Minnesota Motor Vehicle

1994

CRASH FACTS

Minnesota Department of Public Safety

Minnesota Motor Vehicle Crash Facts 1994

Cover photograph was furnished by the Minnesota State Patrol.

The driver of this vehicle survived the crash. She was wearing her seat belt.

MINNESOTA MOTOR VEHICLE CRASH FACTS 1994

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 1995

Last year there were nearly 100,000 traffic crashes in Minnesota. Six-hundred-forty-four people died, and over 46,000 were injured. The resulting economic loss alone exceeds $1.6 billion. Traffic fatalities have been decreasing since the early 1980s. The 644 deaths last year is especially discouraging because it is the highest number since 1981 and because it represents a 20% increase over the 538 deaths the year before. There has not been an increase of that magnitude from one year to the next in almost a half century.

There is no simple explanation that can account for all of this tragic rise in deaths. Alcohol use and speeding were both cited proportionately *less* often as contributing factors last year than the year before. Seat belt use, however, was lower among those who were killed. If more people had used seat belts, there would have been fewer deaths.

Though they did not increase in 1994, impaired driving and speeding remain among the leading, and most controllable, factors in serious crashes. Last year, 226 people died in alcohol-related crashes, and 152 died in crashes where speed was a contributing factor. Also, nearly 400 of those who were killed were not wearing seat belts at the time of the crash. There is overlap among these categories. For example, a single drunk driver who died may also have been speeding and not wearing a seat belt. Nevertheless, it is certain that if we could completely eliminate speeding and alcohol use, and if we could achieve 100% compliance with the state's seat belt law, Minnesota would have the lowest number of fatalities in over 50 years, instead of the highest number in 14 years.

The Department of Public Safety is committed to doing everything in its power to achieve precisely these objectives. Last year, we launched the "Safe and Sober" campaign. This is a program that especially targets motorists' speeding behavior and impaired driving. It also emphasizes using seat belts as the measure that can do the most to prevent injury and death if a crash should occur.

Most traffic crashes are not really accidents. They can be prevented by appropriate actions. Drive in a safe and sober manner every time you use Minnesota's streets and highways: belt yourself, and make sure everyone else is belted; drive at reasonable speeds and with respect for others; and for everyone's sake, always be in control. Don't let any impairment or distraction keep you and your passengers from getting to your destination safely. There are few guarantees in life. But these simple rules give you all the best chance to Arrive Alive. Please -- Do Arrive Alive!

Sincerely,

Michael S. Jordan
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 trafficway 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 1994 calendar year, 3,340,575 people held Minnesota driver licenses and 3,665,392 motor vehicles were registered in the state. Vehicles traveled over 43.4 billion miles on public roadways in the state. There were 99,701 traffic crashes; 644 people died and 46,403 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 potently 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 1993 data. Based on those, the total economic loss from 1994 traffic crashes in Minnesota was $1,656,634,200, a figure which is calculated as follows:

Cost of Motor Vehicle Crashes in 1994

644	deaths	@$900,000	=$579,600,000
4,105	severe injuries	@ $49,000	=$201,145,000
15,618	moderate injuries	@ $15,000	=$234,270,000
26,680	minor injuries	@ $9,300	=$248,124,000
67,844	property damage crashes	@ $5,800	=$393,495,200
		Total =	$1,656,634,200

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 teenaged 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 U.S. 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."

