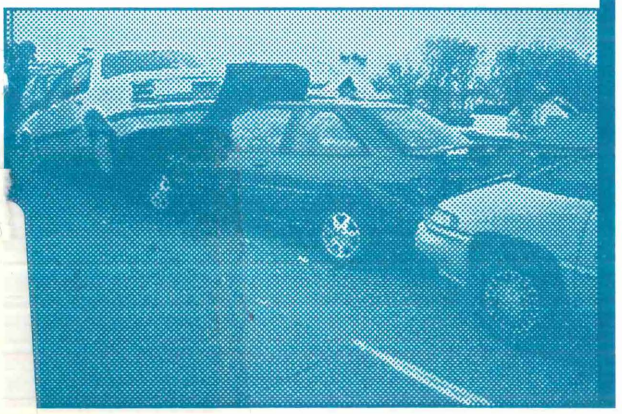

Minnesota Motor Vehicle

1995

CRASH FACTS

Minnesota Department of Public Safety

Pursuant to Minn. Stat. 169.10

MINNESOTA MOTOR VEHICLE CRASH FACTS 1995

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

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STATE OF MINNESOTA
DEPARTMENT OF PUBLIC SAFETY

June 1996

Motor vehicles are a part of our lives. We use them to go to work, and many of us use them in our work. We use them to take us shopping and on vacations. We use vehicles not only because we have to, but often just because we want to. The prominence of vehicles in our lives is seen as a symbol of our country's prosperity. The infinite variety of colors and the sometimes extravagant designs of our vehicles in a way symbolizes an exuberance and optimism for life.

We depend on and benefit from our vehicles, but we must acknowledge the other side of the coin, too. A motor vehicle can be and often is a powerful tool of violence, destruction, and death. More people between the ages of 1 and 24 die from traffic crashes than from any other cause, including homicide, suicide, natural diseases, and all other categories of unintended injury, such as drowning or fires. Traffic crashes cause lifetime disabilities. They may cause severe, permanent brain injury. They are the most frequent cause of paraplegia and quadriplegia among persons of all ages.

The Minnesota Department of Public Safety is charged to promote safety, and we take that charge seriously. We will do everything in our power to increase safety on public roadways and will enforce the laws as aggressively as we can. But the extent of what government can do is very limited compared to what citizens themselves can do to protect themselves from needless death and from painful and crippling injury.

What you can do is actually very simple, easy to remember, and not costly. When you are driving, pay attention to your driving. It should never be treated as a task that is secondary to any other activity. Always wear your seat belt. Seat belts reduce your chances of suffering death or severe injury in a serious crash by 40 to 60%. Illegal or unsafe speed is the most frequently cited contributing factor in fatal crashes. Always drive at speeds that are legal and safe for conditions. Impairment of driving abilities by alcohol begins with the first drink and increases rapidly thereafter. Legal and illegal drugs impair abilities as well. Never drive impaired.

Let us all do the most we can, and together we will work to make our state the safest state.

Sincerely,

Donald E. Davis

Donald E. Davis
Commissioner

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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 -- A non-fatal injury 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 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 under 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 motorscooter/motorbike.

Motorcycle Crash -- A motor vehicle crash involving one or more motorcycles.

Motor Vehicle -- A self-propelled vehicle, including attached trailers and semitrailers 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 $500.00 in property damage. (On August 1st, 1994 the reporting threshold for property damage crashes rose to $1,000.)

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 under 5,000.

School Bus Crash -- A crash involving one or more school buses.

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 stepvan, (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.

INTRODUCTION

At the end of the 1995 calendar year, 3,388,357 people held Minnesota driver licenses and 3,684,846 motor vehicles were registered in the state. Vehicles traveled over 44.1 billion miles on public roadways in the state. There were 96,022 traffic crashes; 597 people died and 47,161 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, though, the experience of the last two 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 accidents (from all causes) are the leading cause of death among persons aged 1 to 37 and the fifth leading cause of death among all persons (*Accident Facts, 1994 Edition,* p. 6).

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 1994 data. Based on those, the total economic loss from 1995 traffic crashes in Minnesota was $1,611,773,200, a figure which is calculated as follows:

Cost of Motor Vehicle Crashes in 1995

597	deaths	@$920,000	=$549,240,000
3,826	severe injuries	@ $46,000	=$175,996,000
16,053	moderate injuries	@ $14,000	=$224,742,000
27,282	minor injuries	@ $8,800	=$240,081,600
63,896	property damage crashes	@ $6,600	=$421,713,600
		Total =	$1,611,773,200

Factors Affecting Traffic Crashes

Many factors may contribute to even a single crash. A domestic quarrel 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 is 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 physical impairment (usually by alcohol). Reducing these behaviors would reduce crashes. 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.

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

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

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

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

The age structure of the population has a strong effect on crash incidence, although it is not generally thought about since demographic changes are so gradual. In Minnesota, about one in eight teenage drivers are involved in crashes each year. The involvement rate drops off for successive age groups. For example, it is about 1 in 25 for drivers in their forties. The aging of the baby boom has reduced crash incidence.

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. Last year, there were 40,200 traffic fatalities throughout the country and 644 in Minnesota. The respective rates per hundred million miles of travel were 1.7 and 1.5. 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 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 has been 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 mandatory 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 Office of Traffic Safety, Minnesota Department of Public Safety, in accordance with state law. Minnesota Statutes, Section 169.09, requires that traffic crashes be reported to the Department. Section 169.10 then requires the Department to ". . . tabulate . . . all accident reports . . . and publish annually . . . statistical information based thereon as to the number and circumstances of traffic accidents."

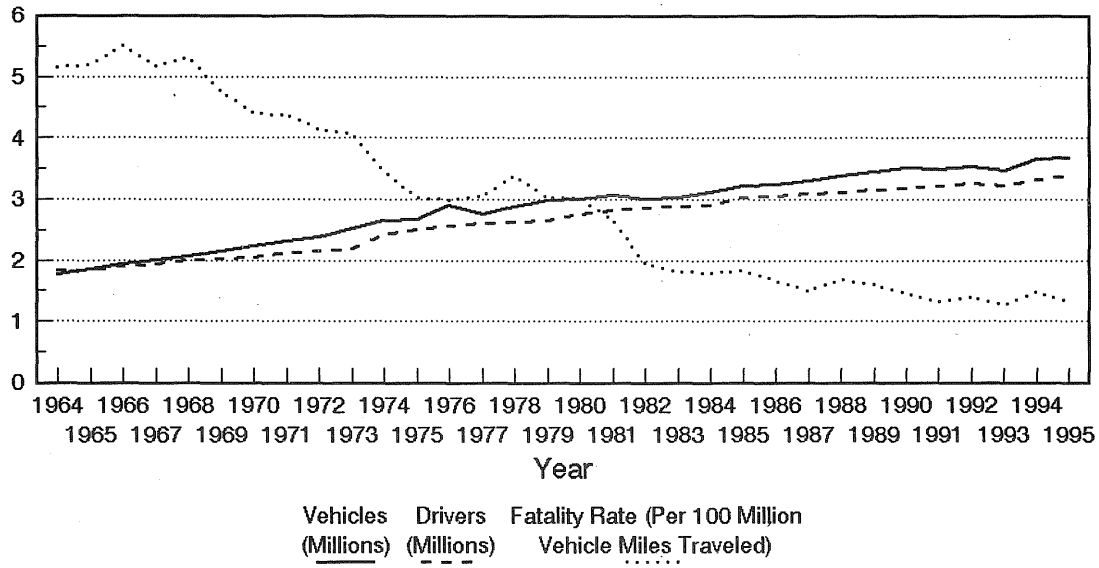
Section 169.09 specifies that a driver involved in an accident that results in injury to or death of any person or total property damage of $1,000 or more must submit a report within ten days of the crash. The law enforcement officer who investigates the crash must also submit a report within ten days.

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 in 1976, and then to $500 in 1981. The current minimum of $1,000 was just put into effect August 1, 1994.

Crash Facts is divided into nine sections. The first presents 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, 1964-1995



I: ALL CRASHES

TEN-YEAR TRENDS AND 1995

Over the last decade, total crashes in the state varied by 7% or less above or below an average of just over 99,000 per year. The number of people injured each year was similarly stable around an average of about 44,300. Within this total of people injured, however, there was a trend in which more severe injuries decreased as moderate and minor injuries increased. Traffic deaths averaged 578 per year, without clearly trending up or down. The year 1995 tended to follow these patterns.

Total traffic crashes decreased to 96,022, down 4% from both the prior year and the prior five-year average. However, the decline occurred in property damage crashes and it is probably due to the change in the dollar amount at which property damage crashes are required to be reported (from $500 to $1,000). The change took effect August 1, 1994, making 1995 the first full year under the new law. People injured numbered 47,161, the highest number since 1979. However, there were only 3,826 severe injuries, the lowest number over the time records are available. In the ten years since 1986, severe injuries steadily declined from 13.2% of all injuries to 8.1% last year. Severe injuries can cause lifetime disabilities such as permanent brain injury, paraplegia, and quadriplegia. Thus, this downward trend is a special achievement due largely to safer cars and increased use of safety restraint devices. Last year there were 597 traffic deaths, up 4% from the prior five-year average, but down 7% from 1994.

The following sections give an overview of 1995 crash statistics, focusing on *who* was involved, *why* the crashes occurred, *what* the conditions were, and on *where* and *when* they occurred.

WHO was involved

The young are over-represented

One in ten licensed teenage drivers was involved in a reported traffic crash in 1995. The proportion goes down steadily across each subsequent five-year age group: It was 1 in 12 among 20-24 years old, 1 in 17 among 25-29 year-olds, 1 in 28 among 45-49 year-olds, 1 in 42 among 80-84 year-olds. Drivers in their teens and twenties made up 293 (35%) of the 828 drivers in fatal crashes, and 67,882 (40%) of the 168,678 drivers in all reported crashes. Male drivers outnumbered female drivers almost 3 to 1 in fatal crashes, and 1.5 to 1 in all crashes. The young are similarly over-represented among crash victims: 36% of those killed and 42% of those injured were aged 15 to 29. Males comprised 63% of those killed; but just under half of those injured.

Motorists and non-motorists

About 3% of motor vehicle crashes involve non-motorists. In 1995, 5 bicyclists died and 1,283 were injured; 49 pedestrians died and 1,471 were injured. The remaining 543 people killed and 44,407 people injured were motorists. Ninety-four percent of the motorists killed and 96% of those injured were in a car, pick-up, or van, or riding a motorcycle. The small number remaining were in special categories of vehicles: snowmobiles, farm tractors or equipment, taxicabs, buses, police vehicles, and so on.

WHY the crashes occurred

For each driver in a crash, reporting officers may indicate zero, one, or two factors (from a list of 30 factors) that they believe contributed to the crash. In a two-car collision, police often cite two factors for one vehicle and zero or one for the other. Three factors together account for one-half of factors cited: driver inattention or distraction (22% of the total), failure to yield right-of-way (16%), and illegal or unsafe speed (12%).

However, the factors vary some with crash severity, age of drivers, and whether the crash involved one or more than one vehicle. Illegal or unsafe speed is cited more often as crash severity increases. It is the most frequently cited factor in fatal crashes (16% of the total factors cited), and is cited the most often for drivers through age 34 in single-vehicle crashes. Driver inattention or distraction is cited most in injury and property damage crashes (about 22% of the time), and it is the most frequently cited factor for young and middle-aged drivers in multi-vehicle crashes (about 25% of all factors cited). Failure to yield right-of-way is cited most often--about one-third of the time--for older (over 65) drivers in multi-vehicle crashes. Other important factors cited include physical impairment (especially in fatal crashes), driver inexperience (especially for young drivers in single-vehicle crashes), and following too closely (especially for young and middle-aged drivers in multi-vehicle crashes).

WHAT the conditions were

First harmful event: hitting another vehicle

In half of all fatal traffic crashes, the first harmful event is that one motor vehicle in transport (as opposed to a parked vehicle) collides with another

motor vehicle in transport. Most of the remaining fatal crashes involved a collision with a fixed object (18%), a non-collision overturn crash (14%), or a collision with a pedestrian (8%). Two-thirds of non-fatal crashes are collisions with another motor vehicle in transport. Of the remainder, most are collisions with fixed objects (11%), with a parked vehicle (6%), with a deer (6%), or a non-collision overturn crash (5%). Seventy percent of fatal crashes and 52% of non-fatal crashes occurred where there's no traffic control device. One-fifth of non-fatal crashes occurred at a traffic light; one-eighth occurred at an intersection where there was a stop sign, but not a four-way stop.

Driving conditions good and bad

Most crashes at all severity levels occur during daylight hours and on dry road surface conditions. For example, last year, 51% of fatal crashes and 63% of all crashes occurred in daylight, and 72% of fatal and 62% of all crashes occurred on dry roads. However, driving conditions in the state are normally good and most travel occurs in daylight hours. Poor driving conditions may account for a disproportionate share of fatal and non-fatal crashes. In 1995, 141 fatal crashes (27%) occurred in the dark where there were no street lights; 134 (26%) occurred on roads reported to be wet, snow- or slush-covered, or covered with ice or packed snow. Thirty-five percent of non-fatal crashes occurred on such road surfaces.

WHERE they occurred

Two-lane, two-way roads

Speed is almost a prerequisite for the most severe crashes. Two-hundred-eighty-eight (56%) of the 515 fatal crashes occurred on trunk and county-state-aid highways in rural areas (defined as areas with a population of 5,000 or less). These are normally high-speed, two-lane, two-way roads. Another 93 fatal crashes (18%) occurred on trunk and county-state-aid highways in rural areas. Non-fatal crashes are more often urban events. They are most numerous on urban local streets (27%), urban trunk highways (17%), and urban county-state-aid highways (17%). In all, 70% of fatal crashes happened in rural areas, and 70% of non-fatal crashes happened in urban areas.

Total crashes follow population density. The four most populous counties (Hennepin, Ramsey, Dakota, and Anoka), account for 2% of the land area of the state, 47% of the population, and 53% of the crashes. The ten least populous counties (Cook, Traverse, Lake of the Woods, Red Lake, Mahnomen, Kittson, Big Stone, Grant, Lincoln, and Wilkin), account for 10% of the land area of the state, 1% of the population, and 1% of the crashes.

WHEN they occurred

Hourly and seasonal trends

Trends in the timing of crashes that used to be more pronounced are dissipating or were less clear in 1995. In the 1970s and somewhat in 1980s, fatal crashes clearly rose to their highest peak in the hour between 1:00 and 2:00 AM, while injury and property damage crashes were most numerous in the later afternoon rush hours. Now, however, fatal crashes tend to follow total crashes, with a comparatively lower peak between 1:00 and 2:00 AM. In 1995, the hours beginning at 2:00 PM, 3:00 PM, 6:00 PM, and 7:00 PM all had as many or more fatal crashes than the 1:00 AM hour.

Seasonal trends were also less apparent in 1995. Historically, fatal crashes peak in the warm, dry summer months conducive to fast driving and a more varied mix of vehicle types and sizes. In 1995, the summer peak was less clear. October had the most fatal crashes (57), followed by July (54), then June and August (48 each), and then November and December (43 each). By contrast, total crashes tend to follow inclement weather, peaking in the winter months. This pattern was evident, but weak, in 1995. December had the most crashes, followed by November, then October. However the remainder were fairly evenly distributed across the other nine months, with June having the fourth highest total number.

Two bad holidays

Fatal crashes are somewhat more numerous on Fridays, Saturdays, and Sundays than on the other four days of the week. In 1995, the three days together accounted for 276 (54%) of fatal crashes. On an average Friday, Saturday, and Sunday (a 72-hour period), there were 5.3 fatal crashes. The July Fourth holiday in 1995 was particularly hazardous. It lasted 102 hours and had 13 fatal crashes killing 20 people. The 1995-96 New Year's holiday was even worse. It was 78 hours long, and had 13 fatal crashes killing 18 people. January 1, 1996, alone had 5 fatal crashes killing 9 people.

TABLE 1.01

CRASH, FATALITY, AND INJURY SUMMARY, 1986 - 1995

	1986	1987	1988	1989	1990	1991	1992	1993	1994	1995
Traffic Crashes	95,460	94,095	102,094	105,996	99,236	101,419	96,808	100,907	99,701	96,022
Persons Killed	572	530	615	605	568	531	581	538	644	597
Persons Injured	42,130	42,091	44,415	45,404	44,634	42,748	43,249	44,987	46,403	47,161
Registered Motor Vehicles (Millions of Vehicles)	3.25	3.31	3.39	3.46	3.52	3.51	3.55	3.48	3.67	3.68
Licensed Drivers* (Millions of Drivers)	3.07	3.10	3.13	3.16	3.18	3.22	3.27	3.28	3.34	3.39
Vehicular Miles Traveled (Billions of Miles)	34.2	35.1	36.4	37.6	38.8	39.3	41.3	42.3	43.4	44.1
Fatality Rate Per Hundred Million Vehicle Miles Traveled	1.67	1.51	1.69	1.61	1.47	1.35	1.41	1.27	1.48	1.35
Fatality Rate Per 100,000 Registered Motor Vehicles	17.6	16.0	18.1	17.5	16.1	15.1	16.4	15.5	17.6	16.2
Fatality Rate Per 100,000 Population	13.6	12.6	14.3	13.9	13.0	12.0	13.0	11.9	14.1	13.0
Crash Rate Per Hundred Million Vehicle Miles Traveled	279	268	280	282	256	258	235	239	230	218
Crash Rate Per 100,000 Registered Vehicles	2,937	2,840	3,012	3,060	2,817	2,890	2,730	2,899	2,720	2,606
Crash Rate Per 100,000 Population	2,266	2,233	2,371	2,435	2,268	2,288	2,161	2,234	2,183	2,083

* Permits included.

TABLE 1.02

TRAFFIC CRASH TRENDS
1990 - 1995

	1990	1991	1992	1993	1994	*1990-1994 Average*	1995	% Change from 5 Yr Average	Record High	
Total Crashes	**99,236**	**101,419**	**96,808**	**100,907**	**99,701**	**99,614.2**	**96,022**	**-3.6**	**123,106**	**(1975)**
Fatal Crashes	**503**	**469**	**494**	**477**	**550**	**498.6**	**515**	**+3.3**	**878**	**(1973)**
Injury Crashes	**30,684**	**28,890**	**29,117**	**30,257**	**31,307**	**30,051.0**	**31,611**	**+5.2**	**33,686**	**(1978)**
Severe	4,016	3,356	3,387	3,206	3,172	3,427.4	2,967	-13.4	5,109	(1984)[1]
Moderate	10,641	10,421	10,204	10,503	11,057	10,565.2	11,294	+6.9	12,326	(1985)[1]
Minor	16,027	15,113	15,526	16,548	17,078	16,058.4	17,350	+8.0	17,078	(1994)[1]
Property Damage Crashes	**68,049**	**72,060**	**67,197**	**70,173**	**67,844**	**69,064.6**	**63,896**	**-7.5**	**94,810**	**(1975)**
Total Injuries	**44,634**	**42,748**	**43,249**	**44,987**	**46,403**	**44,404.2**	**47,161**	**+6.2**	**50,332**	**(1978)**
Severe	5,015	4,302	4,391	4,139	4,105	4,390.4	3,826	-12.9	6,573	(1984)[1]
Moderate	15,001	14,725	14,554	14,902	15,618	14,960.0	16,053	+7.3	17,670	(1985)[1]
Minor	24,618	23,721	24,304	25,946	26,680	25,053.8	27,282	+8.9	26,680	(1994)[1]
Total Fatalities	**568**	**531**	**581**	**538**	**644**	**572.4**	**597**	**+4.3**	**1,060**	**(1968)**
Pedestrian	65	61	46	47	53	54.4	49	-10.0	157	(1971)
Motor Vehicle/Train[2]	17	10	9	15	17	13.6	16	+17.6	62	(1932)
Bicycle	8	8	11	9	16	10.4	5	-51.9	24	(1977)
Motorcycle	50	40	28	34	43	39.0	35	-9.9	121	(1980)
All Terrain Vehicle	2	6	1	1	0	2.0	2	0.0	9	(1986)
Snowmobile	1	2	4	4	3	2.8	7	+150.0	9	(1984)
Motor Vehicle Occupants	431	405	484	439	519	455.6	495	+8.6	519	(1994)[1]
Fatality Rate[3]	1.47	1.35	1.41	1.27	1.48	1.40	1.35	-3.3	23.6	(1934)
U.S. Fatality Rate[3]	2.1	1.9	1.8	1.7	1.7	1.8	1.7	-7.6	18.0	(1925)
Minnesota Economic Loss (millions)	$717.9	$834.1	$965.8	$1,397.8	$1,656.6	$1,114.4	$1,611.8	+44.6	$1,656.6	(1994)[4]

[1] The available records on which these "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 upon per 100 million vehicle miles of travel.
[4] Economic loss is a function of health care costs, inflation, and other factors, in addition to trends in traffic crashes.

TABLE 1.03

1995 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 or Truck	Driver	Male	0	18	71	48	34	15	17	37	240
		Female	0	14	21	15	14	5	14	21	104
	Passenger	Male	2	11	19	4	1	2	1	9	49
		Female	2	15	9	7	3	6	6	30	78
	Unknown	Male	1	4	5	2	1	0	0	0	13
		Female	1	1	1	1	1	0	0	0	5
Motorcycle	Operator	Male	0	0	7	12	2	2	0	0	23
		Female	0	0	2	0	0	0	0	0	2
	Passenger	Male	0	0	3	0	0	0	0	0	3
		Female	0	2	1	2	2	0	0	0	7
Motorscooter or Moped	Driver	Male	0	0	0	0	0	0	1	0	1
		Female	0	0	0	0	0	0	0	0	0
	Passenger	Male	0	0	0	0	0	0	0	0	0
		Female	0	0	0	0	0	0	0	0	0
All Terrain Vehicle	Driver	Male	0	2	0	0	0	0	0	0	2
		Female	0	0	0	0	0	0	0	0	0
	Passenger	Male	0	0	0	0	0	0	0	0	0
		Female	0	0	0	0	0	0	0	0	0
Snowmobile	Driver	Male	0	0	3	1	1	0	0	0	5
		Female	0	0	0	1	0	0	0	0	1
	Passenger	Male	0	0	1	0	0	0	0	0	1
		Female	0	0	0	0	0	0	0	0	0
Other Motor Vehicle*	Driver	Male	0	0	0	2	0	1	1	0	4
		Female	0	0	0	1	0	0	0	0	1
	Passenger	Male	0	0	1	1	0	0	0	0	2
		Female	0	0	0	0	0	1	0	0	1
	Unknown	Male	1	0	0	0	0	0	0	0	1
		Female	0	0	0	0	0	0	0	0	0
Bicyclist		Male	0	0	2	1	0	0	0	0	3
		Female	0	2	0	0	0	0	0	0	2
Pedestrian		Male	2	4	4	6	2	3	4	4	29
		Female	1	4	1	5	2	1	0	6	20
Total Fatalities		Male	6	39	116	77	41	23	24	50	376
		Female	4	38	35	32	22	13	20	57	221
		Total	10	77	151	109	63	36	44	107	597

* "Other motor vehicle" includes "farm tractor or equipment" (64 year-old male driver, 37 year-old male driver, 2 year-old male), "roadway maintenance vehicle" (39 year old female driver), and "military vehicle" (25 year-old male passenger), taxicab (37 year-old male driver, 51 year-old female passenger), ambulance (36 year-old male passenger, 56 year-old female passenger).

TABLE 1.04

AGE AND GENDER OF PERSONS KILLED OR INJURED IN 1995 CRASHES

	Persons Killed			Persons Injured		
Age Group	Male	Female	Total	Male	Female	Total*
0 - 4	4	1	5	440	395	846
5 - 9	2	3	5	799	633	1,447
10 - 14	7	6	13	1,024	989	2,036
15 - 19	32	32	64	3,999	4,634	8,658
20 - 24	68	24	92	3,133	2,993	6,146
25 - 29	48	11	59	2,392	2,352	4,758
30 - 34	39	14	53	2,221	2,191	4,421
35 - 39	38	18	56	1,936	2,060	4,011
40 - 44	24	10	34	1,574	1,703	3,290
45 - 49	17	12	29	1,168	1,319	2,499
50 - 54	14	7	21	789	948	1,744
55 - 59	9	6	15	573	636	1,213
60 - 64	10	12	22	463	542	1,007
65 - 69	14	8	22	393	484	879
70 - 74	15	17	32	400	427	827
75 - 79	9	15	24	294	389	687
80 - 84	20	14	34	200	265	468
85 & Older	6	11	17	115	150	266
Not Stated	0	0	0	573	794	1,958
Total	376	221	597	22,486	23,904	47,161

* Many totals do not add across because gender is not always indicated on the accident report.

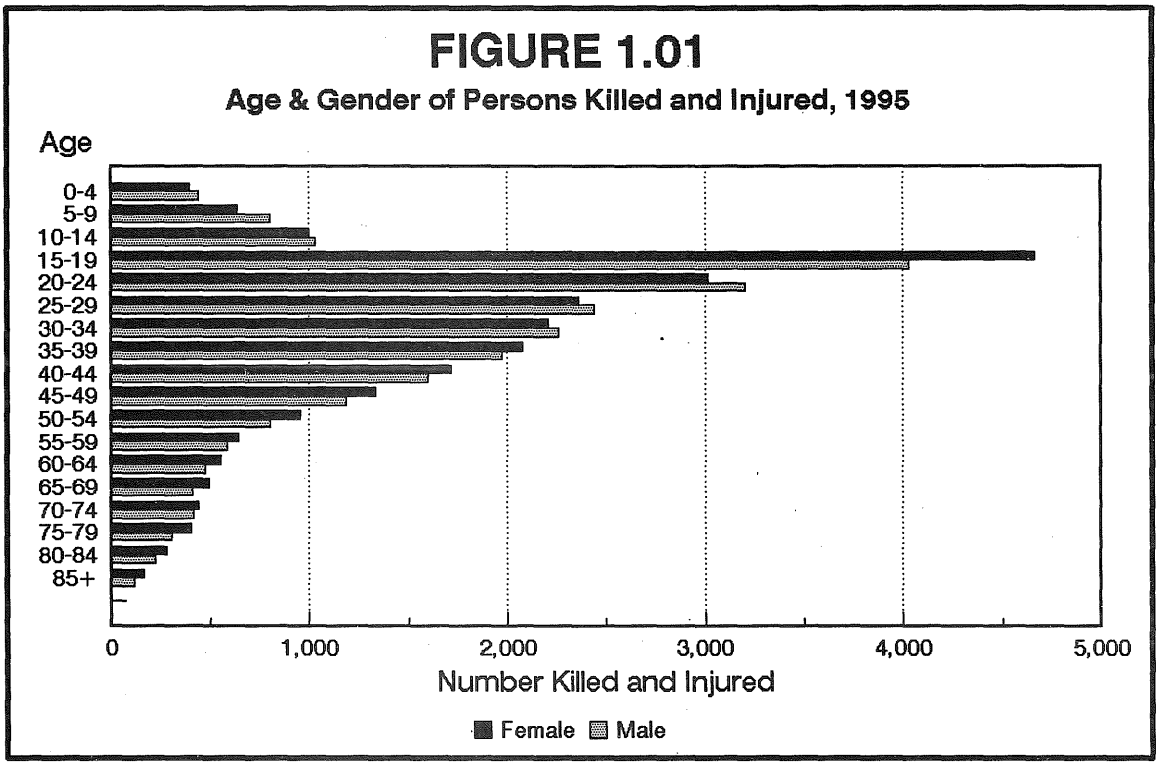


TABLE 1.05

DRIVERS IN 1995 CRASHES BY PHYSICAL CONDITION*

Physical Condition	Drivers in Fatal Crashes	Drivers in Injury Crashes	Drivers in Property Damages Crashes	Drivers in All Crashes
Normal	435	45,302	72,720	118,457
Under the Influence	64	2,046	1,686	3,796
Had Been Drinking	73	1,399	1,128	2,600
Had Been Using Drugs	0	41	44	85
Asleep	2	369	319	690
Fatigued	5	143	140	288
Ill	3	154	74	231
Other	13	243	208	464
Unknown	233	7,223	34,611	42,067
Total	828	56,920	110,930	168,678

* As noted by police officer on accident report. Pedestrians and bicyclists are not included.

