666	572	NA	549	570	487	547	555	522
School Buses Directly Involved	903	857	731	NA	708	724	631	690	670	675

TABLE 8.02

2009 SCHOOL BUS CRASHES BY TIME OF DAY

Time of Day	Fatal Crashes	Injury Crashes	Property Damage Crashes	Total Crashes	Killed	Injured
Midnight - 2:59 AM	0	0	5	5	0	0
3:00 - 5:59 AM	0	4	11	15	0	5
6:00 - 8:59 AM	1	47	176	224	1	79
9:00 - 11:59 AM	0	12	57	69	0	21
Noon - 2:59 PM	1	28	82	111	1	37
3:00 - 5:59 PM	2	48	170	220	2	81
6:00 - 8:59 PM	0	4	7	11	0	8
9:00 - 11:59 PM	0	1	3	4	0	2
Unknown	0	0	11	11	0	0
Total	4	144	522	670	4	233

TABLE 8.03

2009 SCHOOL BUS CRASHES BY MONTH

Month	Fatal Crashes	Injury Crashes	Property Damage Crashes	Total Crashes	Killed	Injured
January	0	21	110	131	0	25
February	0	13	68	81	0	21
March	1	8	51	60	1	12
April	1	11	31	43	1	16
May	1	12	34	47	1	15
June	0	5	23	28	0	8
July	0	2	7	9	0	4
August	0	3	6	9	0	3
September	0	15	43	58	0	26
October	1	24	47	72	1	47
November	0	7	29	36	0	18
December	0	23	73	96	0	38
Total	4	144	522	670	4	233

TABLE 8.04

AGE AND GENDER OF PERSONS INJURED IN 2009 SCHOOL BUS CRASHES

Age Group	In Bus	Pedestrian	In Other Vehicle	Male	Female	Total*
00 - 04	1	0	1	1	1	2
05 - 09	19	2	4	13	12	25
10 - 14	36	2	0	21	17	38
15 - 19	14	1	17	22	10	32
20 - 24	2	0	15	10	7	17
25 - 29	1	0	11	6	5	12
30 - 34	5	0	10	9	6	15
35 - 39	5	1	10	10	6	16
40 - 44	6	1	10	12	5	17
45 - 49	3	0	4	5	2	7
50 - 54	4	0	4	5	3	8
55 - 59	5	0	9	5	9	14
60 - 64	2	0	3	2	3	5
65 & Older	2	1	15	8	10	18
Unknown	5	0	2	2	1	7
Total	110	8	115	131	97	233

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

TABLE 8.05

PERSONS KILLED OR INJURED IN 2009 SCHOOL BUS CRASHES BY POPULATION OF AREA

Population of City or Township	Killed	Injured			
		Severe	Moderate	Minor	Total
250,000 and Over	1	3	3	42	48
100,000 - 249,999	0	0	1	5	6
50,000 - 99,999	0	2	8	36	46
25,000 - 49,999	0	1	2	21	24
10,000 - 24,999	1	1	7	37	45
5,000 - 9,999	0	2	5	8	15
2,500 - 4,999	0	0	0	4	4
1,000 - 2,499	0	0	2	2	4
Under 1,000	2	4	8	29	41
Total	4	13	36	184	233

TABLE 8.06

2009 SCHOOL BUS CRASHES BY FIRST HARMFUL EVENT

First Harmful Event	Fatal Crashes	Injury Crashes	Property Damage Crashes	Total Crashes	Killed	Injured
Collision With:						
Other Motor Vehicle	2	124	430	556	2	207
Parked Motor Vehicle	0	5	78	83	0	6
Bicycle	0	2	0	2	0	2
Pedestrian	2	8	0	10	2	9
Deer	0	0	2	2	0	0
Fixed Object	0	4	7	11	0	7
Other/Unknown	0	1	5	6	0	2
Total	4	144	522	670	4	233

TABLE 8.07

2009 SCHOOL BUS CRASHES BY TRAFFIC CONTROL DEVICE

Traffic Control Device	Fatal Crashes	Injury Crashes	Property Damage Crashes†	Total Crashes*	Killed	Injured
Traffic Signal	1	42	120	163	1	65
Overhead Flashers	0	0	1	1	0	0
Stop Sign--All Approaches	0	5	16	21	0	9
Stop Sign--Not All Approaches	2	30	115	147	2	53
Yield Sign	0	3	12	15	0	9
School Bus Stop Arm	1	8	7	16	1	11
School Zone Sign	0	0	1	1	0	0
No Passing Zone	0	0	1	1	0	0
Railroad Crossing Stop Sign	0	0	5	5	0	0
Other	0	5	12	17	0	11
Not Applicable	0	51	226	277	0	75
Total	4	144	522	670	4	233