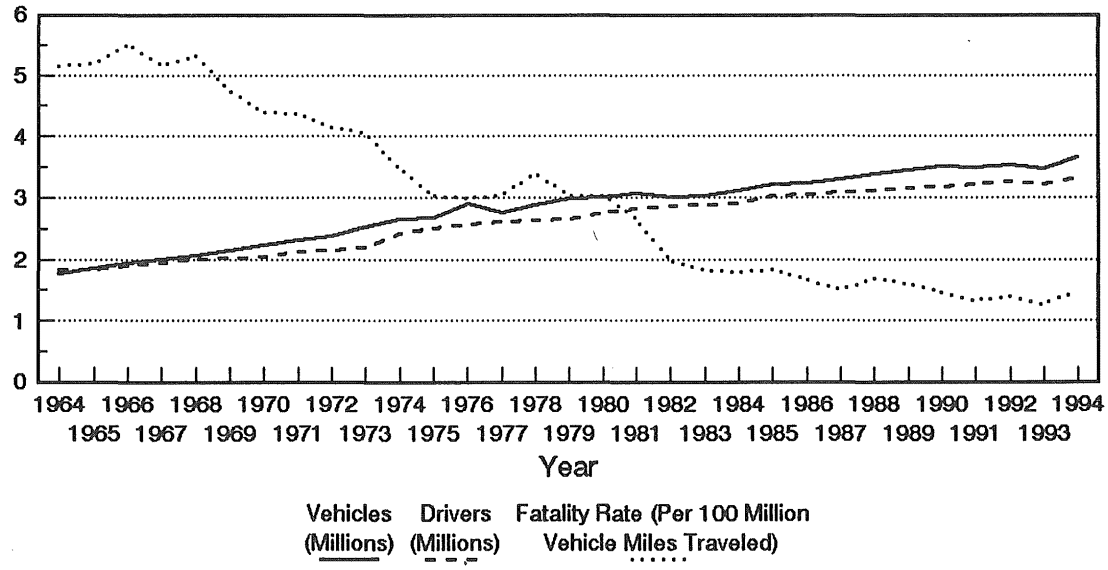
Section 169.09 specifies that a driver involved in an accident that results in injury to or death of any person or total property damage of $1,000 or more must submit a report within ten days of the crash. The law enforcement officer who investigates the crash must also submit a report within ten days.

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 in August, 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--1994



I: ALL CRASHES

TEN-YEAR TRENDS, AND 1994

Over the last decade, total crashes in the state varied by 6% or less above or below an average of just under 100,000 per year. The number of people injured each year was similarly stable around an average of just over 44,000. 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 varied more erratically, but tended to trend downward over the last decade, with 538 deaths in 1993. The year 1994 followed this pattern for total crashes and injuries, but not for fatalities.

Total crashes decreased by 1.2%, to 99,701 from 1993. Total people injured increased 3.1%, to 46,403, with severe injuries decreasing from 9.2% of the total in 1993, to 8.8% of the total in 1994. Traffic deaths rose abruptly, by 20%, to 644. There is no obvious explanation for this increase. "Illegal or unsafe speed" was cited as a contributing factor in crashes less often in 1994 than in 1993. Alcohol-related crashes and fatalities also decreased from the prior year. Volume of travel increased by 2.6% (to 43.4 billion miles) from 1993 -- a normal amount of increase from one year to the next. Seat belt use in fatal crashes decreased from 32% in 1993 to 25% in 1994, suggesting that lower seat belt use could have been a contributing factor in the rise in deaths.

The following sections give an overview of 1994 crash statistics, focusing on *who* was involved, *what* the conditions were, and on *where* and *when* they occurred.

WHO was involved

Victims were young people

Of the 644 people killed in 1994, 281 (44%) were aged 15 to 34, and 389 (60%) were male. There were 377 (59%) motor vehicle drivers, 179 (28%) passengers, and 19 persons whose position in the vehicle was unknown. Also, 16 bicyclists and 53 pedestrians died in collisions with vehicles.

With respect to persons injured, there was a total of 46,403. Just over half (51%) were aged 15 to 34, and 51% were females. Seventy-one percent of the injured persons were in automobiles, 11% were in pickup trucks, 6% in vans, and 3% were on motorcycles. All other vehicle types (buses, snowmobiles, ATMs, farm equipment, and all types of trucks except pickups) accounted for only 3% of persons injured. Finally, 3% were on bicycles and 3% were pedestrians.