TABLE 1.06

DRIVERS IN 1995 CRASHES BY AGE AND FIRST HARMFUL EVENT IN CRASH

First Harmful Event	Drivers 15-19	Drivers 20-24	Drivers 25-29	Drivers 30-34	Drivers 35-64	Drivers 65-79	Drivers 80 & Older
Collision With:							
Other Motor Vehicle	76.5	79.7	81.5	81.3	82.7	85.7	86.8
Parked Motor Vehicle	3.0	2.4	2.2	2.3	2.0	2.6	4.4
Railroad Train	0.1	0.0	0.1	0.1	0.1	0.2	0.1
Bicycle	0.6	0.5	0.7	0.7	0.8	0.7	0.8
Pedestrian	0.8	0.7	0.8	0.9	0.8	0.8	0.9
Deer	1.8	2.5	2.9	3.6	4.4	3.1	1.0
Other Animal	0.4	0.3	0.3	0.3	0.3	0.3	0.0
Fixed Object	9.9	8.5	7.0	6.2	5.0	4.1	4.1
Other Object	0.2	0.2	0.3	0.4	0.2	0.1	0.0
Non-Collision:							
Overturn	5.5	3.7	2.7	2.7	2.2	1.1	0.6
Other Non-Collision	0.2	0.2	0.2	0.2	0.2	0.1	0.1
Other or Unknown	1.2	1.4	1.4	1.3	1.3	1.2	1.2
Total Percent	100.0%	100.0%	100.0%	100.0%	100.0%	100.0%	100.0%
Total Drivers	25,635	22,658	19,589	18,951	60,951	9,455	2,476

Percentages are based on the number of crash-involved drivers in each age group. They may not sum to 100 due to rounding. Bicyclists and pedestrians are not included.

TABLE 1.07

AGE AND GENDER OF DRIVERS IN 1995 CRASHES

	Drivers in Fatal Crashes				Drivers in All Crashes			
Age Group	Male	Female	Not Stated	Total	Male	Female	Not Stated	Total
14 & Younger	2	0	0	2	124	50	1	175
15 - 19	51	29	0	80	14,928	10,552	155	25,635
20 - 24	102	30	0	132	13,327	9,148	183	22,658
25 - 29	59	22	0	81	11,551	7,876	162	19,589
30 - 34	76	19	0	95	11,376	7,406	169	18,951
35 - 39	74	23	0	97	10,297	7,079	136	17,512
40 - 44	54	16	0	70	8,487	5,870	121	14,478
45 - 49	40	20	0	60	6,727	4,454	117	11,298
50 - 54	29	5	0	34	4,729	3,017	60	7,806
55 - 59	21	4	0	25	3,541	2,001	59	5,601
60 - 64	24	11	0	35	2,728	1,502	26	4,256
65 - 69	22	7	0	29	2,381	1,305	36	3,722
70 - 74	17	8	0	25	2,013	1,147	19	3,179
75 - 79	11	11	0	22	1,469	1,062	23	2,554
80 - 84	20	5	0	25	954	657	12	1,623
85 & Older	9	4	0	13	517	329	7	853
Not Stated	0	0	3	3	1,301	563	6,924	8,788
Total*	611	214	3	828	96,450	64,018	8,210	168,678

* 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 1.08

LICENSED VS. CRASH-INVOLVED DRIVERS BY AGE, 1995

Age Group	Percentage of All Licensed Drivers**	Percentage of Drivers in Fatal Crashes	Injury Crashes	Property Damage Crashes	All Crashes
14 & Younger	0.0	0.2	0.2	0.1	0.1
15 - 19	7.3	9.7	16.4	14.6	15.2
20 - 24	8.4	15.9	13.9	13.2	13.4
25 - 29	9.8	9.8	11.9	11.5	11.6
30 - 34	11.3	11.5	11.6	11.0	11.2
35 - 39	11.9	11.7	10.7	10.2	10.4
40 - 44	10.8	8.5	8.9	8.4	8.6
45 - 49	9.2	7.3	6.7	6.7	6.7
50 - 54	6.8	4.1	4.6	4.7	4.6
55 - 59	5.4	3.0	3.2	3.4	3.3
60 - 64	4.6	4.2	2.4	2.6	2.5
65 - 69	4.4	3.5	2.1	2.2	2.2
70 - 74	3.9	3.0	1.9	1.9	1.9
75 - 79	3.1	2.7	1.6	1.5	1.5
80 - 84	2.0	3.0	1.0	0.9	1.0
85 & Older	1.2	1.6	0.5	0.5	0.5
Not Stated	0.0	0.4	2.5	6.7	5.2
Total Percent*	100.0%	100.0%	100.0%	100.0%	100.0%
Total Number**	3,388,351	828	56,920	110,930	168,678

* Percents may not sum to 100 due to rounding.
** Includes drivers with instruction permits.

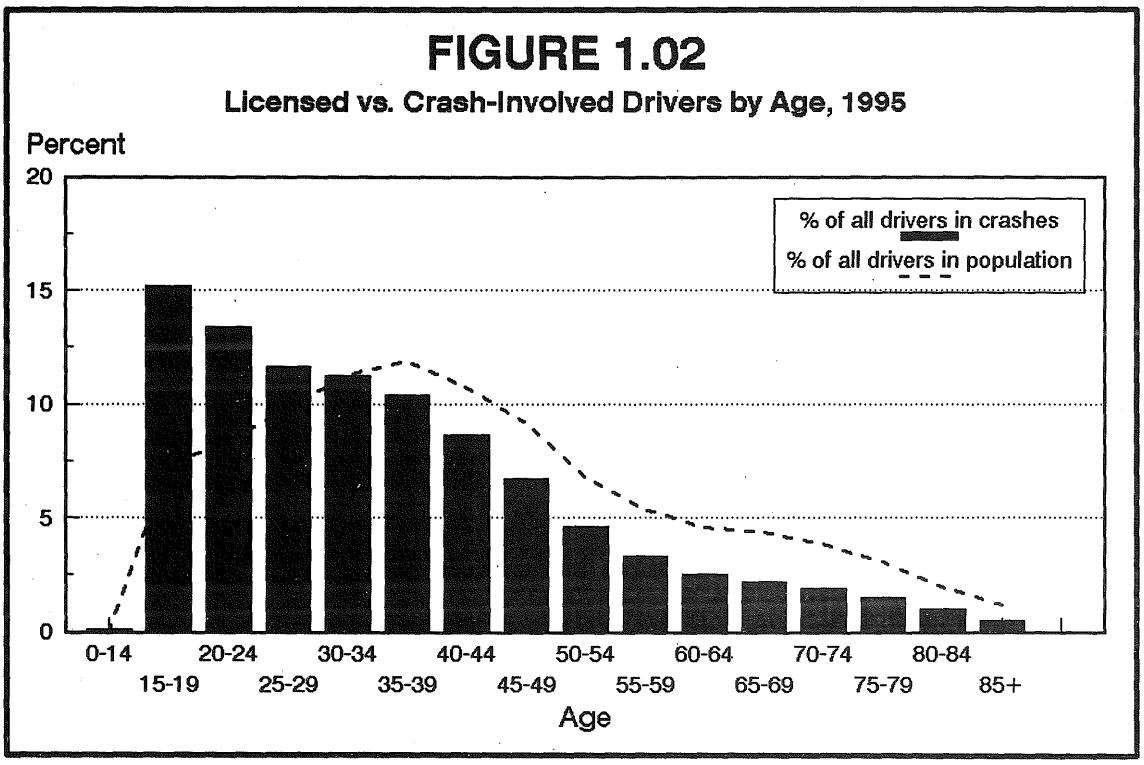


TABLE 1.09

SINGLE-VEHICLE CRASHES: CONTRIBUTING FACTORS, BY PERCENT, WITHIN DRIVER AGE GROUPS, 1995

Contributing Factors	Drivers 15-19	Drivers 20-24	Drivers 25-29	Drivers 30-34	Drivers 35-64	Drivers 65-79	Drivers 80 & Older
Human Factors							
Illegal/Unsafe Speed	23.9	23.7	23.4	19.8	16.9	8.2	3.3
Driver Inattention/Distraction	17.3	18.1	17.2	17.8	19.1	25.6	30.5
Physical Impairment	5.9	14.1	12.8	15.2	12.9	13.3	10.1
Driver Inexperience	18.4	4.8	2.3	1.9	1.8	0.9	0.0
Improper/Unsafe Lane Use	2.9	4.2	4.8	4.3	4.0	4.4	8.4
Failure to Yield Right of Way	1.8	2.5	3.2	2.9	4.1	4.9	7.5
Unsafe Backing	1.4	0.8	1.4	1.6	1.9	3.6	5.2
Vision Obscured	1.1	1.1	1.7	2.0	2.0	2.8	3.5
Driving Left of Center--Not Passing	1.3	1.5	1.3	1.5	0.9	1.5	0.7
Improper Turn	0.9	1.2	1.2	1.2	1.5	1.8	2.3
Improper Parking/Starting/Stopping	0.4	0.5	0.5	0.6	0.6	1.6	2.0
Disregard for Traffic Control Device	0.7	0.8	1.0	0.6	1.0	1.1	2.0
Improper Passing/Overtaking	0.5	0.7	0.6	0.6	0.6	0.2	0.3
Following Too Closely	0.4	0.4	0.6	0.6	0.6	0.0	0.0
Failure to Use Lights	0.1	0.1	0.2	0.0	0.1	0.1	0.0
Driver on CB Radio or Cell Phone	0.0	0.1	0.1	0.1	0.1	0.1	0.0
Impeding Traffic	0.1	0.1	0.1	0.0	0.1	0.1	0.0
Other Human Factors	2.0	2.5	2.5	3.0	2.5	5.5	8.1
Vehicular Factors							
Skidding	7.8	7.1	7.3	7.0	8.5	6.1	3.9
Defective Equipment	1.4	1.4	1.7	2.0	1.6	1.9	0.6
Other Vehicular Factor	1.0	1.3	1.8	1.6	1.8	2.2	0.7
Miscellaneous Factors							
Weather	7.1	9.1	9.7	10.8	12.1	8.6	5.5
Other	3.5	4.0	4.6	4.9	5.3	5.3	5.2
Total Percent	100.0%	100.0%	100.0%	100.0%	100.0%	100.0%	100.0%
Total Contributing Factors Cited	7,205	4,779	3,371	3,014	7,308	880	308
Drivers for Whom There Was "No Clear Contributing Factor"	832	782	745	894	3,036	358	51
Total Number of Drivers	5,680	4,172	3,220	3,151	9,379	1,199	299

Percentages are based on all contributing factors cited within each age group. 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. Contributing factors with a frequency of less than one-tenth of one percent (for all age groups combined) are merged into the category "other human factors."

For contributing factors in multiple-vehicle crashes, see Table 1.10. For contributing factors in crashes at different levels of severity, see Table 1.19.

TABLE 1.10

MULTIPLE-VEHICLE CRASHES: CONTRIBUTING FACTORS, BY PERCENT, WITHIN DRIVER AGE GROUPS, 1995

Contributing Factors	Drivers 15-19	Drivers 20-24	Drivers 25-29	Drivers 30-34	Drivers 35-64	Drivers 65-79	Drivers 80 & Older
Human Factors							
Driver Inattention or Distraction	24.2	25.2	24.2	25.0	24.2	24.7	23.9
Failure to Yield Right of Way	19.6	17.7	16.8	17.1	19.7	32.2	37.3
Following Too Closely	8.9	10.9	11.6	11.0	9.4	4.8	3.6
Illegal or Unsafe Speed	10.2	11.1	10.6	9.6	8.0	3.9	2.6
Disregard of Traffic Control Device	4.0	5.4	5.2	5.1	5.0	6.5	6.2
Improper or Unsafe Lane Use	3.6	4.5	4.5	4.2	4.7	4.8	4.4
Vision Obscured	2.7	2.9	2.7	3.0	3.2	3.5	2.7
Improper Turn	2.7	2.3	2.3	2.5	2.9	4.4	5.4
Driver Inexperience	8.0	1.5	0.8	0.7	0.5	0.2	0.1
Physical Impairment	0.6	2.0	2.6	3.0	2.3	1.3	1.7
Improper Passing or Overtaking	1.5	1.6	1.8	1.8	1.7	1.4	1.0
Improper Parking, Starting, or Stopping	1.1	1.2	1.4	1.2	1.4	1.3	1.5
Unsafe Backing	0.9	1.0	1.1	1.2	1.3	1.1	1.1
Driving Left of Center (Not Passing)	1.1	1.0	1.1	1.4	1.1	1.0	1.0
Improper or No Signal	0.4	0.3	0.4	0.4	0.5	0.7	0.4
Impeding Traffic	0.1	0.2	0.2	0.3	0.4	0.2	0.3
Failure to Use Lights	0.2	0.2	0.1	0.3	0.2	0.1	0.1
Driver on Cell Phone or CB Radio	0.0	0.0	0.2	0.1	0.1	0.0	0.0
Other Human Factors	0.4	0.5	0.7	0.5	0.7	0.8	1.8
Vehicular Factors	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Skidding	3.2	3.3	3.3	3.0	3.3	1.7	1.0
Defective Equipment	1.0	0.7	1.0	0.8	0.8	0.5	0.2
Other Vehicular Factor	0.3	0.3	0.4	0.5	0.5	0.3	0.1
Miscellaneous Factors	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Weather	4.0	4.5	4.9	4.8	5.5	3.0	2.4
Other	1.5	1.9	2.3	2.7	2.6	1.8	1.4
Total Percent	100.0%	100.0%	100.0%	100.0%	100.0%	100.0%	100.0%
Total Contributing Factors Cited	17,981	13,109	9,810	9,198	27,480	5,677	2,076
Drivers for Whom There Was "No Clear Contributing Factor"	6,081	6,945	6,961	7,128	24,192	3,107	517
Total Number of Drivers	19,911	18,418	16,302	15,746	51,299	8,232	2,174

Percentages are based on all contributing factors cited within each age group. 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. Contributing factors with a frequency of less than one-tenth of one percent (for all age groups combined) are merged into the category "other human factors."

For contributing factors in single-vehicle crashes, see Table 1.09. For contributing factors in crashes at different levels of severity, see Table 1.19.

TABLE 1.11

PEOPLE KILLED OR INJURED IN VARIOUS VEHICLE TYPES, 1995

		Injured			
Vehicle Type	**Killed**	**Severe**	**Moderate**	**Minor**	**Total**
Automobile	369	2,329	10,859	19,884	33,072
Pickup Truck	87	431	1,920	2,779	5,130
Van	20	261	1,041	2,064	3,366
Motorhome/Camper	0	3	7	10	20
Taxicab	2	10	21	92	123
Police Vehicle	0	3	54	81	138
Fire Department Vehicle	0	0	3	0	3
School Bus	0	1	36	212	249
Other Bus	0	8	33	49	90
Ambulance	2	1	3	23	27
Military Vehicle	1	0	1	4	5
Snowmobile	7	16	21	15	52
All Terrain Vehicle	2	14	12	14	40
Farm Tractor or Equipment	3	7	10	14	31
Motorcycle*	35	253	553	257	1,063
Motorscooter/Motorbike*	1	5	13	8	26
Motorized Bicycle (Moped)*	0	1	6	9	16
Hit and Run Vehicle	0	11	110	118	239
Road Maintenance Vehicle	1	1	3	7	11
Single Truck (2-axle, 6-tire)	2	7	46	69	122
Single Truck (3 or more axles)	3	6	23	30	59
Single Truck with Trailer	1	2	12	28	42
Truck Tractor with No Trailer	0	1	5	11	17
Truck Tractor with Semi Trailer	7	12	60	101	173
Truck Tractor with Double Trailers	0	0	0	0	0
Other or Unknown Truck Type	0	0	0	10	10
Other or Unknown Motor Vehicle	0	21	87	175	283
Bicycle	5	132	614	537	1,283
Pedestrian	49	290	500	681	1,471
Total	597	3,826	16,053	27,282	47,161

* On the accident report form, police may show that a vehicle is a "motorcycle," a "motorscooter/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 pedalcycle, which is the same as motorized bicycle.

TABLE 1.12

DRIVER LICENSE* SUMMARY BY AGE, 1986 - 1995

Age	1986	1987	1988	1989	1990	1991	1992	1993	1994	1995
15	11,920	12,301	13,387	14,072	12,832	15,075	16,626	18,047	16,031	20,660
16	48,944	45,397	42,178	41,544	42,885	43,708	45,744	47,600	48,754	52,205
17	57,829	59,321	53,900	49,458	48,496	51,161	50,796	51,688	54,960	57,426
18	59,910	61,276	62,772	56,250	52,070	51,293	54,442	53,894	55,472	58,307
19	60,626	61,767	62,637	63,653	58,230	53,876	53,307	55,417	55,793	57,139
20	62,040	60,229	61,076	62,770	63,375	57,902	54,591	53645	56,765	56,902
Under 21	301,269	300,291	295,950	287,747	277,888	273,015	275,506	280,291	287,775	302,639
15 - 19	239,229	240,062	234,874	224,977	214,513	215,113	220,915	226,646	231,010	245,737
20 - 24	352,170	336,289	326,738	319,048	316,504	312,463	307,139	297,918	290,752	283,027
25 - 29	402,984	399,409	396,744	386,440	372,178	357,464	345,255	336,007	330,676	331,259
30 - 34	374,138	380,972	385,508	393,168	398,645	402,273	404,717	401,155	393,253	381,403
35 - 39	329,018	335,262	344,613	355,869	364,385	371,856	383,109	386,805	396,206	402,366
40 - 44	257,213	269,275	280,236	298,889	316,265	324,986	335,328	342,988	355,845	364,629
45 - 49	202,083	213,358	221,666	229,993	234,494	252,944	266,872	276,715	296,176	313,384
50 - 54	171,833	174,453	179,129	184,310	189,266	197,122	210,453	216,632	225,468	230,114
55 - 59	168,037	165,791	164,032	163,520	164,023	165,779	169,769	173,423	178,920	183,763
60 - 64	161,268	161,733	161,449	160,260	159,799	158,552	157,248	156,044	156,192	156,652
65 - 69	141,584	143,841	144,830	147,857	148,161	148,934	149,867	149,118	148,961	149,004
70 - 74	115,619	118,338	120,753	121,638	122,965	126,115	128,653	128,828	132,442	132,842
75 - 79	80,947	85,032	86,901	89,355	92,378	96,235	98,605	98,970	101,494	103,558
80 - 84	46,817	50,812	51,922	52,667	55,000	58,863	60,829	60,181	65,022	68,506
85 & Older	23,305	27,326	27,634	27,179	29,915	34,455	35,198	32,723	38,158	42,107
Total	3,066,245	3,101,953	3,127,029	3,155,170	3,178,491	3,223,154	3,273,957	3,284,153	3,340,575	3,388,351

* Information provided by Department of Public Safety, Driver and Vehicle Service Division. Counts of licensed drivers include drivers who only hold learner's permits.

TABLE 1.13

MOTOR VEHICLE REGISTRATIONS, 1986 - 1995

Type of Vehicle*	1986	1987	1988	1989	1990	1991	1992	1993	1994	1995
Passenger Cars	2,395,247	2,450,232	2,518,604	2,583,982	2,642,022	2,638,572	2,670,885	2,615,602	2,728,963	2,709,986
Pickups	501,646	509,070	515,968	526,212	528,342	520,339	525,205	511,677	584,044	615,068
Trucks	124,323	127,888	135,918	137,690	140,874	139,263	141,144	144,367	145,413	151,188
Recreational Vehicles	32,026	33,120	34,226	34,805	35,328	35,515	36,290	36,826	37,049	37,775
Motorcycles	141,261	134,590	128,956	123,308	120,081	117,492	116,124	114,548	113,337	113,981
Motorized Bicycles	12,047	12,311	10,529	9,987	9,306	8,703	7,947	7,304	6,752	6,441
School Buses	4,598	5,095	5,115	5,026	5,037	5,109	5,058	5,052	5,168	5,319
Buses	3,405	3,502	3,879	4,217	3,780	3,822	3,804	4,039	4,103	4,282
Van Pool	209	229	253	248	259	264	256	319	300	295
Tax Exempt Vehicles	35,741	37,659	35,969	38,106	37,739	39,727	38,829	40,773	40,263	40,511
Motor Vehicle Subtotal	3,250,503	3,313,696	3,389,417	3,463,581	3,522,768	3,508,806	3,545,542	3,480,507	3,665,392	3,684,846
Trailers	663,559	653,630	726,054	708,693	780,484	754,942	830,527	807,187	894,909	849,482
Collectors' Vehicles	50,702	56,146	61,280	66,860	72,031	76,947	82,116	87,405	92,775	97,839
Total Registrations	3,964,764	4,023,472	4,176,751	4,239,134	4,375,283	4,340,695	4,458,185	4,375,099	4,653,076	4,632,167

* 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 1.14) police use in reporting accidents. Following are some notes on the registration categories shown above:

Passenger cars include 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.

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.

Collectors' vehicles 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.

TABLE 1.14

TYPES OF MOTOR VEHICLES IN 1995 CRASHES

Motor Vehicle Type*	Vehicles in Fatal Crashes	Injury Crashes	Property Damage Crashes	All Crashes
Automobile	488	40,263	77,116	117,867
Pickup Truck	155	8,125	18,182	26,462
Van	48	4,316	8,580	12,944
Motorhome/Camper	0	41	81	122
Taxicab	3	141	262	406
Police Vehicle	2	184	302	488
Fire Department Vehicle	0	11	47	58
School Bus	2	219	685	906
Other Bus	0	104	256	360
Ambulance	1	23	45	69
Military Vehicle	1	14	27	42
Snowmobile	7	51	20	78
All Terrain Vehicle	2	38	7	47
Farm Tractor or Equipment	7	84	119	210
Motorcycle*	32	961	159	1,152
Motorscooter/Motorbike*	1	28	2	31
Motorized Bicycle (Moped)*	0	15	1	16
Hit and Run Vehicle	7	1,307	5,813	7,127
Road Maintenance Vehicle	1	44	139	184
Single Truck (2-axle, 6-tire)	11	367	753	1,131
Single Truck (3 or more axles)	11	159	317	487
Single Truck with Trailer	7	100	255	362
Truck Tractor with No Trailer	4	39	81	124
Truck Tractor with Semi Trailer	47	620	1,712	2,379
Truck Tractor with Double Trailers	2	6	31	39
Other or Unknown Truck Type	1	51	381	433
Other or Unknown Motor Vehicle	5	515	1,598	2,118
Total**	845	57,826	116,971	175,642

* On the accident report form, police may show that a vehicle is a "motorcycle," a "motorscooter/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 pedalcycle, which is the same as motorized bicycle.

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

TABLE 1.15

1995 CRASHES AND INJURIES 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	262	21,110	42,721	64,093	316	33,875	4.9
Parked Motor Vehicle	1	592	4,910	5,503	1	759	0.2
Railroad Train	15	30	87	132	16	34	121.2
Bicycle	5	1,225	50	1,280	5	1,251	3.9
Pedestrian	43	1,344	0	1,387	43	1,427	31.0
Deer	3	351	4,912	5,266	3	426	0.6
Other Animal	2	118	365	485	3	161	6.2
Fixed Object	93	3,658	7,116	10,867	109	4,802	10.0
Other Object	0	60	181	241	0	71	0.0
Non-Collision:							
Overturn	74	2,552	2,153	4,779	83	3,636	17.4
Fire/Explosion	2	9	254	265	2	10	7.5
Submersion	3	12	41	56	3	19	53.6
Other or Unknown	12	550	1,106	1,668	13	690	7.8
Total	515	31,611	63,896	96,022	597	47,161	5.0

TABLE 1.16

1995 "HIT-AND-RUN" CRASHES AND INJURIES BY FIRST HARMFUL EVENT

First Harmful Event	Fatal Crashes	Personal Injury Crashes	Property Damage Crashes	Total Crashes	Killed	Injured
Collision With:						
Other Motor Vehicle	2	806	2,602	3,410	2	1,140
Parked Motor Vehicle	0	52	2,229	2,281	0	67
Railroad Train	0	0	2	2	0	0
Bicycle	0	140	10	150	0	144
Pedestrian	4	197	0	201	4	209
Deer	1	0	2	3	1	1
Other Animal	0	0	4	4	0	0
Fixed Object	0	75	787	862	0	111
Other Object	0	2	11	13	0	2
Non-Collision:						
Overturn	0	11	43	54	0	13
Fire/Explosion	0	0	10	10	0	0
Other or Unknown	0	15	93	108	0	16
Total	7	1,298	5,793	7,098	7	1,703

TABLE 1.17

1995 CRASHES BY TRAFFIC CONTROL DEVICE

Traffic Control Device	Fatal Crashes	Personal Injury Crashes	Property Damage Crashes	Total Crashes	Killed	Injured
Not Applicable	359	16,600	32,489	49,448	412	24,289
Traffic Signal	31	7,504	12,114	19,649	33	11,290
Overhead Flashers	2	124	271	397	4	194
Stop Sign-All Approaches	6	545	1,149	1,700	6	795
Other Stop Sign	71	4,613	7,630	12,314	85	7,414
Yield Sign	6	588	951	1,545	9	899
Flagman, Officer, or School Patrol	0	49	80	129	0	85
School Bus Stop Arm	0	15	26	41	0	31
School Zone Sign	0	13	17	30	0	17
No Passing Zone	16	260	390	666	23	416
RR Crossing Gate	0	10	42	52	0	13
RR Flashing Lights	2	16	32	50	2	23
RR Crossing Stop Sign	2	6	23	31	2	8
RR Other	9	32	66	107	10	43
Other	8	380	2,091	2,479	8	543
Unknown	3	856	6,525	7,384	3	1,101
Total	515	31,611	63,896	96,022	597	47,161

TABLE 1.18

1995 CRASHES BY WEATHER CONDITION

Weather Condition	Fatal Crashes	Personal Injury Crashes	Property Damage Crashes	Total Crashes	Killed	Injured
Clear	250	15,615	30,443	46,308	281	23,213
Cloudy	163	9,517	17,879	27,559	195	14,238
Rain	39	3,085	5,601	8,725	45	4,813
Snow	33	1,651	4,785	6,469	45	2,445
Sleet/Hail/Freezing Rain	8	679	1,560	2,247	8	994
Fog/Smog/Smoke	9	237	434	680	10	351
Blowing Sand/Dust	1	295	642	938	1	403
Severe Crosswinds	0	35	86	121	0	50
Other	1	54	160	215	1	85
Not Stated/Unknown	11	443	2,306	2,760	11	569
Total	515	31,611	63,896	96,022	597	47,161

TABLE 1.19

CONTRIBUTING FACTORS IN 1995 CRASHES

Contributing Factors	Crash Severity: Fatal Crashes	Crash Severity: Personal Injury Crashes	Crash Severity: Property Damage Crashes	Number of People Affected by the Factor: Killed	Number of People Affected by the Factor: Injured
Human Factors					
Driver Inattention/Distraction	12.6	23.1	21.8	124	16,160
Failure to Yield Right of Way	12.2	16.2	15.2	124	12,211
Illegal/Unsafe Speed	16.4	12.0	11.6	161	8,640
Following Too Closely	0.8	6.8	7.4	6	4,372
Improper/Unsafe Lane Use	4.2	3.5	5.8	44	2,390
Disregard of Traffic Control Device	5.4	5.5	3.1	54	4,506
Physical Impairment	12.9	5.7	2.8	122	3,974
Driver Inexperience	2.5	3.4	3.2	26	2,558
Vision Obscured	1.7	2.4	2.3	13	1,565
Improper Turn	1.5	1.8	2.9	13	1,383
Improper Passing/Overtaking	1.1	1.0	1.8	12	738
Unsafe Backing	0.2	0.3	2.0	2	227
Improper Parking/Starting/Stopping	0.7	1.1	1.4	5	759
Driving Left of Center (Not Passing)	8.1	1.3	1.1	79	1,160
Pedestrian Violation or Error	2.5	1.3	0.0	21	637
Improper or No Signal	0.2	0.2	0.4	2	136
Impeding Traffic	0.1	0.2	0.2	1	158
Failure to Use Lights	0.5	0.3	0.1	4	200
Driver on CB radio / cellular phone	0.0	0.1	0.1	0	48
Other Human Factor	2.6	1.3	1.0	26	822
Vehicular Factors					
Skidding	3.6	3.5	4.3	38	2,290
Defective Equipment	1.1	1.0	1.0	11	729
Other Vehicular Factor	0.2	0.5	0.8	2	342
Miscellaneous Factors					
Weather	5.0	4.7	6.0	40	2,679
Other	3.9	2.8	3.5	34	1,557
Total Percent	100.0%	100.0%	100.0%		
Total contributing factors cited	879	48,075	72,330		
Vehicles for Which There Was "No Clear Contributing Factor"	313	24,092	43,678		
Total Number of Vehicles	905	60,575	117,025		

Zero, one, or two contributing factors may be associated with each vehicle. This may cause the sum of the factors cited to differ from the number of vehicles and the sum of the people affected by the factors to exceed the number of people killed or injured during the year. Percentages are based on all factors cited; they may not sum to 100 due to rounding. 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. Contributing factors with a frequency of less than one-tenth of one percent are merged into the category "other human factors."