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

TABLE 8.08

CONTRIBUTING FACTORS IN 2009 SCHOOL BUS CRASHES

Contributing Factors	Attributed to School Bus Drivers Number	Attributed to School Bus Drivers Percent	Attributed to Drivers of Other Vehicles Number	Attributed to Drivers of Other Vehicles Percent
Human Factors				
Driver Inattention/Distraction	60	19.1%	102	19.5%
Failure to Yield Right of Way	54	17.2	71	13.6
Improper Turn	37	11.8	5	1.0
Improper/Unsafe Lane Use	25	8.0	24	4.6
Following Too Closely	21	6.7	43	8.2
Unsafe Backing	13	4.1	11	2.1
Illegal/Unsafe Speed	9	2.9	59	11.3
Vision Obscured	8	2.5	11	2.1
Improper Passing/Overtaking	7	2.2	12	2.3
Driver Inexperience	7	2.2	27	5.2
Improper Park/Start/Stop	6	1.9	7	1.3
Disregard of Traffic Control Device	5	1.6	21	4.0
Driving Left of Center	5	1.6	3	0.6
Improper/No Signal	1	0.3	1	0.2
Overcorrecting	1	0.3	3	0.6
Impeding Traffic	1	0.3	1	0.2
Non-Motorist Error	1	0.3	4	0.8
Chemical Impairment	0	0.0	5	1.0
Failure to Use Lights	1	0.3	2	0.4
Other Human Factors	1	0.3	4	0.8
Vehicular Factors				
Skidding	12	3.8	46	8.8
Defective Brakes	3	1.0	3	0.6
Other Vehicular Factors	1	0.3	1	0.2
Miscellaneous Factors				
Weather Conditions	16	5.1	39	7.5
Other	19	6.1	17	3.3
Total	314	100.0%	522	100.0%
Vehicles for Which There Was "No Clear Contributing Factor"	355		239	
Total Number of Drivers	680		701	

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 2009, 11% 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 2009, there were 37 motor vehicle/train crashes, three fewer crashes than were reported the previous year.

Number of fatalities remain low
Although vehicle/train crashes decreased slightly, there were five persons killed in 2009 – one more than in 2008.

Railroad crossings with flashing lights or gates
Railroad crossings without some type of flashing lights or gates are very dangerous. Twenty-four (65%) of the 37 motor-vehicle/train crashes, including three of the four fatal crashes, occurred at a railroad crossing without flashing lights or gates. Only six 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 2009, 38 percent of the total crashes, 27 percent of injuries, and 80 percent of fatalities occurred in rural areas.

Contributing factors
For motor vehicle drivers involved in train crashes, failure to yield right of way, disregard for traffic control device, and driver inattention or distraction were the three contributing factors cited most often by officers.

TABLE 9.01

MOTOR VEHICLE / TRAIN CRASH SUMMARY, 2000 - 2009

	2000	2001	2002	2003	2004	2005	2006	2007	2008	2009
Total Crashes	79	70	77	NA	72	52	51	56	40	37
Fatal Crashes	3	5	6	5	12	5	8	2	3	4
Persons Killed	4	6	9	8	13	6	9	2	4	5
Injury Crashes	32	22	27	NA	21	22	10	16	17	11
Persons Injured	43	28	37	NA	27	29	15	20	20	15
Property Damage Crashes	44	43	44	NA	39	25	33	38	20	22

TABLE 9.02

2009 MOTOR VEHICLE / TRAIN CRASHES BY MONTH

Month	Fatal Crashes	Injury Crashes	Property Damage Crashes	Total	Killed	Injured
January	1	1	4	6	1	1
February	0	0	2	2	0	0
March	1	0	2	3	1	0
April	0	1	3	4	0	3
May	0	1	0	1	0	1
June	0	0	0	0	0	0
July	1	1	1	3	2	1
August	1	1	1	3	1	2
September	0	1	2	3	0	1
October	0	0	1	1	0	0
November	0	3	2	5	0	3
December	0	2	4	6	0	3
Total	4	11	22	37	5	15