TABLE 1.20

1995 CRASHES BY LIGHT CONDITION

Light Condition	Fatal Crashes	Personal Injury Crashes	Property Damage Crashes	Total Crashes	Killed	Injured
Daylight	260	20,857	39,407	60,524	303	31,320
Dawn/Dusk	35	1,990	4,718	6,743	43	2,890
Dark/Street Lights On	62	5,095	10,434	15,591	66	7,515
Dark/No Street Lights	141	3,159	6,565	9,865	167	4,757
Other/Unknown	17	510	2,772	3,299	18	679
Total	515	31,611	63,896	96,022	597	47,161

TABLE 1.21

1995 CRASHES BY ROAD SURFACE CONDITION

Road Surface Condition	Fatal Crashes	Personal Injury Crashes	Property Damage Crashes	Total Crashes	Killed	Injured
Dry	370	20,800	38,437	59,607	427	31,163
Wet	60	5,728	10,344	16,132	69	8,716
Snow/Slush	32	1,504	3,984	5,520	43	2,224
Ice or Packed Snow	42	2,889	8,606	11,537	47	4,112
Other	3	390	712	1,105	3	549
Not Stated/Unknown	8	300	1,813	2,121	8	397
Total	515	31,611	63,896	96,022	597	47,161

TABLE 1.22

1995 CRASHES BY ROAD DESIGN

Road Design	Fatal Crashes	Personal Injury Crashes	Property Damage Crashes	Total Crashes	Killed	Injured
Freeway (Including Ramps)	38	2,890	6,900	9,828	42	4,068
Other Divided Highway	71	4,516	6,594	11,181	82	7,007
One-Way Street	5	1,085	1,355	2,445	5	1,631
4-6 Lanes Undivided	31	5,924	8,384	14,339	36	8,868
3 Lanes	0	321	493	814	0	501
2 Lanes--Two-Way	356	14,000	24,211	38,567	416	21,240
Alley/Driveway	4	185	500	689	6	213
Other	6	512	788	1,306	6	811
Not Stated/Unknown	4	2,178	14,671	16,853	4	2,822
Total	515	31,611	63,896	96,022	597	47,161

TABLE 1.23

1995 CRASHES BY TYPE OF ROADWAY

Type of Roadway	Fatal Crashes	Personal Injury Crashes	Property Damage Crashes	Total Crashes	Killed	Injured
Urban						
Interstate	17	1,912	5,154	7,083	19	2,654
Trunk Highway	58	5,771	10,878	16,707	60	8,638
County State Aid Highway	35	6,237	10,460	16,732	37	9,286
County Road	2	291	513	806	2	441
Local Street	41	7,689	17,895	25,625	50	10,760
Total	153	21,900	44,900	66,953	168	31,779
Rural						
Interstate	15	531	1,494	2,040	18	807
Trunk Highway	149	4,120	8,084	12,353	184	6,882
County State Aid Highway	139	3,087	4,850	8,076	160	4,738
County Road	18	474	773	1,265	21	739
Township Road	30	795	1,227	2,052	32	1,242
Local Street	9	547	1,954	2,510	12	773
Other Road	2	157	614	773	2	201
Total	362	9,711	18,996	29,069	429	15,382
All Roadways						
Interstate	32	2,443	6,648	9,123	37	3,461
Trunk Highway	207	9,891	18,962	29,060	244	15,520
County State Aid Highway	174	9,324	15,310	24,808	197	14,024
County Road	20	765	1,286	2,071	23	1,180
Township Road	30	795	1,227	2,052	32	1,242
Local Street	50	8,236	19,849	28,135	62	11,533
Other Road	2	157	614	773	2	201
Total	515	31,611	63,896	96,022	597	47,161

("Urban" refers to an area having a population of 5,000 or more; "rural" refers to an area of less than 5,000.)

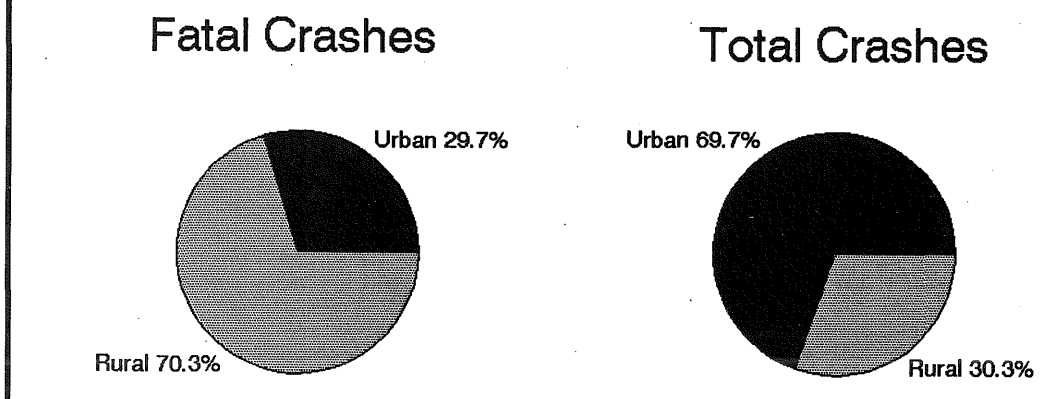
TABLE 1.24

1995 CRASHES BY POPULATION OF AREA

Population of City or Township	Fatal Crashes	Personal Injury Crashes	Property Damage Crashes	Total Crashes	Killed	Injured
100,000 & Over	24	7,173	15,378	22,575	29	10,191
50,000 - 99,999	16	3,354	5,756	9,126	21	4,887
25,000 - 49,999	43	4,594	9,462	14,099	45	6,593
10,000 - 24,999	43	4,644	9,776	14,463	45	6,847
5,000 - 9,999	27	2,135	4,528	6,690	28	3,261
2,500 - 4,999	9	864	2,029	2,902	9	1,273
1,000 - 2,499	20	665	1,402	2,087	21	1,025
Under 1,000	333	8,182	15,565	24,080	399	13,084
Total	515	31,611	63,896	96,022	597	47,161

FIGURE 1.03

Fatal vs Total Crashes, by Location, 1995



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

TABLE 1.25

1995 COUNTY CRASH REPORT

County	1995 Crashes: Fatal Crashes	Personal Injury Crashes	Property Damage Crashes	Total Crashes	Average Crashes 1990-1994	Number Killed 1995	Average Killed 1990-1994	Number Injured 1995	Average Injured 1990-1994
Aitkin	7	109	183	299	257	7	5	183	129
Anoka	25	1,710	2,865	4,600	4,934	25	21	2,613	2,549
Becker	7	166	251	424	453	11	7	273	279
Beltrami	9	173	537	719	732	9	6	266	306
Benton	9	253	493	755	724	10	7	404	371
Big Stone	1	25	84	110	95	3	1	29	32
Blue Earth	6	455	914	1,375	1,560	10	8	644	604
Brown	7	157	303	467	479	7	3	249	219
Carlton	5	152	281	438	478	6	7	233	240
Carver	11	366	713	1,090	1,088	16	9	546	555
Cass	9	159	257	425	406	10	10	254	250
Chippewa	3	78	144	225	209	3	4	144	113
Chisago	6	189	482	677	670	6	6	321	304
Clay	7	293	786	1,086	1,075	12	6	428	445
Clearwater	5	32	58	95	112	5	2	50	63
Cook	0	47	101	148	170	0	1	71	67
Cottonwood	2	57	104	163	173	3	4	99	103
Crow Wing	8	399	794	1,201	1,080	8	11	612	576
Dakota	24	1,654	3,365	5,043	5,032	26	18	2,463	2,347
Dodge	5	78	150	233	264	5	5	120	120
Douglas	6	232	644	882	871	6	9	363	352
Faribault	4	52	105	161	227	6	3	87	108
Fillmore	4	101	192	297	360	4	4	148	178
Freeborn	9	177	384	570	728	10	5	252	301
Goodhue	5	321	691	1,017	1,094	6	11	514	484
Grant	1	36	52	89	100	1	1	48	42
Hennepin	48	9,275	18,732	28,055	28,361	54	60	13,308	12,275
Houston	4	93	210	307	320	4	4	180	128
Hubbard	2	112	139	253	257	2	3	171	162
Isanti	3	162	339	504	532	3	6	246	277

TABLE 1.25 CONTINUED

1995 COUNTY CRASH REPORT

County	1995 Crashes: Fatal Crashes	Personal Injury Crashes	Property Damage Crashes	Total Crashes	Average Crashes 1990-1994	Number Killed 1995	Average Killed 1990-1994	Number Injured 1995	Average Injured 1990-1994
Itasca	5	262	437	704	695	7	11	424	374
Jackson	2	52	120	174	219	2	4	86	103
Kanabec	6	86	140	232	234	6	2	155	132
Kandiyohi	9	321	549	879	834	12	14	530	446
Kittson	1	25	73	99	82	1	1	29	30
Koochiching	2	79	136	217	278	3	4	122	149
Lac Qui Parle	0	16	51	67	100	0	3	36	50
Lake	2	79	163	244	233	2	3	108	94
Lake of The Woods	1	10	40	51	74	1	1	14	34
Le Sueur	0	139	299	438	502	0	6	210	198
Lincoln	2	23	65	90	109	2	2	32	42
Lyon	6	138	279	423	481	8	6	205	209
Mcleod	5	213	410	628	676	6	7	342	331
Mahnomen	2	40	28	70	71	2	3	75	64
Marshall	0	34	73	107	141	0	3	53	75
Martin	3	121	238	362	418	7	3	199	183
Meeker	4	111	205	320	364	4	4	188	156
Mille Lacs	2	180	273	455	384	2	5	308	241
Morrison	8	169	388	565	501	13	8	251	270
Mower	7	187	476	670	752	7	4	269	298
Murray	3	36	70	109	122	4	1	55	59
Nicollet	2	129	312	443	510	2	5	191	186
Nobles	1	102	275	378	407	1	2	157	156
Norman	0	38	60	98	100	0	2	80	50
Olmsted	8	813	1451	2,272	2,462	11	10	1,211	1,052
Otter Tail	9	295	533	837	926	10	10	429	435
Pennington	1	108	134	243	273	1	3	184	141
Pine	9	179	350	538	473	10	5	300	261
Pipestone	2	45	83	130	164	2	1	57	74
Polk	6	183	346	535	530	7	6	280	246

TABLE 1.25 CONTINUED

1995 COUNTY CRASH REPORT

County	1995 Crashes: Fatal Crashes	Personal Injury Crashes	Property Damage Crashes	Total Crashes	Average Crashes 1990-1994	Number Killed 1995	Average Killed 1990-1994	Number Injured 1995	Average Injured 1990-1994
Pope	1	32	99	132	150	1	2	42	65
Ramsey	25	4,029	9,424	13,478	14,272	28	24	5,677	5,517
Red Lake	0	14	33	47	65	0	2	28	24
Redwood	0	97	128	225	258	0	3	154	140
Renville	1	62	139	202	259	1	6	99	148
Rice	7	326	634	967	1,053	8	10	487	462
Rock	1	66	151	218	226	1	1	96	82
Roseau	1	62	171	234	229	1	3	102	93
St. Louis	22	1,192	2,050	3,264	3,449	26	24	1,769	1,581
Scott	14	427	900	1,341	1,338	14	11	640	625
Sherburne	7	286	496	789	817	7	9	464	424
Sibley	5	78	148	231	249	6	4	120	94
Stearns	18	991	1,896	2,905	2,942	22	18	1,525	1,359
Steele	9	189	438	636	771	10	5	298	278
Stevens	0	45	86	131	130	0	1	79	54
Swift	2	42	81	125	127	2	2	61	67
Todd	4	101	242	347	407	4	4	153	196
Traverse	1	22	17	40	42	3	1	38	19
Wabasha	3	113	210	326	370	4	5	188	162
Wadena	6	92	186	284	265	6	2	144	125
Waseca	1	87	184	272	331	1	3	122	119
Washington	13	969	1,948	2,930	2,818	16	15	1,476	1,222
Watonwan	2	56	94	152	190	2	3	94	83
Wilkin	1	59	137	197	174	1	2	102	88
Winona	7	322	720	1,049	1,152	7	7	470	450
Wright	13	475	782	1,270	1,268	14	16	753	665
Yellow Medicine	1	51	92	144	139	1	2	81	76
Unknown	0	0	0	0	171	0	0	0	70
Total	515	31,611	63,896	96,022	99,614	597	572	47,161	44,404

TABLE 1.26

1995 CRASHES IN CITIES OF 2,500 OR MORE POPULATION

City	Fatal Crashes	Personal Injury Crashes	Property Damage Crashes	Total Crashes	Killed	Injured
Afton	0	15	36	51	0	18
Albert Lea	1	120	227	348	1	164
Alexandria	0	102	296	398	0	160
Andover	3	87	134	224	3	130
Anoka	1	128	317	446	1	190
Apple Valley	2	179	280	461	2	246
Arden Hills	0	102	257	359	0	148
Aurora	0	7	28	35	0	17
Austin	3	101	313	417	3	130
Baxter	1	41	68	110	1	67
Bayport	0	7	12	19	0	9
Belle Plaine	1	10	41	52	1	16
Bemidji	2	77	315	394	2	115
Benson	0	13	37	50	0	17
Big Lake	0	14	28	42	0	19
Blaine	6	260	461	727	6	425
Bloomington	5	770	1,610	2,385	6	1,083
Blue Earth	0	6	27	33	0	13
Brainerd	0	154	369	523	0	226
Branch	0	18	52	70	0	27
Breckenridge	0	19	57	76	0	25
Brooklyn Center	1	239	451	691	1	343
Brooklyn Park	3	503	535	1,041	3	772
Buffalo	0	53	119	172	0	84
Burnsville	1	341	610	952	2	496
Byron	0	8	11	19	0	12
Caledonia	0	8	17	25	0	13
Cambridge	0	35	102	137	0	47
Cannon Falls	0	11	50	61	0	13
Champlin	0	105	137	242	0	166
Chanhassen	2	85	207	294	2	124
Chaska	2	75	176	253	4	106
Chisholm	0	18	40	58	0	40
Circle Pines	0	17	33	50	0	19
Cloquet	1	70	77	148	1	105
Cold Spring	0	13	21	34	0	22
Columbia Heights	0	111	173	284	0	152
Coon Rapids	2	439	657	1,098	2	676
Corcoran	2	15	37	54	2	22
Cottage Grove	2	79	203	284	2	106
Crookston	0	43	92	135	0	65
Crystal	0	115	172	287	0	176
Dayton	0	9	53	62	0	15
Deephaven	0	9	17	26	0	11
Delano	0	14	38	52	0	34
Detroit Lakes	3	60	79	142	3	99
Dilworth	0	5	25	30	0	6
Duluth	3	527	729	1,259	3	761
Eagan	3	233	573	809	3	329
East Bethel	3	46	73	122	3	77

TABLE 1.26 CONTINUED

1995 CRASHES IN CITIES OF 2,500 OR MORE POPULATION

City	Fatal Crashes	Personal Injury Crashes	Property Damage Crashes	Total Crashes	Killed	Injured
East Grand Forks	0	46	106	152	0	65
Eden Prairie	1	283	668	952	2	396
Edina	3	283	553	839	3	382
Elk River	0	97	130	227	0	153
Ely	0	15	48	63	0	19
Eveleth	1	12	65	78	1	20
Excelsior	0	19	40	59	0	26
Fairmont	1	59	156	216	1	88
Falcon Heights	0	38	68	106	0	52
Faribault	0	115	257	372	0	164
Farmington	1	38	83	122	1	63
Fergus Falls	1	77	196	274	1	108
Forest Lake	0	70	128	198	0	96
Fridley	4	236	334	574	4	356
Gilbert	0	12	21	33	0	15
Glencoe	0	17	49	66	0	26
Glenwood	0	6	41	47	0	8
Golden Valley	0	185	399	584	0	249
Goodview	0	5	16	21	0	7
Grand Rapids	0	70	173	243	0	107
Granite Falls	0	12	36	48	0	24
Ham Lake	1	67	103	171	1	119
Hastings	1	83	196	280	1	142
Hermantown	0	53	83	136	0	70
Hibbing	0	135	255	390	0	193
Hopkins	0	120	208	328	0	180
Hoyt Lakes	0	0	19	19	0	0
Hugo	0	23	46	69	0	37
Hutchinson	1	86	158	245	1	131
Independence	1	26	44	71	1	41
International Falls	0	35	73	108	0	58
Inver Grove Heights	4	139	335	478	4	218
Jackson	0	10	27	37	0	16
Jordan	0	13	45	58	0	17
Kasson	0	10	19	29	0	13
La Crescent	0	16	49	65	0	28
Lake City	0	17	57	74	0	26
Lake Elmo	0	62	108	170	0	115
Lakeville	4	151	270	425	4	243
Lauderdale	0	16	52	68	0	18
Le Sueur	0	8	44	52	0	14
Lindstrom	0	9	27	36	0	12
Lino Lakes	2	59	131	192	2	88
Litchfield	0	24	71	95	0	33
Little Canada	1	94	249	344	2	128
Little Falls	2	46	132	180	2	58
Long Prairie	0	11	20	31	0	12
Luverne	0	24	53	77	0	42
Mahtomedi	0	18	33	51	0	28

TABLE 1.26 CONTINUED

1995 CRASHES IN CITIES OF 2,500 OR MORE POPULATION

City	Fatal Crashes	Personal Injury Crashes	Property Damage Crashes	Total Crashes	Killed	Injured
Mankato	0	326	618	944	0	426
Maple Grove	1	156	349	506	1	236
Maplewood	5	305	617	927	5	465
Marshall	0	55	156	211	0	71
Medina	1	25	74	100	1	33
Melrose	0	6	35	41	0	8
Mendota Heights	1	58	161	220	1	79
Minneapolis	12	4,687	9,618	14,317	15	6,726
Minnetonka	0	298	535	833	0	397
Minnetrista	2	22	67	91	2	33
Montevideo	0	36	75	111	0	59
Monticello	1	52	98	151	1	79
Moorhead	1	186	552	739	1	252
Mora	0	21	41	62	0	27
Morris	0	15	45	60	0	29
Mound	0	29	52	81	0	38
Mounds View	0	51	105	156	0	78
Mountain Iron	2	24	40	66	2	38
New Brighton	2	94	256	352	2	139
New Hope	0	74	143	217	0	107
Newport	0	70	144	214	0	99
New Prague	0	12	34	46	0	16
New Ulm	1	88	164	253	1	138
Northfield	0	49	103	152	0	75
North Mankato	0	25	83	108	0	30
North Oaks	0	10	33	43	0	13
North St. Paul	1	74	144	219	1	105
Oakdale	0	81	157	238	0	133
Oak Park Heights	1	26	47	74	1	40
Olivia	0	9	20	29	0	11
Orono	0	50	114	164	0	81
Ortonville	0	5	27	32	0	5
Osseo	0	35	60	95	0	51
Otsego	2	26	31	59	2	41
Owatonna	0	110	263	373	0	156
Park Rapids	0	17	31	48	0	24
Pine City	0	18	27	45	0	33
Pipestone	0	14	29	43	0	18
Plainview	0	9	17	26	0	16
Plymouth	3	229	599	831	4	314
Princeton	0	30	66	96	0	57
Prior Lake	1	56	72	129	1	81
Proctor	0	9	25	34	0	13
Ramsey	0	81	130	211	0	118
Red Wing	2	110	276	388	3	185
Redwood Falls	0	25	52	77	0	30
Richfield	4	354	740	1,098	4	501
Robbinsdale	0	102	184	286	0	151
Rochester	1	575	1,100	1,676	3	825

TABLE 1.26 CONTINUED

1995 CRASHES IN CITIES OF 2,500 OR MORE POPULATION

City	Fatal Crashes	Personal Injury Crashes	Property Damage Crashes	Total Crashes	Killed	Injured
Rockford	0	8	31	39	0	11
Roseau	0	7	31	38	0	13
Rosemount	0	59	132	191	0	100
Roseville	1	309	744	1,054	1	430
St. Anthony	0	24	51	75	0	33
St. Charles	0	9	14	23	0	10
St. Cloud	6	583	1,107	1,696	7	911
St. Francis	0	17	36	53	0	23
St. James	0	14	30	44	0	28
St. Joseph	0	17	36	53	0	22
St. Louis Park	3	244	624	871	3	328
St. Michael	0	8	19	27	0	9
St. Paul	14	2,552	6,074	8,640	16	3,538
St. Paul Park	0	14	28	42	0	15
St. Peter	1	23	58	82	1	45
Sartell	0	18	37	55	0	24
Sauk Centre	0	16	61	77	0	25
Sauk Rapids	1	60	115	176	1	84
Savage	1	87	183	271	1	122
Shakopee	2	117	299	418	2	178
Shoreview	0	113	227	340	0	163
Shorewood	1	35	73	109	1	53
Silver Bay	1	6	14	21	1	9
Sleepy Eye	0	13	53	66	0	20
South St. Paul	1	122	268	391	1	171
Spring Lake Park	0	52	95	147	0	74
Spring Valley	0	6	17	23	0	10
Staples	0	9	43	52	0	9
Stewartville	0	11	31	42	0	12
Stillwater	0	93	234	327	0	121
Thief River Falls	0	76	87	163	0	129
Two Harbors	0	12	49	61	0	15
Vadnais Heights	0	79	188	267	0	111
Victoria	0	27	48	75	0	43
Virginia	2	85	170	257	2	124
Waconia	0	23	49	72	0	41
Wadena	0	36	81	117	0	51
Waite Park	0	80	142	222	0	125
Waseca	0	22	76	98	0	27
Wayzata	0	55	153	208	0	67
Wells	0	8	15	23	0	10
West St. Paul	0	115	212	327	0	158
White Bear Lake	1	171	362	534	1	260
Willmar	1	159	369	529	1	242
Windom	1	26	35	62	2	39
Winona	2	179	428	609	2	252
Woodbury	2	167	263	432	2	253
Worthington	1	52	188	241	1	72

TABLE 1.27

1995 CRASHES BY TIME AND DAY

Hour Beginning	Total Crashes	Fatal Crashes	Sunday All	Sunday Fatal	Monday All	Monday Fatal	Tuesday All	Tuesday Fatal	Wednesday All	Wednesday Fatal	Thursday All	Thursday Fatal	Friday All	Friday Fatal	Saturday All	Saturday Fatal
Midnight	1,492	24	365	8	120	1	143	2	151	2	151	1	178	2	384	8
1:00	2,127	28	603	9	141	3	161	3	182	2	199	3	284	2	557	6
2:00	1,130	15	321	2	83	2	112	3	95	0	94	0	137	2	288	6
3:00	740	10	216	4	49	0	66	0	69	1	71	0	85	1	184	4
4:00	639	16	139	5	64	0	68	1	66	2	57	2	105	4	140	2
5:00	1,048	12	143	2	155	1	131	3	154	1	146	1	184	3	135	1
6:00	2,315	15	165	3	396	3	375	0	421	3	385	0	383	5	190	1
7:00	5,007	14	177	1	897	3	950	0	941	3	960	5	839	2	243	0
8:00	4,266	17	226	0	751	0	699	3	798	5	724	1	739	4	329	4
9:00	3,362	17	286	3	533	3	486	1	513	3	490	1	605	3	449	3
10:00	3,673	18	383	3	528	2	479	2	503	2	463	0	674	2	643	7
11:00	4,576	27	445	1	675	5	582	2	610	4	602	5	848	3	814	7
Noon	5,567	15	597	1	777	4	720	0	738	1	773	2	1,092	6	870	1
1:00	5,271	26	549	2	768	6	717	3	715	5	680	3	1,024	3	818	4
2:00	6,016	34	581	4	984	9	842	4	835	4	788	2	1,158	5	828	6
3:00	7,717	32	604	4	1,231	3	1,244	6	1,192	3	1,117	8	1,514	1	815	7
4:00	7,540	25	585	2	1,170	3	1,210	2	1,204	5	1,158	5	1,416	2	797	6
5:00	7,909	19	619	4	1,206	3	1,290	2	1,323	0	1,282	2	1,386	4	803	4
6:00	5,414	28	578	6	800	4	841	1	730	3	767	0	967	8	731	6
7:00	4,344	30	508	5	562	3	645	4	601	3	598	5	746	5	684	5
8:00	3,370	25	434	2	433	4	471	0	425	0	429	7	603	5	575	7
9:00	3,624	20	432	3	464	3	525	3	451	3	502	2	632	4	618	2
10:00	2,949	18	343	1	348	2	374	2	330	4	371	4	610	5	573	3
11:00	2,383	24	273	3	244	2	250	2	219	1	321	1	579	6	497	6
Unknown	3,543	6	413	2	505	0	441	0	465	1	522	0	606	2	591	1
Total	96,022	515	9,985	80	13,884	69	13,822	49	13,731	61	13,650	60	17,394	89	13,556	107

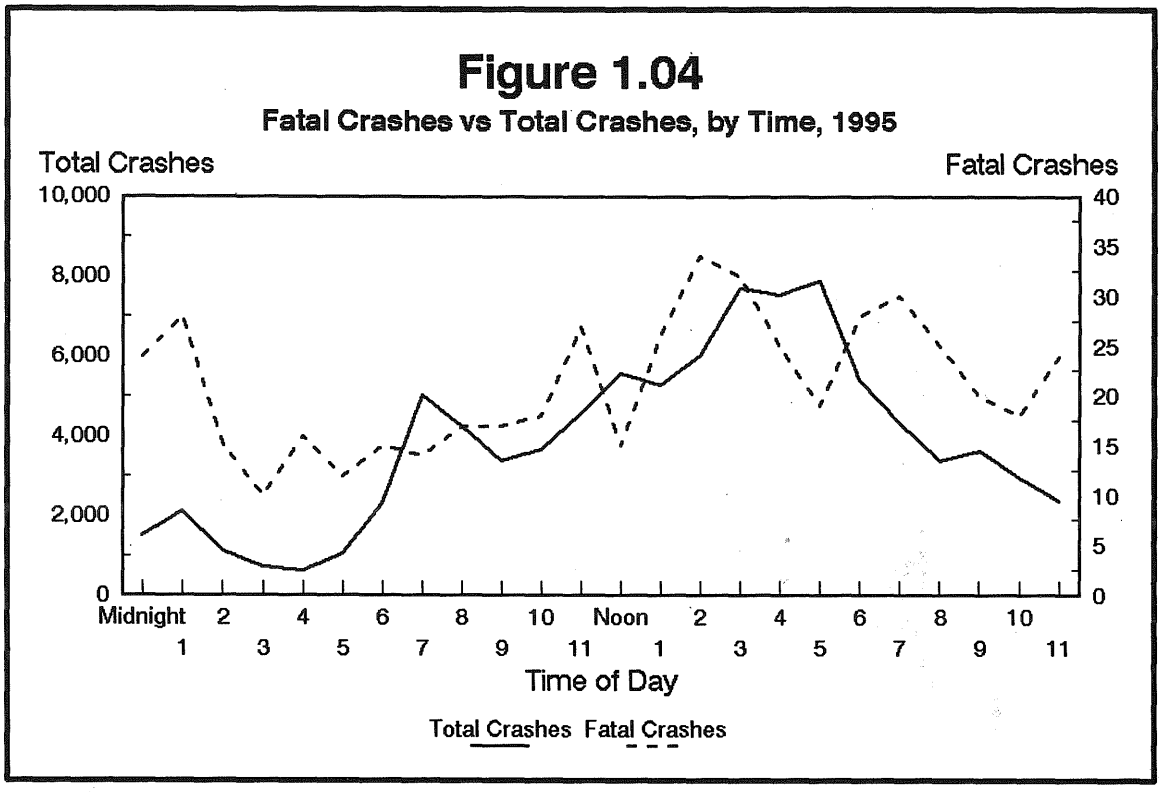


TABLE 1.28

1995 CRASHES, FATALITIES, AND INJURIES BY MONTH

Month	Fatal Crashes	Injury Crashes	Property Damage Crashes	Total Crashes	Killed	Injured
January	28	2,261	5,488	7,777	34	3,240
February	35	2,127	4,957	7,119	40	3,156
March	37	2,311	5,014	7,362	46	3,428
April	39	2,202	4,159	6,400	43	3,191
May	41	2,680	4,513	7,234	49	4,024
June	48	2,960	5,060	8,068	57	4,475
July	54	2,870	4,766	7,690	70	4,416
August	48	2,991	4,840	7,879	54	4,595
September	42	2,811	5,066	7,919	46	4,222
October	57	2,946	5,928	8,931	60	4,417
November	43	2,686	6,776	9,505	50	3,956
December	43	2,766	7,329	10,138	48	4,041
Total	515	31,611	63,896	96,022	597	47,161

TABLE 1.29

HOLIDAY CRASH SUMMARY, 1991 - 1995

Holiday Period	Year	Hours*	Fatal Crashes	Personal Injury Crashes	Property Damage Crashes	Total Crashes	Killed	Injured
Memorial Day	1991	78	4	230	505	739	4	333
(For 1995, the holiday	1992	78	7	232	443	682	7	388
period was 6 PM Fri.,	1993	78	6	249	468	723	8	415
May 26 - midnight	1994	78	7	258	398	663	8	431
Mon., May 29.)	1995	78	7	312	470	789	9	507
July 4th	1991	102	13	392	583	988	15	644
(For 1995, the holiday	1992	78	7	248	447	702	9	422
period was 6 PM Fri.,	1993	78	11	261	509	781	12	487
June 30 - midnight	1994	78	5	283	444	732	6	468
Tues. July 4.)	1995	102	13	365	532	910	20	588
Labor Day	1991	78	8	236	411	655	12	403
(For 1995, the holiday	1992	78	6	250	467	723	7	413
period was 6 PM Fri.,	1993	78	4	254	390	648	5	430
Sep. 1 - midnight	1994	78	6	267	441	714	6	435
Mon., Sep. 4.)	1995	78	4	248	343	595	5	413
Thanksgiving	1991	102	5	305	1,134	1,444	10	452
(For 1995, the holiday	1992	102	6	295	765	1,066	7	444
period was 6 PM Wed.,	1993	102	7	375	1,391	1,773	7	581
Nov. 22 - midnight	1994	102	12	383	1,018	1,413	18	584
Sun., Nov. 26.)	1995	102	8	360	896	1,264	9	579
Christmas	1991	54	2	114	298	414	2	164
(For 1995, the holiday	1992	102	4	285	828	1,117	7	425
period was 6 PM Fri.,	1993	78	2	171	476	649	2	256
Dec 22 - midnight	1994	78	6	164	357	527	6	255
Monday, Dec. 25.)	1995	78	5	166	364	535	6	260
New Year's								
(For 1995-96, the	1991/92	54	2	126	325	453	2	213
holiday period was	1992/93	102	5	432	1,225	1,662	6	657
6 PM Fri., Dec. 29 -	1993/94	78	6	297	766	1,069	6	485
midnight Mon., Jan. 1,	1994/95	78	3	193	476	672	4	286
1996.)	1995/96	78	13	392	1,017	1,422	18	646

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

II: ALCOHOL - RELATED CRASHES

The prominent role of alcohol in traffic crashes has long been recognized. This section focuses on alcohol-related crashes, injuries, and fatalities. Several clarifying issues should be noted:

Alcohol is more likely to be a contributing factor in crashes as crash severity increases

In Minnesota last year, alcohol was known to have been a factor in 4% of property damage crashes, 11% of injury crashes, and 40% of the fatal crashes. The 207 alcohol-related fatal crashes accounted for 246 (41%) of all traffic deaths.

"Alcohol-related fatalities" are not always due to "drunk driving"

If it is learned that any bicyclist, pedestrian, or motor vehicle driver had any amount of alcohol in their system, then the crash is classified as alcohol-related, and all resulting deaths are considered alcohol-related fatalities. Last year, 14 pedestrians and one bicyclist who were killed were tested and found positive for alcohol. Twelve of the pedestrians, plus the bicyclist, were over the legal limit of .10%. In four of these crashes, the vehicle driver was also positive for alcohol.

A crash that is classified as alcohol-related because a motor vehicle driver was positive for alcohol may not have been caused by the drinking driver. It may have been caused by a sober driver who drove in a reckless manner and collided with the drinking driver. Though collisions of this sort occur, experts believe the great majority of crashes involving a drinking driver are in fact caused by the drinking driver.

Not all drinking drivers broke the *per se* law. It is illegal *per se* to drive with an alcohol concentration over .10%. Most drinking drivers in fatal crashes have high alcohol concentrations, but not all are over the legal limit. In 1995, of the 145 killed drivers tested and found positive for alcohol, 115 were over the .l0 limit, and 98 of them were at .15 or higher. The other 30 drivers, though, had alcohol concentrations under .10. Eight of these were between .01 and .04; 22 were between .05 and .09.

Drinking drivers most often kill themselves

Drinking drivers often kill entirely innocent persons. But they kill themselves even more often. Last year, 246 traffic deaths were classified as alcohol-related. Drinking drivers themselves accounted for 147 of these deaths. Twenty of the 49 pedestrians killed last year were classified as alcohol-related deaths. However, 14 of these 20 were themselves drinking, and 12 were over the legal limit.

Police-reported drinking and driving understates the extent of the alcohol problem

Table 1.05 in the preceding section shows that police reported alcohol for 17% of the drivers in fatal crashes and 6% of the drivers in injury crashes. The crashes involving those drivers accounted for 162 (27%) of all traffic deaths, and 5,424 (12%) of all persons injured. By law, however, officers are required to submit accident reports within ten days of the crash, and that is often prior to the time needed to receive results of alcohol concentration tests performed. In 1995, obtaining alcohol test information on drivers in fatal crashes, and adding that to officers' reported perceptions, led to classifying 246 fatalities (41%) as alcohol-related. Alcohol-related fatalities thus rose 14 percentage points when the additional information was obtained. Test results on drivers in injury crashes are not entered into the database. (The officer's report of physical impairment, however, often relies on test results.)

***Known* alcohol-related deaths are fewer than actual number**

For fatal crashes, much effort is made to obtain the results of alcohol tests performed. Still, many drivers, especially surviving drivers, are not tested. In most cases, the absence of a test indicates that the officer did not suspect alcohol involvement. However, there will be cases in which alcohol was a factor in a crash, but was not suspected by the officer, and no tests were performed. Thus, the presence of incomplete, or unknown, information ("missing data") leads to understating the number of alcohol-related fatalities. The National Highway Traffic Safety Administration (NHTSA) currently uses a statistical technique that classifies drivers for whom alcohol data are missing into one of three categories: no alcohol, .01 to .09, and .10 or higher. NHTSA can then use the procedure to produce more accurate estimates of the number of alcohol-related fatalities in a state. Beginning this year, the NHTSA estimates for Minnesota are shown in Tables 2.01 and 2.05. Over the last decade the NHTSA estimates have ranged from two to four percentage points higher than the numbers based only on known information.

TABLE 2.01

DRINKING DRIVER SUMMARY, 1986 - 1995

	1986	1987	1988	1989	1990	1991	1992	1993	1994	1995
Drunken Driving Arrests	36,390	34,664	32,827	34,562	37,261	33,574	31,973	32,518	32,391	33,355
% Male	85%	84%	84%	84%	83%	84%	82%	82%	82%	82%
% Female	15%	16%	16%	16%	17%	16%	18%	18%	18%	18%
Drivers Killed	347	297	361	368	334	327	344	355	377	383
Tested	81%	89%	87%	85%	78%	74%	85%	80%	80%	90%
Alcohol Concentration										
(.00)	51%	50%	52%	50%	50%	56%	58%	61%	60%	58
(.01 - .09)	9%	7%	10%	8%	9%	9%	5%	7%	8%	8%
(.10 or higher)	41%	43%	38%	41%	42%	35%	37%	32%	32%	34%
Total Fatalities	572	530	615	605	568	531	581	538	644	597
Alcohol-Related Fatalities*										
Known (Number)	264	224	277	275	235	212	229	196	226	246
(Percent)	46%	42%	45%	45%	41%	40%	39%	36%	35%	41%
Estimated (Number)	278	240	289	291	254	231	237	212	244	*
(Percent)	49%	45%	47%	48%	45%	43%	41%	39%	38%	*

Information on Drunk Driving Arrests provided by the Bureau of Criminal Apprehension.
Information on Alcohol Concentration test results provided by the Fatal Accident Reporting System from information supplied by county coroners and the Bureau of Criminal Apprehension.

* Estimated alcohol-related fatalities are higher than known alcohol-related fatalities because not all drivers in fatal crashes are tested for alcohol. The estimation procedure relies on a discriminant function analysis that classifies drivers and non-occupants with unknown alcohol concentration levels into one of three alcohol groups: negative, .01 to .09, or .10 or higher alcohol concentration. Classifying a person into the second or third groups causes the crash to be classified as alcohol-realted, and all resulting deaths to be classified as alcohol-related fatalities. The procedure was developed by Terry Klein, currently Director of the Mathematical Analysis section of the Center for Statistics and Analysis of the National Highway Traffic Safety Administration. Estimates for 1995 are not yet available.

TABLE 2.02

DWI ARRESTS BY AGE, 1986 - 1995

Age	1986	1987	1988	1989	1990	1991	1992	1993	1994	1995
14 & Younger	8	8	6	8	7	5	3	5	6	6
15	27	13	15	25	12	14	9	10	15	23
16	254	208	160	175	158	126	128	100	117	107
17	546	485	503	458	431	299	275	241	240	238
18	1,151	1,084	1,038	1,072	959	740	576	542	560	589
19	1,813	1,363	1,229	1,284	1,318	1,063	836	787	684	776
20	2,002	1,709	1,291	1,426	1,472	1,315	1,048	929	845	874
Total Under 21	5,801	4,870	4,242	4,448	4,357	3,562	2,875	2,614	2,467	2,613
14 & Younger	8	8	6	8	7	5	3	5	6	6
15 - 19	3,791	3,153	2,945	3,014	2,878	2,242	1,824	1,680	1,616	1,733
20 - 24	10,273	9,345	7,933	8,071	8,357	7,470	7,217	7,101	6,321	6,441
25 - 29	8,295	8,146	7,920	8,293	8,744	7,332	6,646	6,559	6,281	6,219
30 - 34	5,002	5,110	5,146	5,554	6,509	6,312	6,109	6,177	6,371	6,457
35 - 39	3,316	3,356	3,265	3,577	4,111	4,100	4,073	4,613	4,658	4,985
40 - 44	2,098	2,087	2,101	2,418	2,689	2,680	2,549	2,724	3,069	3,320
45 - 49	1,274	1,289	1,360	1,407	1,531	1,340	1,510	1,567	1,852	1,906
50 - 54	857	834	786	892	985	845	856	943	915	1,033
55 - 59	631	584	556	568	590	489	523	533	582	582
60 - 64	397	359	406	389	417	369	349	287	364	334
65 & Older	448	393	403	371	441	390	314	329	356	339
Total	36,390	34,664	32,827	34,562	37,261*	33,574	31,973	32,518	32,391	33,355

* The total for 1990 includes 2 arrests where age was unknown.

Information provided by the Bureau of Criminal Apprehension.

"ALCOHOL-RELATED"

The term "alcohol-related" requires explanation. If data show that any motor vehicle driver, pedestrian, or bicyclist in a traffic crash had any amount of alcohol in their system, then the crash is classified as alcohol-related, and anyone who died or was injured in the crash is classified as an alcohol-related fatality or injury. For non-fatal crashes, the reporting officer's perception is the only information entered in the database. If the officer indicates on the Police Accident Report that the "apparent physical condition" was "had been drinking," or "under the influence," then the crash is classified as alcohol-related. This is a conservative measure. Officers base their perceptions on physical observation, or on the results of tests performed on the blood, breath, or urine of the person. If the accident was not discovered until hours after it occurred, or if a person in the accident was taken to a hospital, the officer may have to indicate that the apparent physical condition was "unknown." For fatal crashes, the officer's perception is again used as data, but special effort is also made to obtain the results of alcohol tests performed. If the results for any driver, pedestrian, or bicyclist are positive, then the crash is also classified as alcohol-related.

The procedure described above is the basis for most of the information in this section. However, there is a problem when data are missing. As noted, officers sometimes indicate "unknown" for the "apparent physical condition." Also, while alcohol testing is high (about 80% or higher) for killed drivers, it is not as good for surviving drivers. Completeness of data collection also varies from year to year, making comparisons across years unreliable. To address the problem of missing data, a procedure was developed that classifies a driver, pedestrian, or bicyclist on whom alcohol test data are missing into one of three categories: (1) negative, (2) .01 to .09, or (3) .10 or higher. If a person is classified into the second or third category, then the crash is classified as alcohol-related. The classification (based on characteristics of the crash and of the driver, such as time of day, driver age, and so on) involves a sophisticated statistical procedure, which of course is still subject to error. The procedure was developed by Mr. Terry Klein, currently Chief of the Mathematical Analysis section of the National Center for Statistics and Analysis of the National Highway Traffic Safety Administration. It is especially valuable since it is consistent over years. Results from this procedure were provided by NHTSA and are used in the tables (2.01 and 2.05) that show alcohol-related fatalities across years. The other tables use actual test results and officers' reported perceptions.

TABLE 2.03

AGE OF PERSONS KILLED AND INJURED IN ALL CRASHES AND IN ALCOHOL - RELATED CRASHES, 1995

	Killed		Injured	
Age	All	Alcohol-Related	All	Alchol-Related
0 - 4	5	2	846	53
5 - 9	5	1	1,447	75
10 - 14	13	5	2,036	95
15 - 19	64	20	8,658	836
20 - 24	92	64	6,146	1,111
25 - 29	59	39	4,758	775
30 - 34	53	28	4,421	715
35 - 39	56	31	4,011	581
40 - 44	34	16	3,290	371
45 - 49	29	12	2,499	219
50 - 54	21	6	1,744	139
55 - 59	15	3	1,213	84
60 - 64	22	4	1,007	48
65 - 69	22	4	879	43
70 - 74	32	3	827	28
75 - 79	24	3	687	18
80 - 84	34	3	468	8
85 & Older	17	2	266	8
Not Stated	0	0	1,958	217
Total	597	246	47,161	5,424

*Of the alcohol-related fatalities, fourteen were pedestrians and one was a bicyclist who had been drinking. In four of these cases, the motor vehicle driver had also been drinking.

TABLE 2.04

1995 ALCOHOL - RELATED FATALITIES' LEVEL OF ALCOHOL CONCENTRATION BY TRAFFIC ROLE

Traffic Role	Killed	Tested	Alcohol Concentration (.00)	(.01 - .09)	(.10 or more)
Car or Truck Driver	145	139	13	27	99
Car or Truck Passenger	44	27	8	5	14
Motorcycle Driver	16	15	0	2	13
Motorcycle Passenger	6	3	1	0	2
Snowmobile Driver	3	3	0	1	2
Pedestrian	20	17	3	2	12
Other/Unknown	12	5	1	0	4
Total	246	209	26	37	146

TABLE 2.05

PERCENT OF DEATHS, INJURIES, AND PROPERTY DAMAGE CRASHES DETERMINED TO BE ALCOHOL - RELATED, 1986 - 1995

	1986	1987	1988	1989	1990	1991	1992	1993	1994	1995
Deaths (Known)*	46%	42%	45%	45%	41%	40%	39%	36%	35%	41%
(Estimated)	49%	45%	47%	48%	45%	43%	41%	39%	38%	NA
Injuries**	17%	17%	15%	15%	15%	13%	13%	12%	11%	12%
Property Damage Crashes**	7%	7%	5%	5%	6%	5%	5%	4%	4%	4%

* Based on alcohol test information plus officer's perception of alcohol noted on accident report. See note on Table 2.03 regarding known and estimated alcohol-related fatalities. Estimated deaths are not available for 1995.
** Includes only police officer's perception of alcohol noted on accident report.

TABLE 2.06

FIRST HARMFUL EVENT IN ALCOHOL-RELATED FATAL CRASHES AND ALL FATAL CRASHES, 1995*

First Harmful Event	Alcohol-Related Fatal Crashes Number	Percent	All Fatal Crashes Number	Percent
Collision with:				
Another Motor Vehicle	72	34.8%	262	50.9%
Parked Motor Vehicle	0	0.0	1	0.2
Railroad Train	3	1.4	15	2.9
Bicycle	1	0.5	5	1.0
Pedestrian	20	9.7	43	8.3
Deer	2	1.0	3	0.6
Other Animal	0	0.0	2	0.4
Fixed Object	55	26.6	93	18.1
Non-Collision:				
Overturn	50	24.2	74	14.4
Fire/Explosion	1	0.5	2	0.4
Submersion	1	0.5	3	0.6
Other	2	1.0	12	2.3
Total	207	100.0%	515	100.0%

* Includes alcohol test information as well as officer's perception of alcohol noted on accident report.

TABLE 2.07

TEST RESULTS OF DRIVERS KILLED, 1986 - 1995

Year	Killed	Tested	Alcohol Concentration* (.00)	(.01 - .09)	(.10 or more)
1986	347	281	143 (51%)	24 (9%)	114 (41%)
1987	297	265	132 (50%)	18 (7%)	115 (43%)
1988	361	313	163 (52%)	32 (10%)	118 (38%)
1989	368	313	158 (50%)	26 (8%)	129 (41%)
1990	334	260	129 (50%)	23 (9%)	108 (42%)
1991	327	242	135 (56%)	22 (9%0	85 (35%)
1992	344	237	135 (57%)	13 (5%)	89 (38%)
1993	355	283	174 (61%)	19 (7%)	90 (32%)
1994	377	303	183 (60%)	23 (8%)	97 (32%)
1995	383	343	198 (58%)	30 (9%)	115 (34%)

* Percentages are based on number of motor vehicle drivers tested.

TABLE 2.08

DRIVERS KILLED WHO TESTED .01 OR HIGHER, 1986 - 1995 ("Any Alcohol")

Year	Total	Male		Female		Occurred Between Midnight - 3 AM		Under Legal Age	
1986	138	117	(85%)	21	(15%)	50	(36%)	16	(12%)
1987	133	112	(84%)	21	(16%)	34	(26%)	22	(17%)
1988	150	131	(87%)	19	(13%)	32	(21%)	34	(23%)
1989	155	138	(89%)	17	(11%)	47	(30%)	26	(17%)
1990	131	110	(84%)	21	(16%)	48	(37%)	28	(21%)
1991	107	98	(92%)	9	(8%)	37	(35%)	23	(21%)
1992	102	82	(80%)	20	(20%)	39	(38%)	13	(13%)
1993	109	92	(84%)	17	(16%)	35	(32%)	11	(10%)
1994	120	100	(83%)	20	(17%)	24	(20%)	15	(13%)
1995	145	121	(83%)	24	(17%)	43	(30%)	12	(8%)

TABLE 2.09

DRIVERS KILLED WHO TESTED .10 OR HIGHER, 1986 - 1995 ("Over Limit")

Year	Total	Male		Female		Occurred Between Midnight - 3 AM		Under Legal Age	
1986	114	100	(88%)	14	(12%)	42	(37%)	12	(11%)
1987	115	98	(85%)	17	(15%)	33	(29%)	13	(11%)
1988	118	100	(85%)	18	(15%)	27	(23%)	22	(19%)
1989	129	117	(91%)	12	(9%)	42	(33%)	19	(15%)
1990	108	92	(85%)	16	(15%)	42	(39%)	22	(20%)
1991	85	79	(93%)	6	(7%)	30	(35%)	13	(15%)
1992	89	77	(87%)	12	(13%)	36	(40%)	12	(13%)
1993	90	75	(83%)	15	(17%)	32	(36%)	7	(8%)
1994	97	83	(86%)	14	(14%)	20	(21%)	8	(8%)
1995	115	97	(84%)	18	(16%)	38	(33%)	6	(5%)

FIGURE 2.01

Killed Drivers Tested for Alcohol
Percent Drinking and Percent Drunk, 1970 - 1995

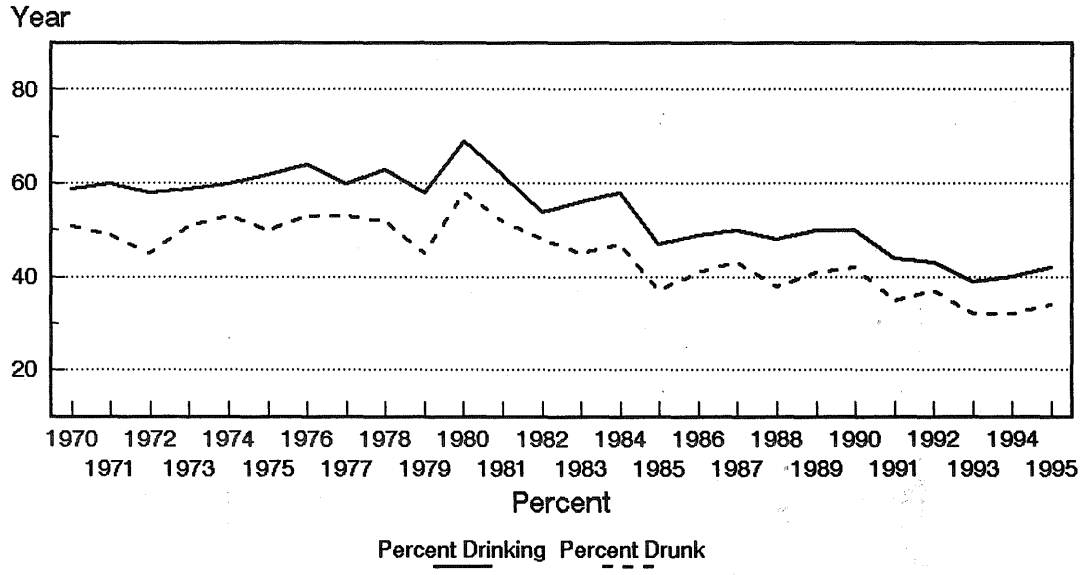


FIGURE 2.02

Percent of Drivers Killed Who Had Been Drinking, by Age, 1995

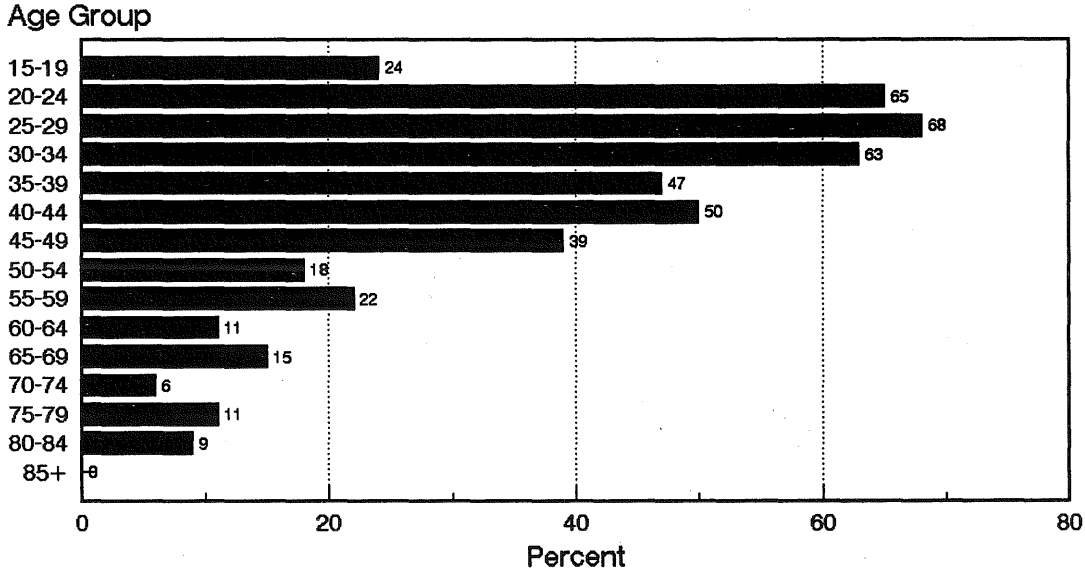


TABLE 2.10

1995 DRIVER FATALITIES' LEVEL OF ALCOHOL CONCENTRATION BY AGE

Age	Killed	Tested	Alcohol Concentration* (.00)		(.01 - .09)		(.10 or more)		Alcohol Concentration .00	.01-.04	.05-.09	.10-.14	.15-.19	.20-.24	.25 & Over
14 & Younger	1	1	1	(100%)	0	(0%)	0	(0%)	1	0	0	0	0	0	0
15	1	0	0	(0%)	0	(0%)	0	(0%)	0	0	0	0	0	0	0
16	6	5	3	(60%)	2	(40%)	0	(0%)	3	0	2	0	0	0	0
17	9	8	8	(100%)	0	(0%)	0	(0%)	8	0	0	0	0	0	0
18	9	9	7	(78%)	0	(0%)	2	(22%)	7	0	0	1	1	0	0
19	8	7	4	(57%)	2	(29%)	1	(14%)	4	0	2	0	0	1	0
20	11	11	6	(55%)	2	(18%)	3	(27%)	6	0	2	0	1	2	0
Under 21	45	41	29	(71%)	6	(15%)	6	(15%)	29	0	6	1	2	3	0
14 & Younger	1	1	1	(100%)	0	(0%)	0	(0%)	1	0	0	0	0	0	0
15 - 19	33	29	22	(76%)	4	(14%)	3	(10%)	22	0	4	1	1	1	0
20 - 24	67	65	23	(35%)	5	(8%)	37	(57%)	23	0	5	7	12	11	7
25 - 29	37	31	10	(32%)	5	(16%)	16	(52%)	10	1	4	4	7	2	3
30 - 34	35	32	12	(38%)	4	(13%)	16	(50%)	12	1	3	2	6	5	3
35 - 39	45	43	23	(53%)	3	(7%)	17	(40%)	23	0	3	0	4	7	6
40 - 44	27	26	13	(50%)	1	(4%)	12	(46%)	13	1	0	0	3	4	5
45 - 49	24	23	14	(61%)	3	(13%)	6	(26%)	14	1	2	1	2	1	2
50 - 54	13	11	9	(82%)	0	(0%)	2	(18%)	9	0	0	0	2	0	0
55 - 59	10	9	7	(78%)	0	(0%)	2	(22%)	7	0	0	1	1	0	0
60 - 64	19	18	14	(78%)	2	(11%)	2	(11%)	14	2	0	0	1	1	0
65 - 69	14	13	11	(85%)	1	(8%)	1	(8%)	11	1	0	1	0	0	0
70 - 74	19	17	16	(94%)	1	(6%)	0	(0%)	16	0	1	0	0	0	0
75 - 79	12	9	8	(89%)	0	(0%)	1	(11%)	8	0	0	0	1	0	0
80 - 84	17	11	10	(91%)	1	(9%)	0	(0%)	10	1	0	0	0	0	0
85 & Older	10	5	5	(100%)	0	(0%)	0	(0%)	5	0	0	0	0	0	0
Total	383	343	198	(58%)	30	(9%)	115	(34%)	198	8	22	17	40	32	26

* Percentages are based on number of motor vehicle drivers tested. They may not add to 100 due to rounding.