TABLE 9.03

2009 MOTOR VEHICLE / TRAIN CRASHES BY TIME AND DAY

Time of Day	Sunday	Monday	Tuesday	Wednesday	Thursday	Friday	Saturday	Total
Midnight - 2:59 AM	0	1	0	0	0	0	1	2
3:00 - 5:59 AM	0	0	0	0	0	0	3	3
6:00 - 8:59 AM	0	0	2	0	0	0	1	3
9:00 - 11:59 AM	2	1	2	0	3	1	0	9
Noon - 2:59 PM	0	2	1	1	1	1	1	7
3:00 - 5:59 PM	0	2	2	0	0	0	1	5
6:00 - 8:59 PM	0	1	1	1	0	1	0	4
9:00 - 11:59 PM	1	1	0	0	0	1	1	4
Total	3	8	8	2	4	4	8	37

TABLE 9.04

2009 MOTOR VEHICLE / TRAIN CRASHES BY TRAFFIC CONTROL DEVICE

Traffic Control Device	Fatal Crashes	Injury Crashes	Property Damage Crashes	Total Crashes	Killed	Injured
Stop Sign All Approaches	0	3	3	6	0	3
RR Crossing Gate	1	1	4	6	1	1
RR Flashing Lights	0	0	1	1	0	0
RR Crossing Stop Sign	2	1	5	8	3	1
RR Overhead Lights/Gate	0	3	3	6	0	4
RR Crossbuck	1	0	2	3	1	0
Other Device	0	3	4	7	0	6
Total	4	11	22	37	5	15

TABLE 9.05

2009 MOTOR VEHICLE / TRAIN CRASHES AGE OF PERSONS KILLED OR INJURED

		Injured			
Age Group	Killed	Severe	Moderate	Minor	Total
00 - 04	0	0	0	1	1
05 - 09	0	0	0	1	1
10 - 14	0	0	0	1	1
15 - 19	1	1	0	2	3
20 - 24	1	0	1	2	3
25 - 29	0	0	0	1	1
30 - 34	0	0	0	0	0
35 - 39	0	0	0	0	0
40 - 44	2	0	0	0	0
45 - 49	1	0	1	0	1
50 - 54	0	0	0	0	0
55 - 59	0	1	0	0	1
60 - 64	0	0	0	0	0
65 - 69	0	0	0	1	1
70 - 74	0	0	0	0	0
75 - 79	0	0	0	1	1
80 & Older	0	0	0	1	1
Not Stated	0	0	0	0	0
Total	5	2	2	11	15

TABLE 9.06

2009 MOTOR VEHICLE / TRAIN CRASHES BY POPULATION OF AREA

Population of City or Township	Fatal Crashes	Injury Crashes	Property Damage Crashes	Total Crashes	Killed	Injured
250,000 and Over	1	1	2	4	1	1
100,000 - 249,999	0	0	0	0	0	0
50,000 - 99,999	0	2	4	6	0	5
25,000 - 49,999	0	1	3	4	0	1
10,000 - 24,999	0	0	4	4	0	0
5,000 - 9,999	0	3	2	5	0	4
2,500 - 4,999	0	0	1	1	0	0
1,000 - 2,499	0	0	0	0	0	0
Under 1,000	3	4	6	13	4	4
Total	4	11	22	37	5	15

TABLE 9.07

2009 MOTOR VEHICLE / TRAIN CRASHES CONTRIBUTING FACTORS

Contributing Factor	Number	Percent
Human Factors		
Failure to Yield Right of Way	14	28.6%
Disregard for Traffic Control Device	12	24.5
Driver Inattention/Distraction	8	16.3
Improper Turn	2	4.1
Vision Obscured – Windshield	2	4.1
Illegal/Unsafe Speed	1	2.0
Improper /Unsafe Lane Use	1	2.0
Improper Parking/Starting/Stopping	1	2.0
Chemical Impairment	1	2.0
Non-Motorist Error	1	2.0
Vehicular Factors		
Defective Brakes	1	2.0
Other		
Weather	3	6.1
Other Contributing Factor	2	4.1
Total	49	100.0%
Vehicles for Which There Was "No Clear Contributing Factor"	16	
Number of Drivers	55	

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 traffic-way in Minnesota and results in injury, death, or at least $1,000.00 in property damage.

Occupant -- Any person who is in or on a vehicle, including the driver, passenger, and persons riding on the outside of the vehicle.

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

Passenger -- Any occupant of a motor vehicle other than the driver.

Pedestrian -- Any person not in or on a motor vehicle or other vehicle (e.g., a bicycle).

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

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

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

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

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

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

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

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

MINNESOTA DEPARTMENT OF PUBLIC SAFETY
OFFICE OF TRAFFIC SAFETY
444 CEDAR ST. #150
SAINT PAUL, MN 55101
www.dps.state.mn.us/ots

Pre-Sorted
Standard
U.S. Postage
PAID
Saint Paul, MN
Permit No. 171