TABLE 2.11

1995 ALCOHOL - RELATED CRASHES BY MONTH

Month	Fatal Crashes	Injury Crashes	Property Damage Crashes	Total Crashes	Killed	Injured
January	11	246	248	505	12	357
February	14	210	238	462	15	329
March	22	263	228	513	29	425
April	20	259	198	477	21	364
May	19	304	193	516	23	465
June	23	308	189	520	27	482
July	19	345	222	586	30	538
August	21	321	227	569	26	490
September	18	329	218	565	19	490
October	14	362	256	632	15	555
November	11	307	254	572	12	489
December	15	268	287	570	17	440
Total	207	3,522	2,758	6,487	246	5,424

TABLE 2.12

1995 ALCOHOL - RELATED CRASHES BY ROADWAY TYPE

Roadway Type	Fatal Crashes	Injury Crashes	Property Damage Crashes	Total Crashes	Killed	Injured
Urban Interstate	8	205	246	459	8	315
Rural Interstate	4	37	50	91	5	47
Urban Trunk Hwy	21	461	410	892	21	738
Rural Trunk Hwy	48	614	360	1,022	59	1,006
County State Aid Hwy	82	1,087	668	1,837	98	1,665
County Road	10	134	86	230	12	208
Township Road	17	167	91	275	19	251
Local Street	16	793	818	1,627	23	1,159
Other	1	24	29	54	1	35
Total	207	3,522	2,758	6,487	246	5,424

FIGURE 2.03

1995 Alcohol-Related Crashes by Time of Day

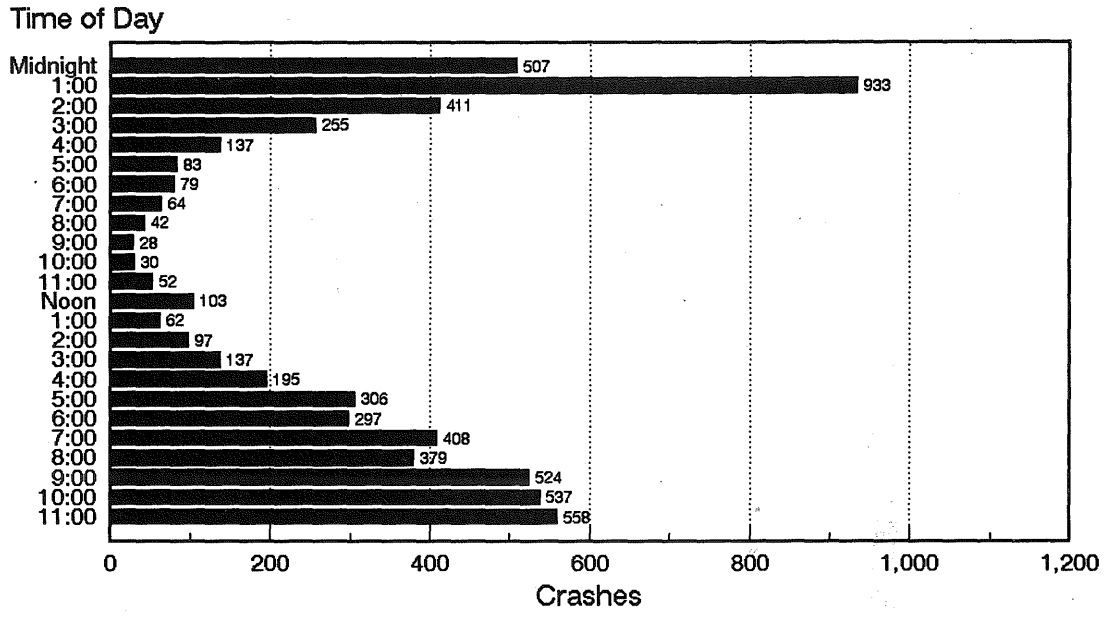


FIGURE 2.04

1995 Alcohol-Related Crashes by Day of Week

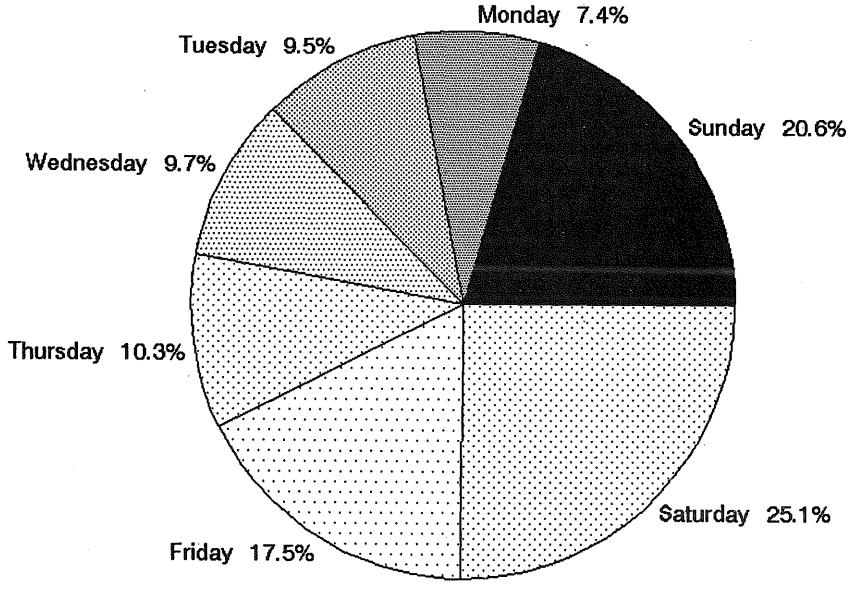


TABLE 2.13

1995 ALCOHOL - RELATED CRASHES BY TIME OF DAY AND DAY OF WEEK

Hour Beginning	Sunday	Monday	Tuesday	Wednesday	Thursday	Friday	Saturday	Total	Killed	Injured
Midnight	137	36	40	47	52	63	132	507	27	383
1:00 AM	294	46	74	69	83	119	268	953	27	764
2:00 AM	132	30	31	26	34	40	118	411	17	333
3:00 AM	91	12	19	19	18	20	76	255	9	201
4:00 AM	51	3	8	9	5	14	47	137	11	92
5:00 AM	26	4	7	3	2	10	31	83	4	62
6:00 AM	28	4	6	6	10	7	18	79	7	70
7:00 AM	18	2	3	7	4	7	23	64	1	53
8:00 AM	10	3	2	4	1	6	16	42	5	31
9:00 AM	5	3	3	4	3	5	5	28	1	26
10:00 AM	4	0	3	4	4	2	13	30	0	32
11:00 AM	12	5	6	3	4	7	15	52	4	70
Noon	12	8	14	11	12	19	27	103	2	92
1:00 PM	12	3	7	11	10	8	11	62	4	55
2:00 PM	21	10	14	10	12	15	15	97	2	87
3:00 PM	25	8	23	13	12	28	28	137	4	118
4:00 PM	28	19	16	22	29	32	49	195	6	195
5:00 PM	64	29	44	32	34	52	51	306	8	281
6:00 PM	45	31	28	40	25	60	68	297	15	272
7:00 PM	49	36	48	48	58	77	92	408	21	335
8:00 PM	47	34	37	46	51	75	89	379	21	324
9:00 PM	77	45	53	53	58	123	115	524	12	433
10:00 PM	45	53	63	67	56	127	126	537	13	468
11:00 PM	53	33	51	51	72	175	123	558	20	465
Unknown	53	20	14	21	22	41	72	243	5	182
Total	1,339	477	614	626	671	1,132	1,628	6,487	246	5,424

III: SAFETY EQUIPMENT USE BY VEHICLE OCCUPANTS IN 1995 CRASHES

Types of safety equipment
The most common type of safety equipment is the safety belt -- a system that includes lap and shoulder belts that are operated either automatically or manually. Many recent model cars come with driver-side, and sometimes passenger-side, airbags. Child safety seats are available for children under age four. Other devices, such as booster seats, can be beneficial for young children over the age of four.

Safety benefits and legislation
Studies estimate that using these safety 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 1993 Legislature increased the fine for not using a child car seat from $25 to $50. The state's seat belt law went into effect in 1986 and was amended in 1988 and 1991. It requires all front seat occupants (and children from four through ten, regardless of seating position) to wear safety belts.

Tables in this section focus on use of safety equipment by people in crashes who were occupants of vehicles normally equipped with safety equipment (e.g., passenger cars and trucks rather than motorcycles). The data are problematic in this respect, though: safety equipment use could not be determined by the reporting officer for almost one fifth of the persons killed or injured. In addition, the accuracy of the remaining data (reported use and non-use) is uncertain. Assuming, though, that reporting behavior does not change radically from year to year, the data can be useful in indicating general trends in usage.

Safety belt use responds to legislation
Observational surveys of belt use conducted periodically at random sites in the state provide strong evidence that legislation affects seat-belt wearing behavior -- thus saving lives and preventing injuries. Those surveys showed about a 12 percentage point increase in use after the first seat belt law went into effect in 1986, about a 15 point increase after the $10 fine was added in 1988, and about a 5 point increase when the fine was increased to $25 in 1991. There has been no successful seat belt legislation since 1991. Use rates remained mostly stable since 1991. However, the August 1995 survey showed almost a 10 percentage point increase, to 65%.

Belt use rates higher among those over 30
Based on information from the police accident report, people over 30 appear more conscientious about using safety restraints than people under 30. About 70% of those injured over 30 years old were shown to have been using their seat belt. Among those in their twenties, only 13% of those killed and 59% of those injured were known to have been wearing seat belts. Fifty-three percent of 4-to-10 year-olds injured, and 51% of 11-to-19 year olds injured wore seat belts. Children through three years of age must be fastened in safety seats by adults. Only 50% of them were shown to be thus restrained.

Note that these use rates of around 50% or higher are true for the large number of people who suffered minor injuries. Seat belt use rates were considerably lower among those who suffered severe and fatal injuries. For example, for youth aged 11 to 19, only 19% of those killed and 29% of those severely injured were known to have been using seat belts.

Western part of state has lower use rates
Seat belt use shows some correlation with population density. Among those killed and injured, known seat belt use was highest (66%) in the metro area, and next highest (at 59%) in the central region. It was lowest in the Northwest region (44%) and next lowest (at 48%) in the west central region.

Airbag deployments increase
Airbags have dramatic life-saving benefits in head-on type collisions. As more and more vehicles come equipped with these devices, crashes in which airbag deployments occur are slowly increasing. Last year there were 1,359 deployments. This compares to 381 in 1992, 598 in 1993, and 913 in 1994.

TABLE 3.01

MOTOR VEHICLE OCCUPANTS KILLED OR INJURED, BY AGE AND SEVERITY OF INJURY, 1995

		Injured			
Age Group	Killed	Severe	Moderate	Minor	Total
0 - 4	3	30	268	449	747
5 - 9	3	67	357	606	1,030
10 - 14	8	98	513	740	1,351
15 - 19	55	602	3,162	4,285	8,049
20 - 24	84	425	1,990	3,183	5,598
25 - 29	43	314	1,337	2,672	4,323
30 - 34	33	285	1,242	2,487	4,014
35 - 39	47	260	1,107	2,291	3,658
40 - 44	29	225	883	1,896	3,004
45 - 49	25	153	663	1,483	2,299
50 - 54	18	103	482	1,029	1,614
55 - 59	12	88	345	698	1,131
60 - 64	20	72	304	579	955
65 - 69	18	79	258	495	832
70 - 74	29	60	266	467	793
75 - 79	21	50	236	369	655
80 - 84	33	58	179	204	441
85 & Older	14	28	105	122	255
Not Stated	0	70	361	1,138	1,569
Total	495	3,067	14,058	25,193	42,318

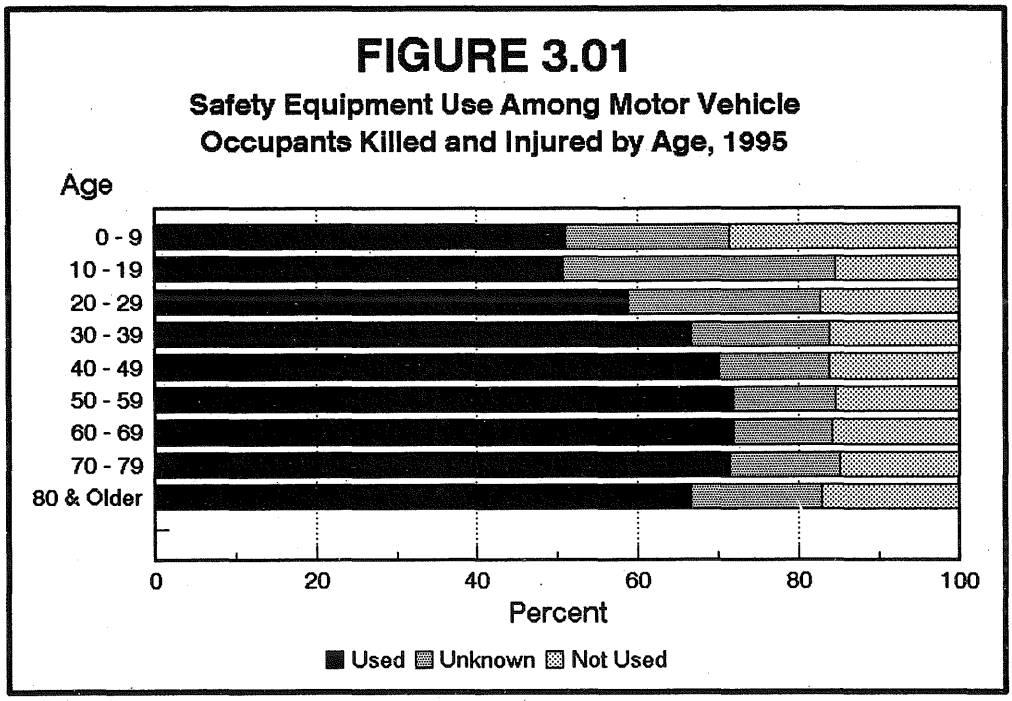


TABLE 3.02

SAFETY EQUIPMENT USE BY VEHICLE OCCUPANTS KILLED OR INJURED, BY AGE AND INJURY SEVERITY, 1995

Age Group	Restraint Use	Killed		Injured							
				Severe		Moderate		Minor		Total	
		#	%	#	%	#	%	#	%	#	%
0 - 3 Years	Used	0	0.0	5	31.3	82	46.9	174	52.6	261	50.0
	Not Used	0	0.0	2	12.5	35	20.0	34	10.3	71	13.6
	Unknown	2	100.0	9	56.3	58	33.1	123	37.2	190	36.4
	Subtotal	2	100.0	16	100.0	175	100.0	331	100.0	522	100.0
4 - 10 Years	Used	2	40.0	34	37.4	280	52.0	465	56.2	779	53.4
	Not Used	2	40.0	32	35.2	129	23.9	176	21.3	337	23.1
	Unknown	1	20.0	25	27.5	130	24.1	187	22.6	342	23.5
	Subtotal	5	100.0	91	100.0	539	100.0	828	100.0	1,458	100.0
11 - 19 Years	Used	12	19.4	202	29.3	1,625	45.3	2,835	57.6	4,662	50.7
	Not Used	37	59.7	355	51.5	1,443	40.2	1,319	26.8	3,117	33.9
	Unknown	13	21.0	133	19.3	518	14.5	767	15.6	1,418	15.4
	Subtotal	62	100.0	690	100.0	3,586	100.0	4,921	100.0	9,197	100.0
20 - 29 Years	Used	17	13.4	284	38.4	1,723	51.8	3,881	66.3	5,888	59.4
	Not Used	69	54.3	301	40.7	1,043	31.4	999	17.1	2,343	23.6
	Unknown	41	32.3	154	20.8	561	16.9	975	16.7	1,690	17.0
	Subtotal	127	100.0	739	100.0	3,327	100.0	5,855	100.0	9,921	100.0
30 - 39 Years	Used	24	30.0	229	42.0	1,407	59.9	3,502	73.3	5,138	67.0
	Not Used	36	45.0	199	36.5	571	24.3	531	11.1	1,301	17.0
	Unknown	20	25.0	117	21.5	371	15.8	745	15.6	1,233	16.1
	Subtotal	80	100.0	545	100.0	2,349	100.0	4,778	100.0	7,672	100.0
40 - 49 Years	Used	14	25.9	201	53.2	1,018	65.9	2,522	74.6	3,741	70.5
	Not Used	29	53.7	101	26.7	294	19.0	309	9.1	704	13.3
	Unknown	11	20.4	76	20.1	234	15.1	548	16.2	858	16.2
	Subtotal	54	100.0	378	100.0	1,546	100.0	3,379	100.0	5,303	100.0
50 - 59 Years	Used	11	36.7	110	57.6	564	68.2	1,309	75.8	1,983	72.2
	Not Used	14	46.7	42	22.0	138	16.7	160	9.3	340	12.4
	Unknown	5	16.7	39	20.4	125	15.1	258	14.9	422	15.4
	Subtotal	30	100.0	191	100.0	827	100.0	1,727	100.0	2,745	100.0
60 - 69 Years	Used	14	36.8	79	52.3	400	71.2	819	76.3	1,298	72.6
	Not Used	16	42.1	38	25.2	93	16.6	78	7.3	209	11.7
	Unknown	8	21.5	34	22.5	69	12.3	177	16.5	280	15.7
	Subtotal	38	100.0	151	100.0	562	100.0	1,074	100.0	1,787	100.0
70 & Older	Used	40	41.2	115	58.7	526	66.9	883	76.0	1,524	71.1
	Not Used	36	37.1	45	23.0	159	20.2	86	7.4	290	13.5
	Unknown	21	21.7	36	18.4	101	12.9	193	16.6	330	15.4
	Subtotal	97	100.0	196	100.0	786	100.0	1,162	100.0	2,144	100.0
Age Not Stated	Used	0	0.0	21	30.0	153	42.4	429	37.7	603	38.4
	Not Used	0	0.0	25	35.7	94	26.0	149	13.1	268	17.1
	Unknown	0	0.0	24	34.3	114	31.6	560	49.2	698	44.5
	Subtotal	0	0.0	70	100.0	361	100.0	1,138	100.0	1,569	100.0
All Ages	Used	134	27.1	1,280	41.7	7,778	55.3	16,819	66.8	25,877	61.1
	Not Used	239	48.3	1,140	37.2	3,999	28.4	3,841	15.2	8,980	21.2
	Unknown	122	24.6	647	21.1	2,281	16.2	4,533	18.0	7,461	17.6
	Total	495	100.0	3,067	100.0	14,058	100.0	25,193	100.0	42,318	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 3.03

MOTOR VEHICLE OCCUPANTS BY INJURY SEVERITY, AIRBAG DEPLOYMENT AND BELT USE,* 1995

	Airbag Deployed		Airbag Not in Vehicle or Not Deployed		Safety Restraint Use	
	Belt Used	Belt Not Used	Belt Used	Belt Not Used	Unknown	Total
Killed	7	4	127	235	122	495
Injured						
Severe	38	14	1,242	1,126	647	3,067
Moderate	241	46	7,537	3,953	2,281	14,058
Minor	285	24	16,534	3,817	4,533	25,193
No Apparent Injury	668	32	93,028	8,393	89,646	191,767
Total	1,239	120	118,468	17,524	97,229	234,580

* "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.

TABLE 3.04

PERCENT OF INJURED OR KILLED MOTOR VEHICLE OCCUPANTS WHO USED SAFETY EQUIPMENT, BY INJURY SEVERITY AND YEAR, 1986 - 1995

	1986	1987	1988	1989	1990	1991	1992	1993	1994	1995
Killed										
Used	9.2	17.7	21.1	20.5	20.9	24.4	27.5	32.1	25.4	27.1
Not Used	69.7	67.9	64.1	63.8	65.9	57.0	58.5	52.6	56.3	48.3
Unknown	21.1	14.4	14.8	15.7	13.2	18.5	14.0	15.3	18.3	24.6
Injured										
Severe Injuries										
Used	16.9	22.0	30.5	31.6	32.6	35.7	36.6	40.7	43.0	41.7
Not Used	57.8	55.1	48.9	47.9	48.4	40.7	41.7	37.4	37.6	37.2
Unknown	25.4	22.9	20.6	20.5	18.9	23.6	21.7	21.9	19.4	21.1
Moderate Injuries										
Used	20.8	29.3	38.2	39.9	41.1	45.9	48.5	51.8	54.5	55.3
Not Used	53.4	48.4	41.7	40.6	40.2	33.7	34.0	31.9	29.6	28.4
Unknown	25.9	22.3	20.1	19.5	18.7	20.4	17.5	16.3	15.9	16.2
Minor Injuries										
Used	25.7	36.2	42.9	45.5	45.3	54.3	61.4	64.8	65.0	66.8
Not Used	38.9	32.2	24.4	21.9	23.1	19.8	19.9	17.0	16.0	15.2
Unknown	35.3	31.6	32.7	32.6	31.6	25.9	18.8	18.1	19.0	18.0
Total Injured										
Used	23.0	32.0	39.9	42.3	42.7	49.8	55.0	58.7	59.9	61.1
Not Used	46.5	40.9	32.9	30.7	31.2	26.3	26.4	23.5	22.1	21.2
Unknown	30.5	27.1	27.1	27.0	26.1	23.9	18.6	17.9	18.0	17.6

TABLE 3.05

SAFETY EQUIPMENT USE BY MOTOR VEHICLE OCCUPANTS KILLED AND INJURED, BY ROADWAY TYPE, 1995

	Used		Not Used		Unknown		Total	
Roadway Type	Number	Percent	Number	Percent	Number	Percent	Number	Percent
Interstate	2,448	73.4	524	15.7	362	10.9	3,334	100.0
Trunk Highway	9,325	63.5	3,117	21.2	2,248	15.3	14,690	100.0
County State-Aid Highway	7,630	59.5	2,616	20.4	2,574	20.1	12,820	100.0
County Road	568	52.0	333	30.5	192	17.6	1,093	100.0
Township Road	451	38.7	469	40.3	245	21.0	1,165	100.0
Local Street	5,546	57.8	2,114	22.0	1,931	20.1	9,591	100.0
Other Road	43	35.8	46	38.3	31	25.8	120	100.0
Total	26,011	60.8	9,219	21.5	7,583	17.7	42,813	100.0%

TABLE 3.06

SAFETY EQUIPMENT USE BY MOTOR VEHICLE OCCUPANTS KILLED AND INJURED, BY EMS REGION* OF STATE, 1995

EMS Region	Percent Used	Percent Not Used	Percent Unknown	Number of People
Metropolitan	65.7	16.3	18.1	23,752
Central	58.8	26.8	14.5	5,530
Northeast	57.7	25.1	17.2	2,721
Northwest	43.5	36.3	20.3	1,238
South Central	52.0	28.4	19.6	1,755
Southeast	56.5	26.1	17.4	3,787
Southwest	51.0	31.1	17.9	2,315
West Central	48.0	31.5	20.5	1,715
Statewide	60.8	21.5	17.7	42,813

*There are eight Emergency Medical Services (EMS) regions in the state, shown in the map at right.

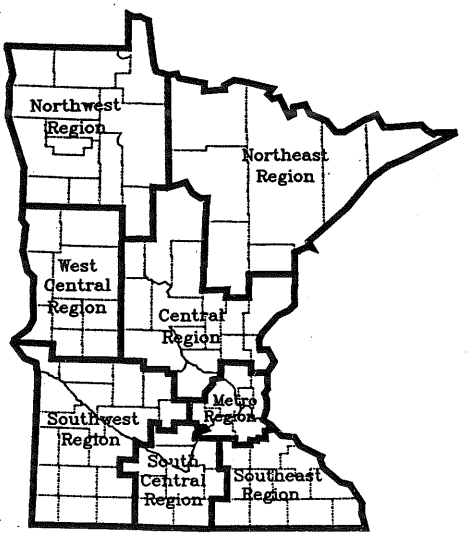


TABLE 3.07

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

	Survey Design In Use Though August, 1994										New Survey Design	
	June 1986	Aug 1986	Aug 1987	Aug 1988	Aug 1989	Aug 1990	Aug 1991	Aug 1992	Aug 1993	Aug 1994	Aug 1994*	Aug 1995*
Statewide	**20%**	**33%**	**32%**	**47%**	**44%**	**47%**	**53%**	**51%**	**55%**	**55%**	**57%**	**65%**
Metro	30	43	40	51	52	54	62	62	59	61	58	68
Non-Metro	15	26	28	45	40	42	47	46	52	52	54	56
Road Class												
Major Roads	23	35	35	48	44	49	53	55	57	60	65	68
Local Roads	17	31	29	46	45	46	52	48	53	51	54	64
Weather												
Clear	19	32	32	47	44	47	53	52	55	54		
Other	23	36	41	48	53	50	48	41	52	59		
Time												
Rush Hour	21	31	30	47	42	47	53	55	59	54		
Non-rush Hour	20	34	33	47	44	48	52	51	54	62		
Day of the Week												
Weekday	19	33	32	45	42	45	51	51	56	55		
Weekend	21	33	33	52	49	50	56	53	52	54		
Speed												
20 MPH	14	29	29	35	39	46	47	39	50	48		
40 MPH	20	32	30	47	46	46	56	58	57	60		
60 MPH	28	39	41	57	52	53	61	62	61	64		

The seat belt law, which requires all front seat passengers and all passengers under the age of eleven to wear safety belts, became effective in Minnesota on August 1, 1986. Only the use of shoulder belts could be observed in the observation studies. The June 1986 survey was conducted prior to the implementation of this law; all other studies were conducted after the law went into effect. The August 1988 study was conducted after the amendment adding a $10.00 fine went into effect. The August 1991 study was conducted after an amendment increasing the fine to $25.00 went into effect.

The usage rate is not a simple ratio of the number of persons observed belted to the total number of people observed. It is, instead, the ratio of estimated time on the road that front seat occupants are using safety belts to the total estimated time on the road for these occupants.

* A new survey design was initiated in August 1994 and continued in 1995. The prior survey design was also used in 1994, and then discontinued. The new survey design uses different sites and is not strictly comparable to the prior design.

IV: MOTORCYCLE CRASHES

Motorcycle crashes continue long term decline
In 1995, there were 1,126 crashes that involved a motorcycle. That's just under half the number that occurred in 1986, and a 22% reduction from the average of the prior five years. There were 32 fatal crashes, in which 25 motorcycle operators and 10 motorcycle passengers died, for a total of 35. Also, two pedestrians died. (Note that one of the killed pedestrians had been riding a motorcycle, but had lost control of it and was standing in the road when struck by another vehicle.) One-thousand-sixty-three motorcyclists were injured, down 51% from ten years ago, and 22% from the prior five-year average. To the extent the long term decline reflects reduced motorcycle driving, the trend of fewer crashes may change. Last year was the first year since 1981 in which motorcycle registrations increased rather than decreased.

Weekends and warm weather
Motorcycle riding is a warm-weather activity, and crash numbers will reflect the length of the riding season. Last year, 85% of all crashes occurred in May through September, and all 32 of the fatal crashes occurred in April through October. The three days Friday, Saturday, and Sunday, accounted for 50% of all crashes and 18 of the 32 fatal crashes.

Victims mostly males in their twenties and thirties
Twenty-six of the 35 motorcyclists killed were males, and 22 of them were aged 20 to 39. Among the 1,063 motorcyclists injured, 83% were males, and 63% of them were aged 20 to 39.

Risk-taking behavior: alcohol and no helmets
Motorcycle helmets protect the head in the event of a crash. In 1995, only 1 of the 35 motorcycle riders killed was known to have worn a helmet. Thirty were shown as having not worn a helmet. (Helmet use was unknown for 4.) Among the 1,063 injured, 26% wore helmets, 51% did not, and helmet use was unknown for the remaining 23%. A majority of the motorcycle operators who died also had alcohol in their system. Of the 25 operators killed, 22 were tested; 7 were negative for alcohol, 2 were between .01 and .09, and the remaining 13 had alcohol concentrations over .10%. In addition to the 25 operators killed, 7 more motorcycle drivers in fatal crashes survived. Of the 32 total, 21 had a valid driver license with an endorsement to operate a motorcycle; the other 11 did not.

Contributing factors in single vehicle crashes
Crashes involving just one motorcycle differ from crashes involving a motorcycle and another vehicle. There were 555 motorcycle operators in single-vehicle crashes. (These made up 48% of the motorcycle operators in all motorcycle crashes). For 20% of these operators, the reporting officer indicated there was no clear contributing factor to the crash. When a factor was cited, police indicated illegal or unsafe speed 29% of the time, driver inattention or distraction, 14%, driver inexperience, 14%, and physical impairment (i.e., normally, by alcohol), 12%.

Factors in multi-vehicle crashes
In the crashes between a motorcycle and another motor vehicle, contributing factors were more often associated with the other motor vehicle than with the motorcyclist: "No clear contributing factor" was indicated for 34% of the other motor vehicle drivers, compared to 47% of the motorcycle operators. For the other motor vehicle drivers, two factors alone represented 57% of all factors cited: failure to yield right-of-way (33%), and driver inattention or distraction (24%). More varied factors were cited for the motorcyclists: inattention/distraction (20%), speed (14%), failure to yield right-of-way (12%), following too closely (11%), physical impairment (7%), and driver inexperience (6%).

TABLE 4.01

MOTORCYCLE CRASH SUMMARY, 1986 - 1995

	1986	1987	1988	1989	1990	1991	1992	1993	1994	1995	Record High (since 1970)
Total Crashes	**2,318**	**2,121**	**1,969**	**1,748**	**1,735**	**1,461**	**1,361**	**1,245**	**1,381**	**1,126**	**3,308 (1980)**
Fatal Crashes	63	51	57	37	46	38	29	33	41	32	112 (1980)
Personal Injury Crashes	1,891	1,692	1,628	1,463	1,446	1,198	1,133	1,022	1,151	941	2,728 (1980)
Property Damage Crashes	364	378	284	248	243	225	199	190	189	153	537 (1976)
Persons Killed:											
Motorcyclists	66	51	58	37	50	40	28	34	43	35	121 (1980)
Non-Motorcyclists/Unknown	0	3	4	0	2	0	3	3	0	2	9 (1975)
Persons Injured:											
Motorcyclists	2,152	1,853	1,817	1,617	1,605	1,357	1,288	1,151	1,324	1,063	3,359 (1980)
Non-Motorcyclists/Unknown	142	145	126	104	126	104	60	104	66	76	N/A
Licensed Operators	282,087	288,424	293,347	290,000	292,074	296,624	290,722	291,756	293,164	295,849	296,624 (1991)
Registered Motorcycles	141,261	134,590	128,956	123,308	120,081	117,492	116,124	114,548	113,337	113,981	166,151 (1981)
Rates:											
Fatal Motorcycle Crashes Per 100 Motorcycle Crashes	2.7	2.4	2.9	2.1	2.7	2.6	2.1	2.7	3.0	2.8	3.6 (1978)
Fatal Crashes Per 100 Crashes (All Vehicles)	0.5	0.5	0.5	0.5	0.5	0.5	0.5	0.5	0.6	0.5	0.8 (1970)

TABLE 4.02

1995 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	16	422	93	531	18	479
Parked Motor Vehicle	0	7	28	35	0	6
Bicycle	0	5	0	5	0	5
Pedestrian	2	12	0	14	0	4
Deer	1	43	5	49	1	55
Other Animal	0	11	0	11	0	15
Fixed Object	10	96	9	115	11	105
Other Object	0	2	0	2	0	2
Non-Collision:						
Overturn	2	222	11	235	4	250
Other / Unknown	1	121	7	129	1	142
Total	32	941	153	1,126	35	1,063

TABLE 4.03

1995 MOTORCYCLE CRASHES BY POPULATION OF AREA

Population of City or Township	Fatal Crashes	Injury Crashes	Property Damage Crashes	Total Crashes	Motorcyclists Killed	Motorcyclists Injured
100,000 and Over	5	178	58	241	4	193
50,000 - 99,999	1	83	9	93	2	90
25,000 - 49,999	3	111	18	132	2	120
10,000 - 24,999	3	148	18	169	3	163
5,000 - 9,999	2	66	4	72	2	78
2,500 - 4,999	1	34	5	40	1	43
1,000 - 2,499	2	16	6	24	3	18
Under 1,000	15	305	35	355	18	358
Total	32	941	153	1,126	35	1,063

TABLE 4.04

1995 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	0	2	0	2
March	0	20	6	26	0	22
April	2	51	12	65	2	58
May	7	146	20	173	10	161
June	6	182	26	214	8	207
July	3	202	24	229	3	228
August	9	154	32	195	8	176
September	4	129	20	153	3	148
October	1	50	12	63	1	57
November	0	4	1	5	0	3
December	0	1	0	1	0	1
Total	32	941	153	1,126	35	1,063

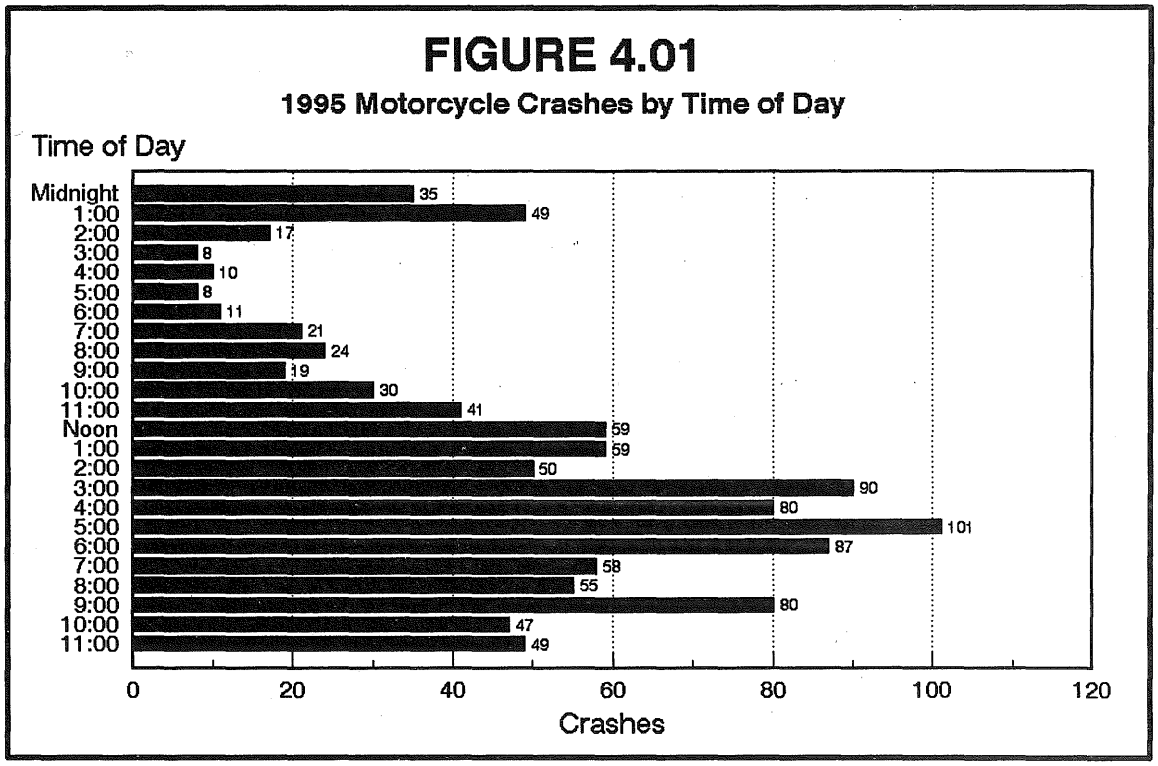


TABLE 4.05

1995 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	35	3	5	1	6	0	1	0	5	0	6	0	5	0	7	2
1:00	49	2	14	1	2	0	1	0	4	0	5	0	10	0	13	1
2:00	17	1	3	0	2	0	1	1	3	0	0	0	2	0	6	0
3:00	8	0	1	0	1	0	0	0	2	0	0	0	2	0	2	0
4:00	10	1	1	0	2	0	0	0	0	0	2	0	5	1	0	0
5:00	8	1	1	0	1	0	1	0	1	0	2	0	1	1	1	0
6:00	11	1	2	0	2	1	0	0	4	0	3	0	0	0	0	0
7:00	21	0	3	0	2	0	2	0	3	0	9	0	2	0	0	0
8:00	24	0	2	0	4	0	2	0	6	0	2	0	5	0	3	0
9:00	19	0	2	0	1	0	2	0	3	0	4	0	3	0	4	0
10:00	30	0	6	0	5	0	1	0	3	0	4	0	6	0	5	0
11:00	41	1	7	0	5	1	4	0	3	0	5	0	7	0	10	0
Noon	59	0	10	0	5	0	8	0	4	0	10	0	8	0	14	0
1:00	59	1	7	0	7	0	6	1	5	0	10	0	7	0	17	0
2:00	50	0	9	0	7	0	11	0	7	0	2	0	6	0	8	0
3:00	90	1	12	0	12	0	11	1	13	0	13	0	17	0	12	0
4:00	80	3	10	0	11	1	11	0	9	0	9	1	14	0	16	1
5:00	101	0	14	0	14	0	11	0	11	0	23	0	15	0	13	0
6:00	87	5	14	0	16	1	6	1	10	0	10	0	15	2	16	1
7:00	58	2	6	1	9	0	10	0	6	0	10	1	6	0	11	0
8:00	55	2	5	0	6	0	7	0	14	0	9	1	8	1	6	0
9:00	80	2	14	1	11	0	8	0	8	0	11	0	9	1	19	0
10:00	47	3	8	1	2	0	4	0	12	2	4	0	9	0	8	0
11:00	49	1	4	0	4	0	7	1	6	0	9	0	8	0	11	0
Not Stated	38	2	6	0	3	0	4	0	1	0	4	0	11	1	9	1
Total	1,126	32	166	5	140	4	119	5	143	2	166	3	181	7	211	6

TABLE 4.06

MOTORCYCLISTS KILLED OR INJURED BY AGE AND GENDER, 1995

	Killed			Injured											
				Severe			Moderate			Minor			Total		
Age Group	M	F	Total	M	F	Total	M	F	Total	M	F	Total*	M	F	Total*
0 - 4	0	0	0	1	0	1	0	0	0	0	1	1	1	1	2
5 - 9	0	0	0	1	0	1	1	1	2	0	1	1	2	2	4
10 - 14	0	0	0	4	0	4	5	2	7	7	0	7	16	2	18
15 - 19	0	2	2	14	5	19	67	16	83	18	6	24	99	27	126
20 - 24	4	2	6	34	3	37	117	7	125	43	5	49	194	15	211
25 - 29	6	1	7	34	7	41	66	18	84	34	2	36	134	27	161
30 - 34	9	1	10	36	8	44	49	8	57	37	11	48	122	27	149
35 - 39	3	1	4	29	4	33	57	10	67	23	5	28	109	19	128
40 - 44	0	0	0	27	2	29	37	10	48	15	3	18	79	15	95
45 - 49	2	2	4	23	5	28	22	8	30	10	2	12	55	15	70
50 - 54	2	0	2	9	1	10	19	5	24	13	1	14	41	7	48
55 - 59	0	0	0	2	0	2	10	0	10	5	0	5	17	0	17
60 - 64	0	0	0	0	1	1	4	1	5	1	0	1	5	2	7
65 - 69	0	0	0	1	0	1	0	0	0	1	0	1	2	0	2
70 & Older	0	0	0	0	0	0	3	1	4	0	0	0	3	1	4
Not Stated	0	0	0	2	0	2	1	5	7	0	4	12	3	9	21
Total	26	9	35	217	36	253	458	92	553	207	41	257	882	169	1,063

* Where columns do not add across to total, gender was not reported on the accident report form.

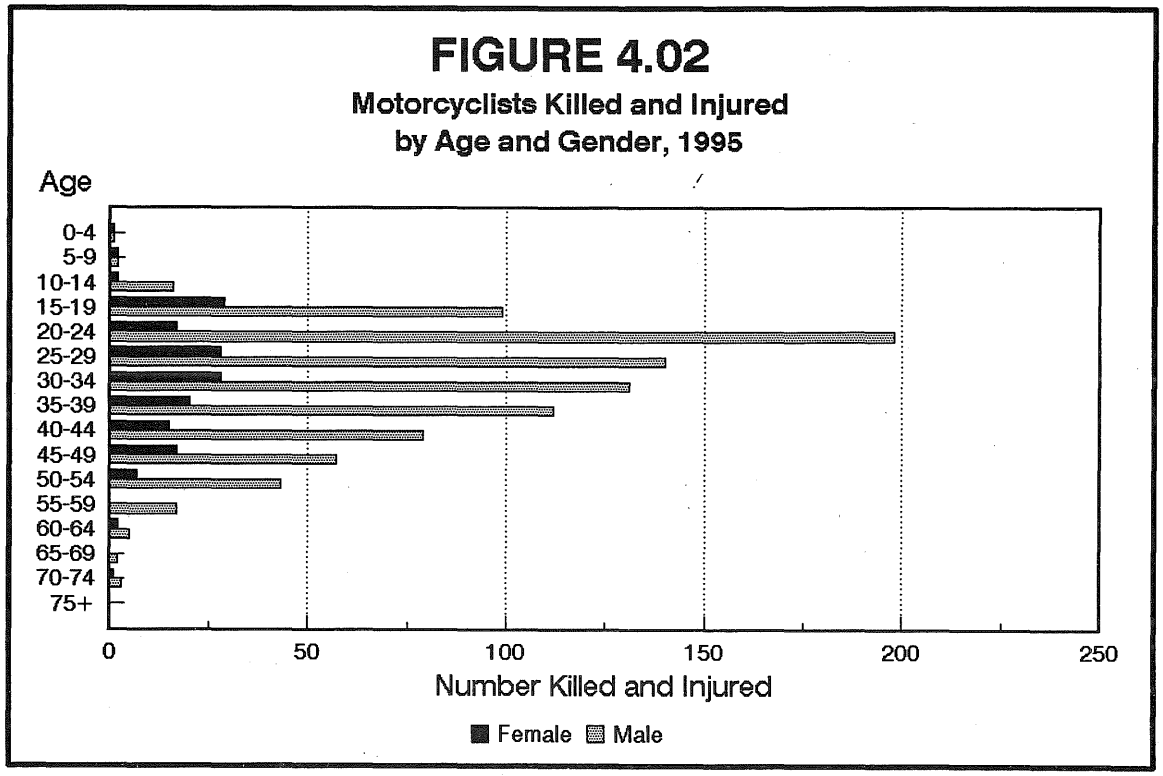


TABLE 4.07

HELMET USE BY MOTORCYCLISTS KILLED OR INJURED, 1991 - 1995

	Helmet Used		Helmet Not Used		Helmet Use Unknown		Total	
	Number	Percent	Number	Percent	Number	Percent	Number	Percent
Killed								
1991	11	27.5%	24	60.0%	5	12.5%	40	100.0%
1992	2	7.1	23	82.1	3	10.7	28	100.0
1993	2	5.9	30	88.2	2	5.9	34	100.0
1994	3	7.0	30	69.8	10	23.3	43	100.0
1995	1	2.9	30	85.7	4	11.4	35	100.0
Injured								
1991	310	22.8%	594	43.8%	453	33.4%	1,357	100.0%
1992	349	27.1	678	52.6	261	20.3	1,288	100.0
1993	298	25.9	599	52.0	254	22.1	1,151	100.0
1994	375	28.3	641	48.4	308	23.3	1,342	100.0
1995	279	26.3	544	51.2	240	22.6	1,063	100.0

TABLE 4.08

ENDORSEMENT STATUS OF MOTORCYCLE OPERATORS INVOLVED IN FATAL CRASHES, 1986 - 1995

	Valid Endorsement*		Permit Only		Canceled, Suspended, Revoked		No Endorsement		Total** For Year	
Year	Number	Percent	Number	Percent	Number	Percent	Number	Percent	Number	Percent
1986	41	64.1%	1	1.6%	7	10.9%	15	23.4%	64	100.0%
1987	33	64.7	1	2.0	10	19.6	7	13.7	51	100.0
1988	32	55.2	3	5.2	9	15.5	13	22.4	58	100.0
1989	22	56.4	0	0.0	8	20.5	9	23.1	39	100.0
1990	25	53.2	2	4.3	9	19.1	11	23.4	47	100.0
1991	28	71.8	1	2.6	4	10.3	5	12.8	39	100.0
1992	17	60.7	0	0.0	5	17.9	4	14.3	28	100.0
1993	21	65.6	1	3.1	4	12.5	4	12.5	32	100.0
1994	33	75.0	0	0.0	3	6.8	7	15.9	44	100.0
1995	21	65.6	0	0.0	5	15.6	6	18.8	32	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 MOTORCYCLE DRIVERS, 1986 - 1995

Year	Killed	Tested	Alcohol Concentration* (.00)	(.01 - .09)	(.10 or more)
1986	56	46	16 (35%)	5 (11%)	25 (54%)
1987	45	42	17 (40%)	3 (7%)	22 (52%)
1988	52	45	20 (44%)	8 (18%)	17 (38%)
1989	31	30	9 (30%)	3 (10%)	18 (60%)
1990	43	35	10 (29%)	5 (14%)	20 (57%)
1991	36	30	13 (43%)	3 (10%)	14 (47%)
1992	23	21	10 (48%)	0 (0%)	11 (52%)
1993	29	26	9 (35%)	3 (12%)	14 (54%)
1994	36	27	17 (63%)	2 (7%)	8 (30%)
1995	25	22	7 (32%)	2 (9%)	13 (59%)

*Percentages are based on those motorcycle drivers tested.

TABLE 4.10

1995 MOTORCYCLE DRIVER FATALITIES' LEVEL OF ALCOHOL CONCENTRATION BY AGE

Age	Killed	Tested	Alcohol Concentration* (.01 - .09)	(.10 or more)	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
15	0	0	0	0	0	0	0	0	0	0	0
16	0	0	0	0	0	0	0	0	0	0	0
17	0	0	0	0	0	0	0	0	0	0	0
18	0	0	0	0	0	0	0	0	0	0	0
19	0	0	0	0	0	0	0	0	0	0	0
20	1	1	0	0	1	0	0	0	0	0	0
Under 21	1	1	0	0	1	0	0	0	0	0	0
14 & Younger	0	0	0	0	0	0	0	0	0	0	0
15 - 19	0	0	0	0	0	0	0	0	0	0	0
20 - 24	5	5	0	2	3	0	0	1	1	0	0
25 - 29	4	3	1 (33%)	1 (33%)	1	0	1	1	0	0	0
30 - 34	9	8	1 (13%)	6 (75%)	1	0	1	0	3	2	1
35 - 39	3	3	0 (0%)	2 (67%)	1	0	0	0	1	1	0
40 - 44	0	0	0	0	0	0	0	0	0	0	0
45 - 49	2	2	0 (0%)	1 (50%)	1	0	0	1	0	0	0
50 - 54	2	1	0 (0%)	1 (100%)	0	0	0	0	1	0	0
55 - 59	0	0	0	0	0	0	0	0	0	0	0
60 & Older	0	0	0	0	0	0	0	0	0	0	0
Total	25	22	2 (9%)	13 (59%)	7	0	2	3	6	3	1

* Percentages are based on those motorcycle drivers tested.

TABLE 4.11

CONTRIBUTING FACTORS IN 1995 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	191	29.3%	60	14.1%	18	3.4%
Driver Inattention/Distraction	93	14.3	86	20.1	129	24.1
Driver Inexperience	88	13.5	26	6.1	10	1.9
Physical Impairment	78	12.0	29	6.8	19	3.5
Improper/Unsafe Lane Use	25	3.8	21	4.9	25	4.7
Improper Turn	9	1.4	7	1.6	27	5.0
Improper Parking/Starting/ Stopping	8	1.2	2	0.5	5	0.9
Failure to Yield Right of Way	7	1.1	49	11.5	174	32.5
Following Too Closely	7	1.1	47	11.0	19	3.5
Disregard for Traffic Control Device	7	1.1	15	3.5	20	3.7
Driving Left of Center	4	0.6	8	1.9	8	1.5
Improper Passing / Overtaking	4	0.6	23	5.4	4	0.7
Vision Obscured	4	0.6	5	1.2	18	3.4
Failure to Use Lights	1	0.2	1	0.2	2	0.4
Unsafe Backing	0	0.0	0	0.0	13	2.4
Improper or No Signal	0	0.0	0	0.0	7	1.3
Impeding Traffic	0	0.0	3	0.7	1	0.2
Driver on CB Radio / Phone	0	0.0	0	0.0	1	0.2
Other Human Factor	14	2.1	4	0.9	5	0.9
Vehicular Factors:						
Skidding	41	6.3	14	3.3	1	0.2
Defective Equipment	8	1.2	3	0.7	4	0.7
Other Vehicular Factors	12	1.8	2	0.5	6	1.1
Miscellaneous Factors:						
Weather Conditions	11	1.7	3	0.7	3	0.6
Other	40	6.1	19	4.4	17	3.2
Total	652	100.0%	427	100.0%	536	100.0%
Vehicles for Which There Was "No Clear Contributing Factor"	110		281		198	
Total Number Drivers	555		597		582	

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. On the accident report form, trucks are identified as any of the following eight types of vehicles: (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, deaths, and injuries

Since 1991, truck crashes have averaged just under 5,000 per year. In 1995, there were 4,752 truck crashes. There were 77 fatal crashes, killing 86 people. In addition, 1,869 people were injured. Unlike other types of crashes, truck crashes resulting in severe injury have not been decreasing in the 1990s.

Persons killed or injured usually in other vehicles

In the 4,752 crashes, setting aside parked vehicles, there were 4,718 trucks, 4,112 non-truck vehicles, 13 bicyclists, and 19 pedestrians. In a two-vehicle collision, relative vehicle weight is a recognized safety advantage. Of the 86 persons killed, 14 were truck occupants, one was a pedestrian, two were motorcyclists, two were snowmobile riders, and the rest were car, pickup, or van occupants. Among the 1,869 injured, 23% were truck occupants, 76% were other motor vehicle occupants, and less than 2% were bicyclists or pedestrians.

Collision with other vehicle most common

Eighty-six percent of fatal truck crashes came about from a collision with another moving motor vehicle. This compares with 50% for all fatal crashes. For the non-fatal truck crashes, three-fourths (74%) were collisions with another moving motor vehicle, compared with 67% for all crashes.

Truck crashes are workday related

Truck crashes appear about equally distributed across warm-weather and cold-weather months, but they are very strongly tied to the workday. In 1995, Monday through Friday averaged 861 truck crashes per day, compared to just 225 on the average Saturday or Sunday. Forty-four percent occurred in the six hours from 9:00 AM to 3:00 PM, and 79% occurred in the 12 hours from 6:00 AM to 6:00 PM.

Driving conditions

Driving conditions are usually good in Minnesota, and most truck crashes occurred on dry roads in clear weather. However, 23% of the fatal crashes and 35% of the 1,277 injury crashes occurred on road surfaces reported to be wet, or to be covered with snow or slush, or with ice or packed snow. Fatal crashes occurred in sparsely populated areas (73% in areas of under 1,000 population), and predominantly on trunk and county-state-aid-highways.

Contributing factors similar for truck and non-truck drivers

Reporting officers indicated they could determine no clear contributing factor for 42% of the truck drivers and for 46% of the other vehicle drivers. Truck drivers were less likely to be alcohol-impaired than non-truck drivers. For the truck drivers, 12 were reported to have been drinking, and 10 were reported to have been under the influence, compared with 44 and 70, respectively, for the non-truck drivers. Otherwise, contributing factors were similar for the two groups. Five factors were each cited for 5% or more of the drivers: driver inattention or distraction (22% for truck drivers and 22% for non-truck drivers), illegal or unsafe speed (10% and 12%, respectively), failure to yield right-of-way (9% and 11%), improper or unsafe lane use (7% and 9%), and following too closely (7% and 5%).

TABLE 5.01

TRUCK CRASH SUMMARY, 1986 - 1995

	1986	1987	1988	1989	1990	1991	1992	1993	1994	1995
Total Crashes	**6,908**	**5,668**	**7,038**	**7,381**	**6,712**	**5,152**	**4,463**	**4,931**	**5,132**	**4,752**
Fatal Crashes	85	65	70	77	70	72	65	63	81	77
Persons Killed	100	71	78	94	83	85	84	77	94	86
Injury Crashes	1,674	1,443	1,729	1,784	1,652	1,250	1,213	1,268	1,369	1,277
Severe	266	232	282	247	225	137	167	148	151	153
Moderate	615	548	604	586	617	477	418	452	481	470
Minor	793	663	843	951	810	636	628	668	737	654
Persons Injured	2,371	2,033	2,444	2,411	2,390	1,762	1,721	1,764	1,902	1,869
Severe	347	291	362	293	285	179	222	198	203	196
Moderate	859	767	856	777	876	667	560	598	630	645
Minor	1,165	975	1,226	1,341	1,229	916	939	968	1,069	1,028
Property Damage Crashes	5,149	4,160	5,239	5,520	4,990	3,830	3,185	3,600	3,682	3,398

TABLE 5.02

PERSONS KILLED OR INJURED IN 1995 TRUCK CRASHES BY VEHICLE OCCUPIED

		Injured			
Vehicle Type	**Killed**	**Severe**	**Moderate**	**Minor**	**Total**
Automobile	54	103	331	586	1,020
Pickup Truck	7	27	83	76	186
Van	6	21	48	82	151
Police or Fire Department Vehicle	0	0	0	2	2
School Bus	0	1	11	7	19
Snowmobile	2	0	1	0	1
Farm Equipment	0	0	0	2	2
Motorcycle	2	6	6	2	14
Hit and Run Vehicle	0	0	1	3	4
Two-Axle, Six-Tire Single Unit Truck or Stepvan	2	7	46	69	122
Three or More Axle Single Unit Truck	3	6	23	30	59
Single Unit Truck with Trailer	1	2	12	28	42
Truck Tractor with No Trailer	0	1	5	11	17
Truck Tractor with Semi Trailer	7	12	60	101	173
Truck Tractor with Twin Trailers	0	0	0	0	0
Heavy Truck--Other or Unknown Type	0	0	0	10	10
Other or Unknown Vehicle Type	1	2	5	9	16
Bicycle	0	1	7	5	13
Pedestrian	1	7	6	5	18
Total	86	196	645	1,028	1,869

TABLE 5.03

CONTRIBUTING FACTORS IN 1995 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	819	21.6%	716	22.1%
Illegal or Unsafe Speed	367	9.7	394	12.2
Failure to Yield Right of Way	349	9.2	370	11.4
Improper or Unsafe Lane Use	282	7.4	285	8.8
Following Too Closely	252	6.6	169	5.2
Improper Turn	156	4.1	66	2.0
Vision Obscured	128	3.4	75	2.3
Improper Passing or Overtaking	64	1.7	133	4.1
Disregard for Traffic Control Device	104	2.7	98	3.0
Unsafe Backing	166	4.4	22	0.7
Driver Inexperience	78	2.1	104	3.2
Physical Impairment	58	1.5	126	3.9
Improper Parking, Starting, or Stopping	61	1.6	44	1.4
Driving Left of Center (Not Passing)	40	1.1	75	2.3
Improper or No Signal	22	0.6	17	0.5
Impeding Traffic	10	0.3	11	0.3
Failure to Use Lights	4	0.1	10	0.3
Pedestrian Violation or Error	0	0.0	8	0.2
Use of Phone or CB Radio	5	0.1	7	0.2
Other Human Factors	29	0.8	21	0.6
Vehicular Factors				
Skidding	123	3.2	132	4.1
Defective Brakes	85	2.2	19	0.6
Oversize or Overweight Vehicle	42	1.1	0	0.0
Defective Tire	26	0.7	8	0.2
Defective Lights	12	0.3	7	0.2
Other Vehicular Factor	95	2.5	16	0.5
Miscellaneous Factors				
Weather	253	6.7	210	6.5
Other	168	4.4	90	2.8
Total Contributing Factors Cited	3,798	100.0%	3,233	100.0%
Vehicles for Which There Was "No Clear Contributing Factor"	2,096		1,972	
Total Number of Vehicles	4,955		4,328	

Zero, one, or two contributing factors may be associated with each vehicle. This may cause 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 1995 CRASHES

Driver Age	Truck or Truck Tractor	Truck with Semi-Trailer	Truck with Twin Trailer	Truck with Other Trailer	Total
15 - 19	69	21	0	15	105
20 - 24	245	151	1	40	437
25 - 29	301	266	0	57	624
30 - 34	366	351	3	66	786
35 - 39	274	355	6	38	673
40 - 44	233	329	5	37	604
45 - 49	187	266	8	31	492
50 - 54	142	239	9	22	412
55 - 59	104	191	5	19	319
60 - 64	51	80	0	15	146
65 & Older	60	48	0	11	119
Not Stated	55	35	1	1	92
Total*	2,087	2,332	38	352	4,809

* There were 4,955 trucks in crashes in 1995. However, 138 of these were parked vehicles. The driver could not be identified for an additional 8 of these trucks. This table tabulates the ages of drivers for the remaining 4,809 trucks where it was possible to identify a driver.

TABLE 5.05

DRIVERS IN 1995 TRUCK CRASHES BY PHYSICAL CONDITION*

	Truck Driver		Other Driver	
Physical Condition	Number	Percent	Number	Percent
Normal	4,172	86.8	3,411	83.0
Under the Influence	10	0.2	70	1.7
Had Been Drinking	12	0.2	44	1.1
Had Been Using Drugs	1	0.0	2	0.0
Asleep	23	0.5	29	0.7
Fatigued	20	0.4	12	0.3
Ill	9	0.2	9	0.2
Other	7	0.1	7	0.2
Unknown	555	11.5	525	12.8
Total **	4,809	100.0%	4,109	100.0%

* As noted by police officer on accident report.

** There were 4,955 trucks in crashes in 1995. However, 138 were parked. The driver could not be identified for an additional 8. This table tabulates the apparent physical condition of drivers for the remaining 4,809 trucks where it was possible to identify a driver. Also, there were 4,295 non-truck motor vehicles in 1995 truck crashes. However, 183 of them were parked, and there were 3 more for which a driver could not be identified, leaving 4,109 for which an apparent physical condition was recorded.

TABLE 5.06

1995 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	66	1,003	2,459	3,528	74	1,554
Parked Motor Vehicle	1	53	170	224	1	66
Railroad Train	3	0	20	23	3	0
Bicycle	0	12	1	13	0	12
Pedestrian	1	14	0	15	1	14
Deer	0	0	58	58	0	0
Other Animal	0	2	26	28	0	2
Fixed Object	2	57	317	376	3	70
Other Object	0	8	40	48	0	8
Non-Collision:						
Overturn	2	107	154	263	2	118
Fire or Explosion	0	0	10	10	0	0
Other	2	21	143	166	2	25
Total	77	1,277	3,398	4,752	86	1,869

TABLE 5.07

1995 TRUCK CRASHES BY MONTH

Month	Fatal Crashes	Injury Crashes	Property Damage Crashes	Total Crashes	Killed	Injured
January	3	83	268	354	3	125
February	4	81	243	328	4	123
March	2	78	252	332	2	106
April	9	75	215	299	11	95
May	7	82	245	334	8	120
June	7	129	290	426	7	184
July	7	102	282	391	10	162
August	6	130	288	424	7	191
September	8	112	290	410	8	162
October	12	148	363	523	12	227
November	8	115	312	435	9	180
December	4	142	350	496	5	194
Total	77	1,277	3,398	4,752	86	1,869

TABLE 5.08

1995 TRUCK CRASHES BY TIME AND DAY

Time of Day	Total	Sunday	Monday	Tuesday	Wednesday	Thursday	Friday	Saturday
Midnight - 2:59 AM	118	8	18	22	19	20	15	16
3:00 - 5:59 AM	154	8	26	25	19	29	35	12
6:00 - 8:59 AM	756	10	153	136	116	147	159	35
9:00 - 11:59 AM	1,031	20	216	170	178	154	224	69
Noon - 2:59 PM	1,069	33	211	167	178	171	255	54
3:00 - 5:59 PM	911	28	176	166	158	159	179	45
6:00 - 8:59 PM	388	29	65	66	69	66	60	33
9:00 - 11:59 PM	205	16	45	27	26	35	37	19
Unknown	120	4	29	14	20	23	20	10
Total	4,752	156	939	793	783	804	984	293

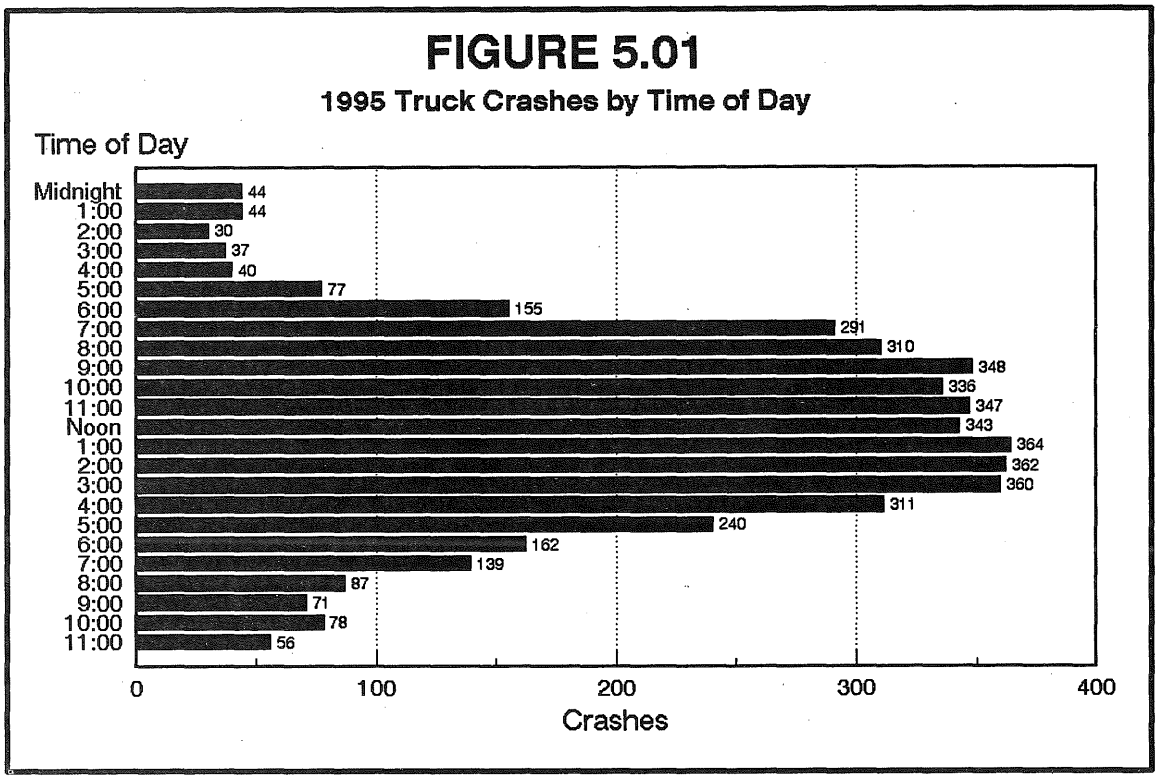


TABLE 5.09

1995 TRUCK CRASHES BY ROAD SURFACE CONDITION

Road Surface Condition	Fatal Crashes	Injury Crashes	Property Damage Crashes	Total Crashes	Killed	Injured
Dry	59	816	2,172	3,047	67	1,190
Wet	8	209	515	732	9	312
Snow or Slush	4	83	208	295	4	116
Ice or Packed Snow	6	150	431	587	6	223
Other	0	15	28	43	0	23
Unknown	0	4	44	48	0	5
Total	77	1,277	3,398	4,752	86	1,869

TABLE 5.10

1995 TRUCK CRASHES BY WEATHER CONDITION

Weather Condition	Fatal Crashes	Injury Crashes	Property Damage Crashes	Total Crashes	Killed	Injured
Clear	38	622	1,616	2,276	42	922
Cloudy	28	358	1,010	1,396	33	510
Rain	4	114	271	389	4	174
Snow	2	108	272	382	2	158
Sleet/Hail/Freezing Rain	3	28	83	114	3	39
Fog/Smog/Smoke	1	17	31	49	1	22
Blowing Sand/Dust/Snow	1	24	53	78	1	38
Severe Cross Winds	0	3	13	16	0	3
Other	0	2	4	6	0	2
Unknown	0	1	45	46	0	1
Total	77	1,277	3,398	4,752	86	1,869

TABLE 5.11

1995 TRUCK CRASHES BY POPULATION OF AREA

Population of City or Township	Fatal Crashes	Injury Crashes	Property Damage Crashes	Total Crashes	Killed	Injured
100,000 & Over	0	149	604	753	0	201
50,000 - 99,999	1	119	279	399	2	166
25,000 - 49,999	7	159	490	656	7	219
10,000 - 24,999	7	178	510	695	9	270
5,000 - 9,999	1	83	251	335	1	122
2,500 - 4,999	3	51	139	193	3	68
1,000 - 2,499	2	49	93	144	2	69
Under 1,000	56	489	1,032	1,577	62	754
Total	77	1,277	3,398	4,752	86	1,869

TABLE 5.12

1995 TRUCK CRASHES BY TYPE OF ROADWAY

Roadway Type	Fatal Crashes	Injury Crashes	Property Damage Crashes	Total Crashes	Killed	Injured
Interstate Highway	11	215	710	936	13	301
US Trunk Highway	20	258	581	859	23	413
State Trunk Highway	24	333	740	1,097	27	487
County State-Aid Highway	17	263	573	853	17	390
County Road	0	16	51	67	0	19
Township Road	1	25	49	75	1	33
Local Street	4	162	665	831	5	221
Other Road	0	5	29	34	0	5
Total	77	1,277	3,398	4,752	86	1,869

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. Beginning in 1984, any crash where a pedestrian is struck and injured is defined as a pedestrian crash.

1995 consistent with recent years
Pedestrian crashes in 1995 were similar to recent years. There were 1,458 crashes in which a pedestrian was injured or killed by a motor vehicle. That's 1.5% of the total crashes reported to the state. Forty-nine pedestrians were killed, and 1,471 were injured, making up 8% and 3%, respectively, of the total persons killed and injured in all traffic crashes. (Note that there were 50 fatal pedestrian crashes, but in one of them, the person who died was a motor vehicle occupant.) About three-and-one-half percent of pedestrian crashes resulted in a death, compared to about one-half of one percent of all crashes.

Children are disproportionately the victims
In all crashes, children aged 5 to 14 accounted for 7% of the persons injured. In pedestrian crashes, they accounted for 25%. The 5 to 9 year old group had the largest number of injuries (187). The numbers of people injured mostly decreased as age increased. Males were more likely than females to be injured or killed. At each severity level (fatal injury, or severe, moderate, or minor injury) male pedestrians outnumbered females as victims by about 30%. Pedestrian injuries and fatalities both appear evenly distributed across months of the year.

Pedestrian crashes mostly in bigger cities
Fifty-one percent of non-fatal pedestrian crashes occurred in cities of over 100,000, and 80% occurred in cities of 10,000 or more. By comparison, 23% of all injury crashes occurred in cities over 100,000, and 63% occurred in cities over 10,000. Almost half (46%) of the fatal crashes occurred in cities of 25,000 or more, compared with only 16% of all fatal crashes.

Weekdays and rush-hours
Weekdays tended to have more pedestrian crashes than Saturdays and Sundays; Monday to Friday averaged 226 crashes. Sundays had the fewest (145). The hours from 3:00 to 6:00 PM during the week had the most crashes, followed by the hours from 6:00 to 9:00 PM.

Prior actions of vehicles and pedestrians
In 70% of the fatal crashes, and 58% of the non-fatal crashes, the motor vehicle was simply going straight ahead on the roadway prior to the crash. In the injury crashes, the vehicle was making a right turn 8% of the time, and making a left turn 11% of the time. The pedestrians were often trying to cross the road. One fourth of them were attempting to cross the road where there was no signal or crosswalk. Eleven percent of those injured were crossing with the signal, 7% against the signal, and 8% were crossing in a crosswalk where there was no signal. Six percent were walking in the road with traffic, and 5% against traffic.

Driver inattention and failure to yield
For 41% of the motor vehicle drivers in pedestrian crashes, the reporting officer indicated that there had been "no clear contributing factor" to the crash. For those where a factor was cited, two were mentioned much more than the others: driver inattention or distraction comprised 27% of the factors cited, and failure to yield right of way 23%.

Pedestrians killed were usually sober
Of the 49 pedestrians killed, 38 were tested for alcohol. Of those tested, close to two-thirds (24 of the 38) were negative, two had alcohol concentrations from .01 to .09, and 12 had concentrations over the legal limit of .10. Eleven of the 14 who tested positive were between the ages of 20 and 44.

TABLE 6.01

PEDESTRIAN CRASH SUMMARY, 1986 - 1995

	1986	1987	1988	1989	1990	1991	1992	1993	1994	1995
Pedestrian Crashes	1,610	1,556	1,575	1,591	1,512	1,338	1,420	1,383	1,409	1,458
Pedestrians Killed	71	62	69	67	65	61	46	47	53	49
Pedestrians Injured	1,570	1,533	1,566	1,578	1,499	1,339	1,424	1,390	1,400	1,471

TABLE 6.02

PEDESTRIANS KILLED OR INJURED BY AGE AND GENDER, 1995

				Injured											
Age	Killed			Severe			Moderate			Minor			Total		
Group	M	F	Total	M	F	Total*	M	F	Total*	M	F	Total*	M	F	Total*
0 - 4	1	0	1	9	4	13	21	4	26	23	9	34	53	17	73
5 - 9	1	1	2	22	11	33	48	23	73	51	26	81	121	60	187
10 - 14	1	2	3	10	16	27	36	33	70	45	26	76	91	75	173
15 - 19	3	2	5	13	15	28	33	21	55	25	31	59	71	67	142
20 - 24	1	1	2	11	9	20	26	30	56	27	25	52	64	64	128
25 - 29	3	0	3	10	13	23	16	13	29	26	26	54	52	52	106
30 - 34	5	3	8	11	3	14	19	11	30	26	16	43	56	30	87
35 - 39	1	2	3	15	7	24	18	6	26	25	12	38	58	25	88
40 - 44	2	2	4	8	13	22	17	15	33	16	25	43	41	53	98
45 - 49	0	0	0	8	5	13	5	10	15	19	13	33	32	28	61
50 - 54	1	0	1	8	2	10	7	4	11	8	9	19	23	15	40
55 - 59	2	1	3	9	4	13	5	7	12	5	4	9	19	15	34
60 - 64	0	0	0	4	2	7	5	4	9	3	3	6	12	9	22
65 - 69	4	0	4	5	5	10	3	0	3	7	5	12	15	10	25
70 - 74	3	0	3	3	3	6	4	4	8	1	6	7	8	13	21
75 - 79	1	2	3	1	4	6	3	6	9	3	4	7	7	14	22
80 - 84	0	1	1	1	6	7	3	2	5	3	5	8	7	13	20
85 & Older	0	3	3	1	3	4	2	2	5	0	2	2	3	7	11
Not Stated	0	0	0	5	2	10	15	8	25	38	20	98	58	30	133
Total	29	20	49	154	127	290	286	203	500	351	267	681	791	597	1,471

* Where columns do not add across, gender was not stated on accident report.

FIGURE 6.01

Pedestrian Fatalities by Age, 1986-1995 Combined

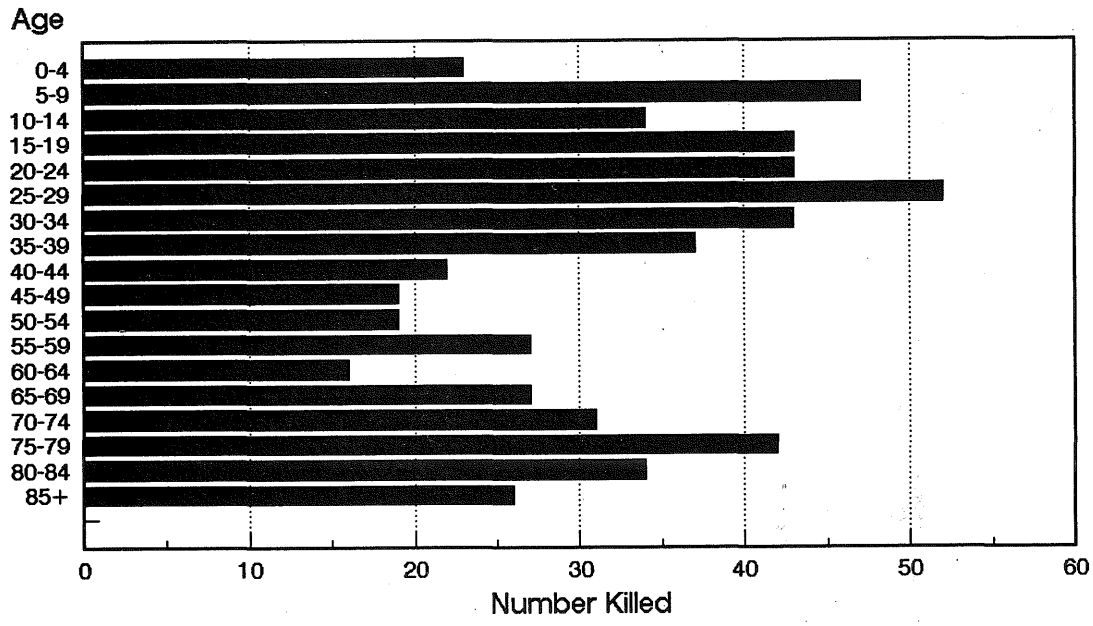


FIGURE 6.02

Pedestrians Killed and Injured by Age and Gender, 1995

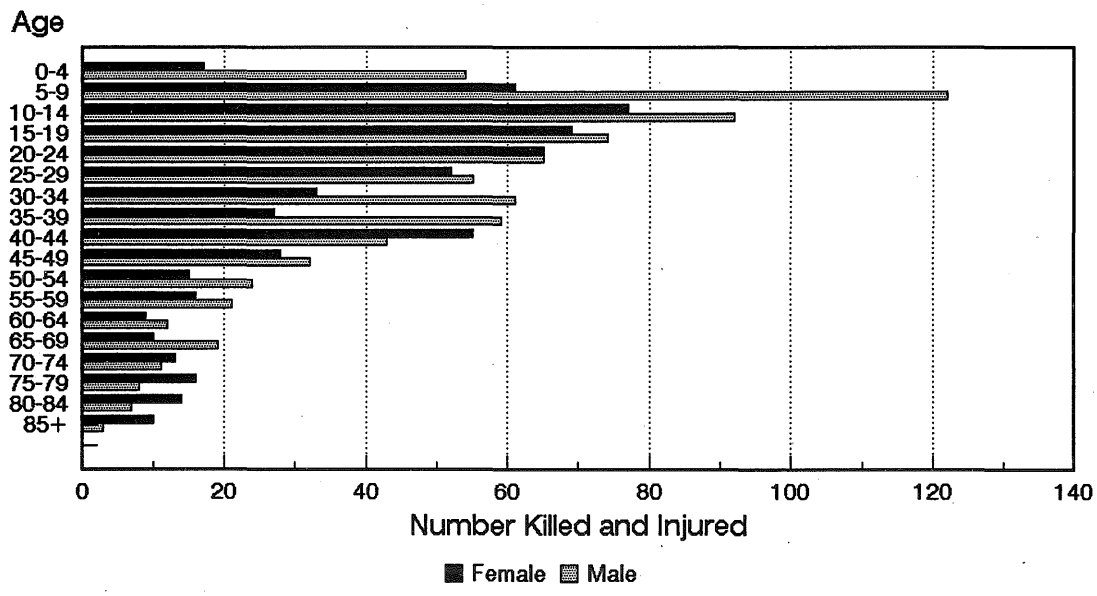


TABLE 6.03

1995 PEDESTRIAN CRASHES BY MONTH

Month	Fatal Crashes	Injury Crashes	Total Crashes	Pedestrians Killed	Pedestrians Injured
January	3	112	115	3	116
February	5	90	95	5	92
March	4	112	116	3	116
April	0	105	105	0	106
May	2	122	124	2	126
June	3	120	123	3	133
July	4	120	124	4	123
August	2	129	131	2	138
September	9	138	147	9	146
October	7	129	136	7	134
November	7	114	121	7	120
December	4	117	121	4	121
Total	50	1,408	1,458	49	1,471

TABLE 6.04

1995 PEDESTRIAN CRASHES BY POPULATION OF AREA

Population of City or Township	Fatal Crashes	Injury Crashes	Total Crashes	Pedestrians Killed	Pedestrians Injured
100,000 and Over	8	717	725	8	747
50,000 - 99,999	2	107	109	2	108
25,000 - 49,999	13	126	139	13	130
10,000 - 24,999	3	179	182	3	188
5,000 - 9,999	5	77	82	5	82
2,500 - 4,999	0	26	26	0	29
1,000 - 2,499	5	24	29	5	25
Under 1,000	14	152	166	13	162
Total	50	1,408	1,458	49	1,471

TABLE 6.05

1995 PEDESTRIAN CRASHES BY TIME AND DAY

Time of Day	Fatal Crashes	Total Crashes	Sunday	Monday	Tuesday	Wednesday	Thursday	Friday	Saturday
Midnight 2:59 AM	8	75	25	1	5	3	12	10	19
3:00 - 5:59 AM	5	27	7	4	4	2	3	6	1
6:00 - 8:59 AM	3	134	3	19	21	28	24	37	2
9:00 - 11:59 AM	4	130	9	16	11	21	23	27	23
Noon - 2:59 PM	4	219	26	23	36	35	24	40	35
3:00 - 5:59 PM	6	368	24	51	56	60	74	68	35
6:00 - 8:59 PM	13	289	33	36	42	56	33	54	35
9:00 - 11:59 PM	7	163	14	15	22	22	23	39	28
Unknown	0	53	4	4	3	7	13	16	6
Total	50	1,458	145	169	200	234	229	297	184

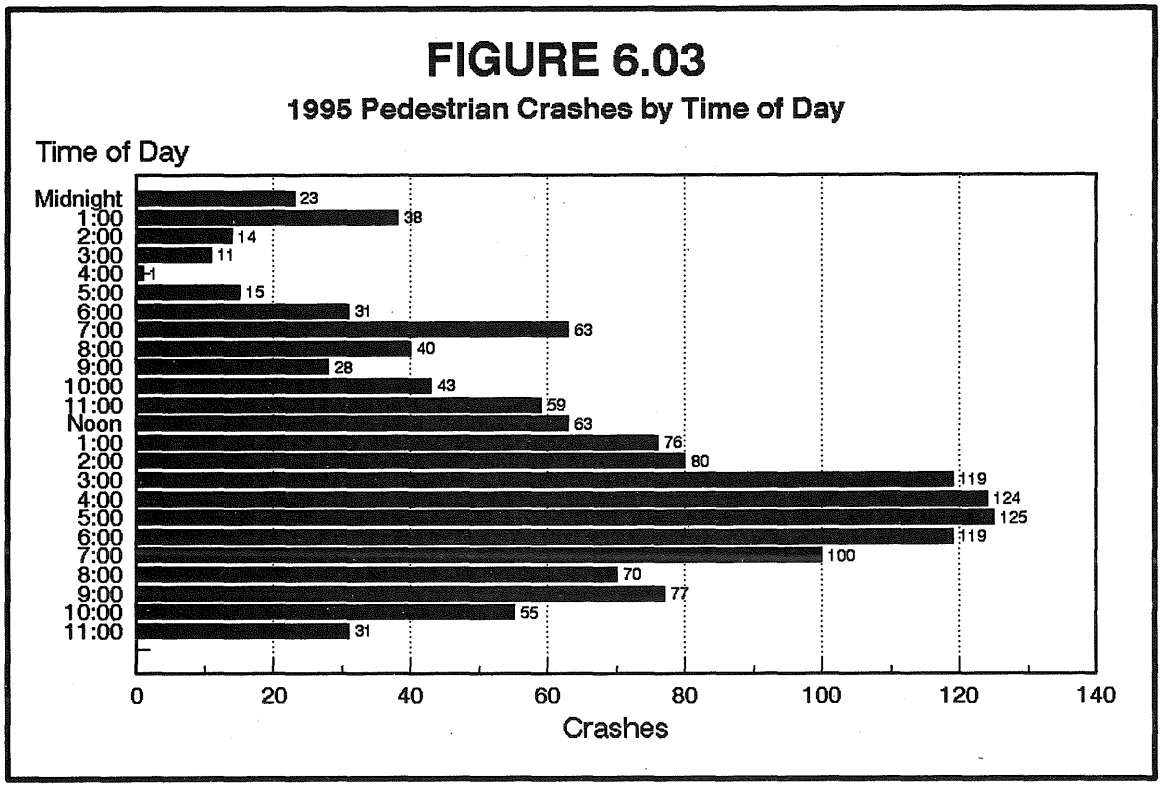


TABLE 6.06

PRIOR ACTION OF VEHICLES IN 1995 PEDESTRIAN CRASHES

Action	Vehicles in Fatal Crashes	Vehicles in Injury Crashes	Vehicles in Total Crashes*
Going Straight	45	866	911
Wrong Way Opposing Traffic	1	3	4
Turning Right on Red	0	22	22
Turning Left on Red	0	3	3
Turning Right	0	120	120
Turning Left	2	161	163
Making U Turn	0	2	2
Starting From Parked	0	29	29
Starting in Traffic	0	30	30
Slowing in Traffic	0	15	15
Parking	0	8	8
Avoiding Object in Road	4	20	24
Changing Lanes	1	13	14
Passing	1	12	13
Backing	1	55	56
All Others	9	107	116
Unknown	0	29	29
Total	64	1,495	1,559

* 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 1995

Action	Pedestrians Killed		Pedestrians Injured	
	Number	Percent	Number	Percent
Crossing Road (No Crosswalk and No Signal)	12	24.5%	389	26.4%
Crossing Against Signal	1	2.0	101	6.9
Crossing With Signal	3	6.1	166	11.3
Crossing In Crosswalk (No Signal)	1	2.0	112	7.6
Walking In Road With Traffic	5	10.2	87	5.9
Walking In Road Against Traffic	2	4.1	74	5.0
Standing In Road	5	10.2	88	6.0
Emerging From Front/Behind Parked Car	2	4.1	68	4.6
Child Getting On/Off School Bus	0	0.0	6	0.4
Pushing/Working On Vehicle	1	2.0	8	0.5
Working In Road	0	0.0	10	0.7
Getting On/Off Vehicle	0	0.0	13	0.9
Playing In Road	0	0.0	28	1.9
Not In Road	2	4.1	51	3.5
Other Pedestrian Action	3	6.1	112	7.6
Unknown	12	24.5	158	10.7
Total*	49	100.0%	1,471	100.0%

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

TABLE 6.08

CONTRIBUTING FACTORS IN 1995 PEDESTRIAN CRASHES

Contributing Factors	Attributed to Motor Vehicle Drivers Number	Percent
Human Factors		
Driver Inattention / Distraction	307	26.6%
Failure to Yield Right of Way	264	22.9
Vision Obscured	108	9.4
Illegal or Unsafe Speed	70	6.1
Unsafe Backing	40	3.5
Physical Impairment	35	3.0
Improper / Unsafe Lane Use	34	2.9
Driver Inexperience	33	2.9
Disregard for Traffic Control Device	31	2.7
Improper Parking / Starting / Stopping	28	2.4
Improper Turn	18	1.6
Improper Passing / Overtaking	11	1.0
Driving Left of Center	9	0.8
Impeding Traffic	8	0.7
Following Too Closely	7	0.6
Failure to Use Lights	5	0.4
Other Human Factors	17	1.5
Vehicular Factors		
Defective Equipment	8	0.7
Skidding	19	1.6
Other Vehicular Factors	5	0.4
Miscellaneous Factors		
Weather Conditions	47	4.1
Other	51	4.4
Total Contributing Factors Cited	1,155	100.0%
Vehicles for Which There Was "No Clear Contributing Factor"	632	
Total Number of Drivers	1,559	

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, 1986 - 1995

Year	Killed	Tested	Alcohol Concentration* (.00)	(.01 - .09)	(.10 or more)
1986	71	49	21 (43%)	1 (2%)	27 (55%)
1987	62	42	23 (55%)	2 (5%)	17 (40%)
1988	69	47	25 (53%)	2 (4%)	20 (43%)
1989	67	42	26 (62%)	4 (10%)	12 (29%)
1990	65	41	25 (61%)	1 (2%)	15 (37%)
1991	61	32	20 (63%)	1 (3%)	11 (34%)
1992	46	24	17 (71%)	1 (4%)	6 (25%)
1993	47	17	9 (53%)	0 (0%)	8 (47%)
1994	53	26	18 (69%)	1 (4%)	7 (27%)
1995	49	38	24 (63%)	2 (5%)	12 (32%)

* 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

1995 PEDESTRIAN FATALITIES' LEVEL OF ALCOHOL CONCENTRATION BY AGE

Age Group	Killed	Tested	Alcohol Concentration (.00)	(.01 - .09)	(.10 or more)
14 & Younger	6	5	5	0	0
15 - 19	5	2	2	0	0
20 - 24	2	2	1	0	1
25 - 29	3	3	1	0	2
30 - 34	8	6	1	1	4
35 - 39	3	2	1	0	1
40 - 44	4	4	2	0	2
45 - 49	0	0	0	0	0
50 - 54	1	1	0	0	1
55 - 59	3	2	1	0	1
60 - 64	0	0	0	0	0
65 - 69	4	3	2	1	0
70 - 74	3	2	2	0	0
75 - 79	3	3	3	0	0
80 - 84	1	1	1	0	0
85 & Older	3	2	2	0	0
Total	49	38	24	2	12

TABLE 6.11

1995 PEDESTRIAN FATALITIES' LEVEL OF ALCOHOL CONCENTRATION BY TIME OF DAY

			Alcohol Concentration		
Time of Day	Killed	Tested	(.00)	(.01 - .09)	(.10 or more)
Midnight - 2:59 AM	8	8	2	1	5
3:00 - 5:59 AM	5	4	2	0	2
6:00 - 8:59 AM	3	3	3	0	0
9:00 - 11:59 AM	4	3	3	0	0
Noon - 2:59 PM	4	3	3	0	0
3:00 - 5:59 PM	6	4	3	1	0
6:00 - 8:59 PM	12	8	6	0	2
9:00 - 11:59 PM	7	5	2	0	3
Total	49	38	24	2	12

VII: BICYCLE CRASHES

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

Data collected before 1984 counted crashes as bicycle crashes only if the bicycle was the first "object" struck by the motor vehicle. Beginning in 1984, all crashes that involved a bicycle in any way are reported as bicycle crashes. The number of crashes reported here rose slightly as a result.

Low number of deaths in 1995

The year 1995 was normal for bicycle crashes and injuries. The total number of bicycle crashes, 1,333, was precisely the same as the average for the prior 5 year period. The number of bicyclists injured, 1,283, was just one percent higher than the prior five-year average. The year was a very fortunate one for deaths though. There were only 5 bicyclist fatalities last year. That is the lowest number for the period of time that records are available (back to 1965).

Crashes frequent in late afternoon on weekdays

Bike crashes are a warm-weather occurrence. Last year, 1,174 (88%) occurred between May 1 and October 31. They also appear to follow rush-hour traffic patterns. Fully one-third of the bike crashes occurred between 3 PM and 6 PM on Monday through Friday. Over a third (37%) of bike crashes occurred in cities of over 100,000, compared with 24% of all crashes.

Almost three times as many males as females

There were 132 severe injuries, 614 moderate injuries, and 537 minor injuries to bicyclists. Males were injured almost three times as often as females (928 to 318), and they received severe injuries three-and-a-half times as often (102 to 29). Ages were similar for males and females. For both, about 15% were aged 5 to 9, 30% were aged 10 to 14, and another 15% were aged 15 to 19. Injuries diminished steadily as age increased.

Actions by bicyclists prior to crash

Bicyclists are supposed to ride with traffic. Of the 1,338 bicyclists involved in crashes, 171 were riding with traffic prior to the crash. An additional 127 (9%) were riding against traffic. The most commonly occurring action by bicyclists prior to the crash (for 487, or 36% of the total) was attempting to ride across the trafficway. (However, the prior action was indicated as "other" or "unknown" for fully 37% of the bicyclists.)

Contributing factors more often associated with bicyclists

The reporting officer showed "no improper driving" for 380 (28%) of the 1,338 bicyclists in crashes, compared with 659 (49%) of the motor vehicle drivers in bicycle crashes. There were five contributing factors that officers reported relatively frequently for bicyclists. These were: failure to yield right of way (cited 24% of the time), inattention or distraction (18%), improper or unsafe lane use (12%), disregard for traffic control device (12%), and inexperience (6%). For the motor vehicle drivers, three factors accounted for 73% of the contributing factors cited, and thus stood out more than the others. These three were: driver inattention or distraction (34%), failure to yield right-of-way (31%), and vision obscured (8%).

TABLE 7.01

BICYCLE CRASH SUMMARY, 1986 - 1995

	1986	1987	1988	1989	1990	1991	1992	1993	1994	1995
Bicycle Crashes	1,367	1,574	1,448	1,392	1,357	1,208	1,343	1,321	1,436	1,333
Bicyclists Killed	12	15	16	10	8	8	11	9	16	5
Bicyclists Injured	1,309	1,452	1,401	1,353	1,327	1,157	1,249	1,240	1,359	1,283

TABLE 7.02

1995 BICYCLE CRASHES BY MONTH

Month	Fatal Crashes	Injury Crashes	Property Damage Crashes	Total Crashes	Bicyclists Killed	Bicyclists Injured
January	0	10	0	10	0	10
February	0	9	2	11	0	9
March	0	33	2	35	0	33
April	1	64	3	68	1	65
May	1	158	5	164	1	160
June	0	232	11	243	0	232
July	1	220	7	228	1	222
August	1	244	10	255	1	246
September	0	150	6	156	0	152
October	1	120	7	128	1	120
November	0	27	1	28	0	27
December	0	7	0	7	0	7
Total	5	1,274	54	1,333	5	1,283

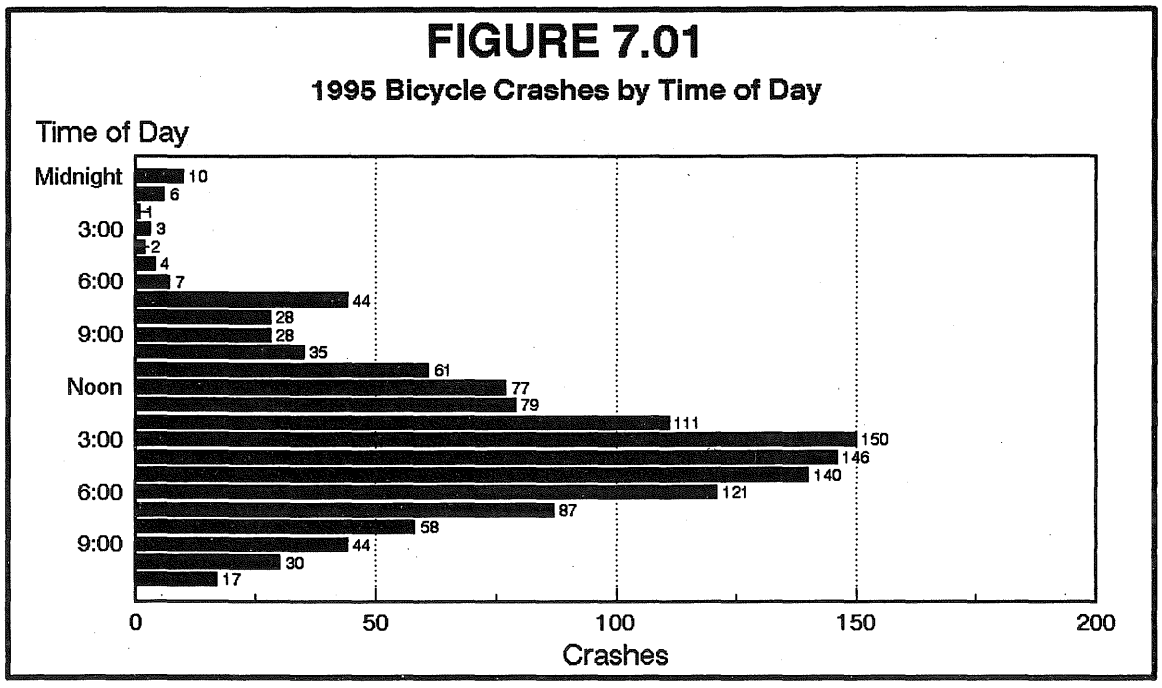


TABLE 7.03

1995 BICYCLE CRASHES BY TIME AND DAY

Time of Day	Total	Sunday	Monday	Tuesday	Wednesday	Thursday	Friday	Saturday
Midnight - 2:59 AM	17	5	0	2	1	3	2	4
3:00 - 5:59 AM	9	1	1	2	2	1	1	1
6:00 - 8:59 AM	79	2	10	13	18	16	15	5
9:00 - 11:59 AM	124	13	15	22	15	18	24	17
Noon - 2:59 PM	267	21	39	48	35	50	36	38
3:00 - 5:59 PM	436	28	64	76	70	79	85	34
6:00 - 8:59 PM	266	27	49	48	39	48	30	25
9:00 - 11:59 PM	91	8	11	14	11	20	13	14
Unknown	44	6	6	10	5	3	9	5
Total	1,333	111	195	235	196	238	215	143

TABLE 7.04

1995 BICYCLE CRASHES BY POPULATION OF AREA

Population of City or Township	Fatal Crashes	Injury Crashes	Property Damage Crashes	Total Crashes	Bicyclists Killed	Bicyclists Injured
100,000 and Over	0	469	30	499	0	474
50,000 - 99,999	0	120	2	122	0	124
25,000 - 49,999	0	204	9	213	0	203
10,000 - 24,999	2	219	2	223	2	218
5,000 - 9,999	0	61	2	63	0	62
2,500 - 4,999	1	38	1	40	1	38
1,000 - 2,499	0	26	0	26	0	26
Under 1,000	2	137	8	147	2	138
Total	5	1,274	54	1,333	5	1,283

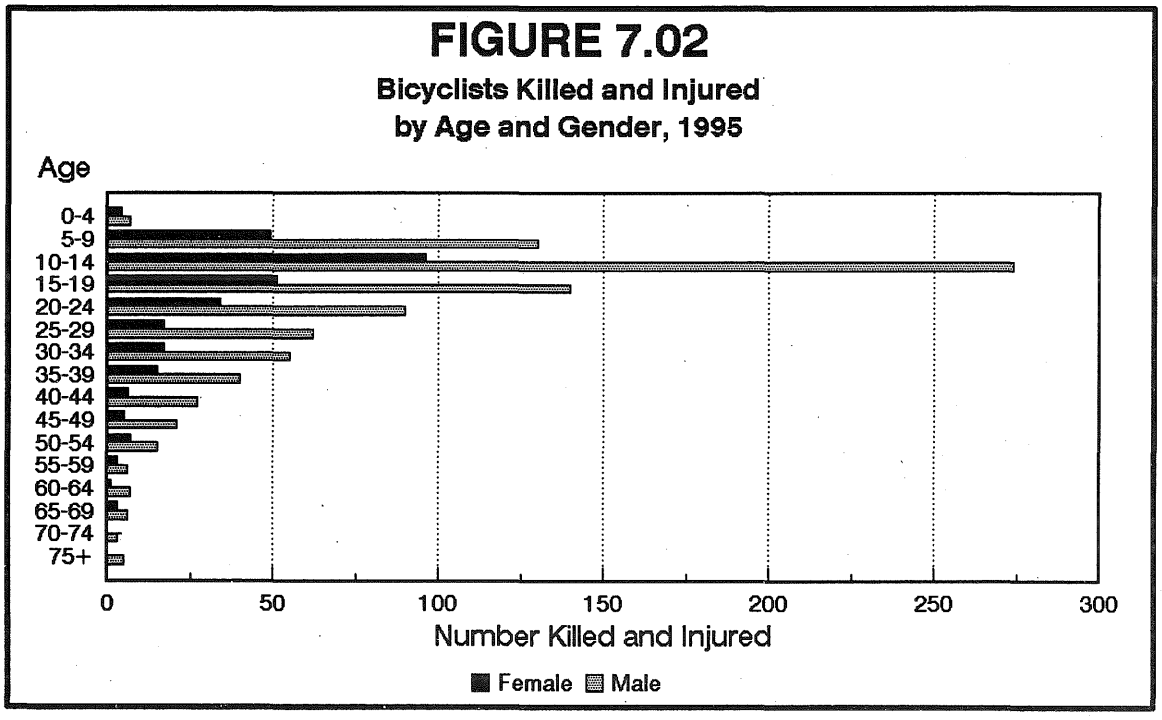


TABLE 7.05

BICYCLISTS KILLED OR INJURED BY AGE AND GENDER, 1995

	Killed			Injured											
				Severe			Moderate			Minor			Total		
Age Group	M	F	Total	M	F	Total*	M	F	Total*	M	F	Total*	M	F	Total*
0 - 4	0	0	0	1	0	1	3	2	5	3	2	5	7	4	11
5 - 9	0	0	0	10	2	12	65	26	92	55	21	79	130	49	183
10 - 14	0	1	1	32	8	41	136	51	189	106	36	145	274	95	375
15 - 19	0	1	1	13	4	17	72	27	99	55	19	75	140	50	191
20 - 24	0	0	0	6	6	12	41	22	63	43	6	50	90	34	125
25 - 29	2	0	2	8	1	9	25	9	34	27	7	37	60	17	80
30 - 34	1	0	1	8	3	11	30	7	38	16	7	23	54	17	72
35 - 39	0	0	0	6	1	7	19	5	24	15	9	26	40	15	57
40 - 44	0	0	0	3	0	3	16	4	20	8	2	12	27	6	35
45 - 49	0	0	0	4	1	5	8	0	9	9	4	13	21	5	27
50 - 54	0	0	0	3	1	4	4	3	8	8	3	11	15	7	23
55 - 59	0	0	0	2	1	3	3	2	5	1	0	1	6	3	9
60 - 64	0	0	0	2	0	2	3	0	3	2	1	3	7	1	8
65 - 69	0	0	0	1	0	1	3	2	5	2	1	3	6	3	9
70 - 74	0	0	0	0	0	0	1	0	1	2	0	2	3	0	3
75 & Older	0	0	0	2	0	2	3	0	4	0	0	0	5	0	6
Not Stated	0	0	0	1	1	2	12	3	15	30	8	52	43	12	69
Total	3	2	5	102	29	132	444	163	614	382	126	537	928	318	1,283

* Where columns do not add across to total, gender was not stated on the accident report.

TABLE 7.06

PRIOR ACTION OF BICYCLISTS INVOLVED IN 1995 CRASHES

Prior Action	Bicyclists In Fatal Crashes	Bicyclists In Injury Crashes	Bicyclists In Property Damage Crashes	Bicyclists In All Crashes*
Riding With Traffic	3	158	10	171
Riding Against Traffic	0	125	2	127
Making Right Turn	0	8	0	8
Making Left Turn	0	32	0	32
Making U Turn	0	2	0	2
Riding Across Road	1	473	13	487
Slowing, Starting, Stopping	0	17	2	19
Other	0	246	6	252
Unknown	1	218	21	240
Total	5	1,279	54	1,338

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

TABLE 7.07

CONTRIBUTING FACTORS IN 1995 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	255	23.5%	263	31.4%
Driver Inattention/Distraction	192	17.7	282	33.7
Improper / Unsafe Lane Use	129	11.9	28	3.3
Disregard for Traffic Control Device	128	11.8	27	3.2
Driver Inexperience	60	5.5	8	1.0
Improper Turn	32	2.9	23	2.7
Failure to Use Lights	30	2.8	1	0.1
Illegal or Unsafe Speed	25	2.3	28	3.3
Driving Left of Center	24	2.2	6	0.7
Vision Obscured	20	1.8	66	7.9
Physical Impairment	12	1.1	10	1.2
Improper Parking/Starting/ Stopping	8	0.7	12	1.4
Improper or No Signal	7	0.6	3	0.4
Impeding Traffic	4	0.4	2	0.2
Following Too Closely	3	0.3	5	0.6
Improper Passing/Overtaking	3	0.3	14	1.7
Unsafe Backing	0	0.0	8	1.0
Other Human Factors	24	2.2	6	0.7
Vehicular Factors				
Defective Equipment	38	3.5	2	0.2
Skidding	6	0.6	5	0.6
Other Vehicular Factors	1	0.1	2	0.2
Miscellaneous Factors				
Weather Conditions	17	1.6	11	1.3
Other	69	6.3	25	3.0
Total	1,087	100.0%	837	100.0%
Vehicles for Which There Was "No Clear Contributing Factor"	380		659	
Total Number of Bicyclists/Drivers	1,338		1,346	

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

School bus travel is very safe. The school bus is usually 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. In Minnesota, a crash is counted as a school bus crash if the bus hits another vehicle, is hit by another vehicle, hits a pedestrian or bicyclist, or just has a crash by itself (for example, runs off the road). Note that in some cases, a crash could be seen as involving a school bus, yet not be counted as a school bus crash. For example, one such case would be a crash in which a child or other person gets off the bus, crosses a street, and is struck by another vehicle.

Two deaths in 1995

In 1995, there were two fatal crashes, each resulting in one death. In both cases, the person who died was the driver of an automobile that collided head on with the school bus. The first case occurred in January, when a driver lost control of her car on a slush-covered road surface and slid over the center line into an oncoming school bus. The second fatal crash occurred in May, when a fatigued automobile driver crossed over the center line and into the path of an oncoming bus.

Crashes and injuries up in 1995

There were 898 school bus crashes in 1995, the highest number over the last 10 years. Persons injured also increased, to 457, up 14% from 1994. Of the people injured, only 23 (5%) received severe injuries; 113 (25%) received moderate injuries, and 321 (70%) received minor injuries. Just over half (249, or 54%) of the persons injured were on the bus. One-hundred-twelve of the bus occupants injured were aged 5 to 19, and an additional 84 were probably children, though their ages were not reported. Five pedestrians and 203 occupants of other vehicles were injured. They ranged in age from children to over 65.

Crashes center around school day.

As would be expected, school bus crashes are overwhelming centered around the school day. Only 6% occurred during the summer months, June, July, and August. Ninety-two percent (830 of the 898) occurred between 6:00 AM and 6:00 PM, and two thirds of those occurred either between 6:00 and 9:00 AM or between 3:00 and 6:00 PM.

Two-vehicle collisions

Eighty-seven percent of school bus crashes involved collision with another moving motor vehicle, and an additional 8% involved collisions with a parked motor vehicle. (For all crashes, the corresponding numbers are 67% and 6%.) Many (40%) of the crashes occurred where there was no traffic control device, but 21% occurred at an intersection controlled by a traffic light; 4% occurred where there was a stop sign at all approaches to the intersection, and 21% occurred where there was a stop sign, but not at all approaches.

Frequent contributing factors

Though there were 898 school bus crashes, a few involved more than one school bus. In all, there were 906 school buses in crashes. For almost half (48%) of the school bus drivers, police showed there was "no clear contributing factor." This compares favorably to the 37% of other motor vehicle drivers for whom there was "no "no clear contributing factor." For the school bus drivers, there were five human-error type contributing factors that were cited five percent or more of the time. These were: driver inattention or distraction (23%), failure to yield right of way (17%), improper turn (8%), unsafe backing (7%), and improper or unsafe lane use (7%). For the other motor vehicle drivers, four human-error type factors were cited relatively often: driver inattention or distraction (23%), illegal or unsafe speed (12%), failure to yield right of way (12%), and following too closely (7%).

TABLE 8.01

SCHOOL BUS CRASH SUMMARY, 1986 - 1995

	1986	1987	1988	1989	1990	1991	1992	1993	1994	1995
Total Crashes	662	530	679	828	674	857	741	894	821	898
Fatal Crashes	3	6	3	4	5	4	1	3	2	2
Persons Killed	3	6	3	4	6	4	1	3	2	2
Injury Crashes	160	141	175	167	149	181	169	212	210	216
Persons Injured	265	244	359	281	329	383	425	432	401	457
Property Damage Crashes	499	383	501	657	520	672	571	679	609	680
School Buses Involved	667	534	684	834	680	867	756	909	844	906

TABLE 8.02

1995 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	1	1	0	0
3:00 - 5:59 AM	0	2	1	3	0	2
6:00 - 8:59 AM	1	71	215	287	1	206
9:00 - 11:59 AM	0	29	76	105	0	49
Noon - 2:59 PM	0	46	118	164	0	76
3:00 - 5:59 PM	1	55	218	274	1	100
6:00 - 8:59 PM	0	4	13	17	0	9
9:00 - 11:59 PM	0	2	11	13	0	7
Unknown	0	7	27	34	0	8
Total	2	216	680	898	2	457

TABLE 8.03

1995 SCHOOL BUS CRASHES BY MONTH

Month	Fatal Crashes	Injury Crashes	Property Damage Crashes	Total Crashes	Killed	Injured
January	1	31	88	120	1	67
February	0	24	89	113	0	40
March	0	25	69	94	0	70
April	0	10	52	62	0	19
May	1	16	57	74	1	57
June	0	7	20	27	0	9
July	0	4	15	19	0	5
August	0	4	7	11	0	5
September	0	29	50	79	0	51
October	0	18	66	84	0	32
November	0	25	91	116	0	67
December	0	23	76	99	0	35
Total	2	216	680	898	2	457

TABLE 8.04

AGE AND GENDER OF PERSONS INJURED IN 1995 SCHOOL BUS CRASHES

Age Group	Total*	In Bus	Pedestrian	In Other Vehicle	Male	Female
0 - 4	7	1	0	6	4	2
5 - 9	38	32	1	5	18	19
10 - 14	69	66	0	3	25	44
15 - 19	49	14	0	35	15	34
20 - 24	29	6	0	23	14	15
25 - 29	27	5	2	20	16	11
30 - 34	39	7	0	32	21	18
35 - 39	25	10	0	15	15	10
40 - 44	26	8	1	17	10	16
45 - 54	23	7	0	16	8	15
55 - 64	9	5	0	4	5	4
65 & Older	24	4	0	20	13	11
Unknown	92	84	1	7	8	4
Total	457	249	5	203	172	203

* There were 82 cases where the gender of the person was not stated.

TABLE 8.05

PERSONS KILLED OR INJURED IN 1995 SCHOOL BUS CRASHES BY POPULATION OF AREA

Population of City or Township	Killed	Injured			
		Severe	Moderate	Minor	Total
100,000 and Over	0	6	47	123	176
50,000 - 99,999	0	3	8	21	32
25,000 - 49,999	0	2	5	15	22
10,000 - 24,999	0	2	12	43	57
5,000 - 9,999	0	2	3	10	15
2,500 - 4,999	0	0	1	6	7
1,000 - 2,499	0	1	4	21	26
Under 1,000	2	7	33	82	122
Total	2	23	113	321	457

TABLE 8.06

1995 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	192	584	778	2	396
Parked Motor Vehicle	0	4	72	76	0	4
Bicycle	0	2	0	2	0	2
Pedestrian	0	5	0	5	0	5
Deer or Other Animal	0	1	2	3	0	1
Fixed Object	0	6	11	17	0	32
Other Object	0	0	0	0	0	0
Non-collision:						
Overturn	0	2	1	3	0	4
Other/Unknown	0	4	10	14	0	13
Total	2	216	680	898	2	457

TABLE 8.07

1995 SCHOOL BUS CRASHES BY TRAFFIC CONTROL DEVICE

Traffic Control Device	Fatal Crashes	Injury Crashes	Property Damage Crashes	Total Crashes	Killed	Injured
Not Applicable	2	82	277	361	2	177
Traffic Signal	0	49	136	185	0	88
Overhead Flashers	0	1	5	6	0	1
Stop Sign--All Approaches	0	9	28	37	0	15
Other Stop Sign	0	52	136	188	0	128
Yield Sign	0	3	11	14	0	5
Officer/Flagperson/ School Patrol	0	1	1	2	0	1
School Bus Stop Arm	0	5	12	17	0	21
School Sign Zone	0	1	1	2	0	1
No Passing Zone	0	3	3	6	0	8
Railroad Crossing Device	0	4	7	11	0	5
Other	0	3	13	16	0	4
Unknown	0	3	50	53	0	3
Total	2	216	680	898	2	457

TABLE 8.08

CONTRIBUTING FACTORS IN 1995 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	112	22.9%	162	22.9%
Failure to Yield Right of Way	84	17.2	85	12.0
Improper Turn	38	7.8	10	1.4
Unsafe Backing	36	7.4	5	0.7
Improper / Unsafe Lane Use	32	6.5	22	3.1
Illegal / Unsafe Speed	21	4.3	86	12.2
Vision Obscured	20	4.1	18	2.5
Following Too Closely	18	3.7	52	7.4
Disregard for Traffic Control Device	17	3.5	33	4.7
Improper Parking / Starting / Stopping	7	1.4	17	2.4
Driver Inexperience	7	1.4	29	4.1
Improper Passing / Overtaking	4	0.8	12	1.7
Driving Left of Center	2	0.4	6	0.8
Improper or No Signal	2	0.4	2	0.3
Physical Impairment	1	0.2	5	0.7
Pedestrian Violation or Error	0	0.0	2	0.3
Failure to Use Lights	0	0.0	2	0.3
Driver on CB Radio / Cellular Phone	0	0.0	0	0.0
Other Human Factors	4	0.8	4	0.6
Vehicular Factors				
Skidding	25	5.1	64	9.1
Defective Equipment	2	0.4	11	1.6
Other Vehicular Factors	4	0.8	0	0.0
Miscellaneous Factors				
Weather Conditions	32	6.5	58	8.2
Other	21	4.3	22	3.1
Total	489	100.0%	707	100.0%
Vehicles for Which There Was "No Clear Contributing Factor"	432		341	
Total Number of Drivers	906		932	

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 crashe reported in this section involves a motor vehicle and a train. Train collisions with pedestrians or bicyclists are not counted as traffic crashes for the purpose of this publication. Motor vehicle/train crashes are few in number but more likely to be serious, and so are of concern.

Train Crashes Most Serious Type
Statewide, one-half of one percent of all crashes result in a fatality. In 1995, 11% of motor-vehicle/train crashes were fatal. That's more than twenty times the rate for all crashes. There were 132 motor-vehicle/train crashes; 15 were fatal, resulting in 16 deaths. There were 30 non-fatal injury crashes, causing injury to 34 people, 10 of whom suffered severe injury.

Winter months and weekdays
Motor vehicle/train crashes were most numerous in October and December in 1995; those two months accounting for 30% of the crashes. The crashes were also more likely to occur on weekdays than on Saturdays or Sundays.

Railroad crossbuck is typical control device
Forty-nine of the 134 crashes, including 8 of the 15 fatal crashes, occurred at a crossing signed by a railroad crossbuck. An additional 20 crashes (including two fatal) occurred at a railroad crossing stop sign. By contrast, only 4 crashes, one of which was fatal, occurred at a crossing equipped with overhead flashing lights and a gate.

Victims ranged in age
In 1995, no small children were killed or injured, but otherwise victims ranged widely in age. Teenagers made up 3 of the 16 fatalities and 7 of the 34 injuries, but middle-aged and elderly persons also were involved in the crashes. Two of the deaths occurred to persons 80 or older, and 18 of the 34 people injured ranged in age from 30 to 79.

Rural areas most often
For all crashes in Minnesota, about two-thirds of the less serious ones occur in areas with a population of 5,000 or more, while about two-thirds of the fatal crashes occur in rural areas. By contrast, motor-vehicle/train crashes are more predominantly rural. In 1995, almost two-thirds of the 132 total crashes and almost three-fourths of the 15 fatal crashes occurred in rural areas.

Three factors most often cited
Officers reporting contributing factors to motor-vehicle/train crashes cited three factors considerably more often than others. "Failure to yield right-of-way" was cited most often (29% of the time), followed by "driver inattention or distraction" (23%), and then "disregard for traffic control device" (14%). Contributing factors for train operators are not reported.

TABLE 9.01

MOTOR VEHICLE / TRAIN CRASH SUMMARY, 1986 - 1995

	1986	1987	1988	1989	1990	1991	1992	1993	1994	1995
Total Crashes	116	119	168	142	116	147	111	128	144	132
Fatal Crashes	5	4	9	11	13	10	7	11	14	15
Persons Killed	12	4	12	15	17	10	9	15	17	16
Injury Crashes	53	55	56	48	35	49	39	45	51	30
Persons Injured	66	74	70	75	67	70	54	63	75	34
Property Damage Crashes	58	60	103	83	68	88	65	72	79	87

TABLE 9.02

1995 MOTOR VEHICLE / TRAIN CRASHES BY MONTH

Month	Fatal Crashes	Injury Crashes	Property Damage Crashes	Total Crashes	Killed	Injured
January	1	1	8	10	1	2
February	1	3	8	12	1	3
March	1	5	6	12	1	5
April	0	0	4	4	0	0
May	1	1	2	4	1	1
June	2	4	3	9	2	4
July	0	2	3	5	0	2
August	1	3	8	12	1	4
September	3	2	6	11	4	2
October	3	3	14	20	3	4
November	0	4	9	13	0	4
December	2	2	16	20	2	3
Total	15	30	87	132	16	34

TABLE 9.03

1995 MOTOR VEHICLE / TRAIN CRASHES BY TIME AND DAY

Time of Day	Total	Sunday	Monday	Tuesday	Wednesday	Thursday	Friday	Saturday
Midnight - 2:59 AM	7	0	1	2	0	0	1	3
3:00 - 5:59 AM	9	2	0	0	2	2	1	2
6:00 - 8:59 AM	17	1	1	4	5	3	2	1
9:00 - 11:59 AM	18	1	3	4	2	2	4	2
Noon - 2:59 PM	25	2	1	7	3	6	5	1
3:00 - 5:59 PM	20	3	2	4	2	5	4	0
6:00 - 8:59 PM	23	2	4	4	3	4	4	2
9:00 - 11:59 PM	12	1	7	0	2	0	2	0
Unknown	1	0	0	0	0	0	0	1
Total	132	12	19	25	19	22	23	12

TABLE 9.04

1995 MOTOR VEHICLE / TRAIN CRASHES BY TRAFFIC CONTROL DEVICE

Traffic Control Device	Fatal Crashes	Injury Crashes	Property Damage Crashes	Total Crashes	Killed	Injured
RR Crossbuck	8	9	29	49	9	10
RR Crossing Stop Sign	2	3	15	20	2	3
RR Flashing Lights	2	5	12	19	2	6
RR Overhead Flashers Plus Gate	1	1	2	4	1	1
RR Overhead Flashers	0	1	2	3	0	2
RR Crossing Gate	0	3	8	11	0	4
Stop Sign	2	3	7	12	2	3
Other	0	3	1	4	0	3
Unknown	0	1	1	2	0	1
Not Applicable	0	1	10	11	0	1
Total	15	30	87	132	16	34

TABLE 9.05

AGE OF PERSONS KILLED OR INJURED IN 1995 MOTOR VEHICLE / TRAIN CRASHES

Age Group	Killed	Injured			
		Severe	Moderate	Minor	Total
0-4	0	0	0	0	0
5-9	0	0	0	0	0
10-14	0	0	0	0	0
15-19	3	1	2	4	7
20-24	1	2	0	1	3
25-29	1	3	0	2	5
30-34	1	1	0	3	4
35-39	3	1	2	1	4
40-44	0	0	1	0	1
45-49	2	0	0	2	2
50-54	1	0	0	1	1
55-59	1	0	0	0	0
60-69	1	1	1	1	3
70-79	0	0	1	2	3
80 & Older	2	0	0	0	0
Not Stated	0	1	0	0	1
Total	16	10	7	17	34

TABLE 9.06

1995 MOTOR VEHICLE / TRAIN CRASHES BY POPULATION OF AREA

Population of City or Township	Fatal Crashes	Injury Crashes	Property Damage Crashes	Total Crashes	Killed	Injured
100,000 and Over	0	3	10	13	0	4
50,000 - 99,999	0	1	4	5	0	1
25,000 - 49,999	0	2	8	10	0	2
10,000 - 24,999	1	2	6	9	1	2
5,000 - 9,999	3	1	6	10	3	1
2,500 - 4,999	0	3	1	4	0	4
1,000 - 2,499	2	2	4	8	2	3
Under 1,000	9	16	48	73	10	17
Total	15	30	87	132	16	34

TABLE 9.07

CONTRIBUTING FACTORS IN 1995 MOTOR VEHICLE / TRAIN CRASHES

Contributing Factor	Number	Percent
Human Factors		
Failure to Yield Right of Way	50	29.2
Driver Inattention / Distraction	40	23.4
Disregard for Traffic Control Device	23	13.5
Physical Impairment	8	4.7
Illegal or Unsafe Speed	7	4.1
Vision Obscured	7	4.1
Driver Inexperience	2	1.2
Improper or Unsafe Lane Use	1	0.6
Improper Parking / Stopping /Starting	1	0.6
Impeding Traffic	1	0.6
Other Human Factor	2	1.2
Vehicular Factors		
Skidding	7	4.1
Defective Equipment	2	1.2
Other Vehicular Factor	6	3.5
Miscellaneous Factors		
Weather Conditions	9	5.3
Other	5	2.9
Total	171	100.0%
Vehicles for Which There Was "No Clear Contributing Factor"	7	
Number of Drivers	135	

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.

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