Drivers were young people

Young people were also disproportionately represented among drivers in crashes. Fifteen to thirty-four year-olds made up 37% of the licensed drivers in the state, but were 49% of the drivers in fatal crashes, and 52% of the drivers in all crashes. Males were also over-represented; they comprised 74% of drivers in fatal crashes and 58% of drivers in all crashes.

Contributing factors and driver age

The contributing factors associated with drivers vary with driver age and with whether the crash is a single- or multiple-vehicle crash. In single-vehicle crashes, illegal or unsafe speed is cited about 20 to 25% of the time for young drivers (through about age 35), but only about 10%, or less, of the time for drivers aged 65 and older. Older drivers, for their part, had "driver inattention or distraction" cited more often (about 25% of the time) than drivers under 65, for whom it was cited about 18% of the time.

In multiple vehicle crashes, there were four leading contributing factors: "driver inattention or distraction," "failure to yield right of way," "illegal or unsafe speed," and "following too closely." Driver inattention was cited equally frequently, about 23% of the time, for all driver age groups. "Failure to yield right of way" was cited more frequently for drivers over 65 (about 35% of the time) than for drivers under 65 (about 20% of the time). Illegal or unsafe speed was cited about 9% to 12% of the time for drivers under 65, and only about 2% to 4% of the time for older drivers. Following too closely was cited about twice as often (about 10% of the time) for drivers under 65 as it was for drivers over 65.

WHAT the conditions were

First harmful event

One half (49%) of fatal crashes, and two-thirds of the total crashes, involved collision with another motor vehicle in transport (that is, not a parked vehicle), as the first harmful event in the crash. The next most common type was collision with a fixed object (e.g., a tree, or traffic signal, or median

barrier), which characterized 17% of fatal crashes, and 11% of total crashes. Non-collision crashes (most frequently, an overturn crash) represented 17% of fatal crashes and 5% of total crashes.

Good driving conditions and serious crashes
Most crashes occur in good driving conditions. Last year, 55% of fatal crashes and 64% of total crashes occurred in daylight hours. Seventy-six percent of fatal crashes, and 60% of total crashes occurred on dry (i.e., not wet or snow- or ice-covered) roads.

Contributing factors and crash severity
Most crashes involve two or more vehicles, and police can cite zero, one, or two contributing factors for each vehicle in a crash. Thus a crash might potentially have four or more contributing factors. In 1994, police cited 915 factors in fatal crashes, almost 50,000 in injury crashes, and about 75,000 in property damage crashes.

Injury and property damage crashes were similar to one another in having the same three leading contributing factors ranked in the same order: "driver inattention or distraction" was cited most frequently, about 21% of the time, followed by "failure to yield right of way," cited about 16% of the time, and "illegal or unsafe speed," cited 12% of the time. Each of the other factors was cited 7%, or less, of the time.

For fatal crashes, four factors were cited 10% of the time or more. These were: "illegal or unsafe speed" (representing 15% of all factors cited), "physical impairment" (13%), "failure to yield right of way" (12%), and driver inattention or distraction" (11%).

WHERE they happened

Urban and rural differences
About 70% of all crashes are relatively minor and involve only property damage to the vehicles involved. These less serious crashes tend to follow population clusters. The seven-county metropolitan area contains about 53% of the state's population and was the site of 58% of total crashes. Three other counties, Stearns, St. Louis, and Olmsted, contain an additional 10% of the state's population and were the site of 8% of total crashes.

Fatal crashes represent about one-half of one percent of all crashes. They occur most often on highways in open country. The seven-county metro area was the site of 29% of the 550 fatal crashes in the state. Stearns, St. Louis, and Olmsted counties were the site of 10% of the fatal crashes. The remaining 77 counties in Minnesota contain about 37% of the state's population and were the site of 61% of fatal crashes. Briefly stated, less serious crashes are mostly urban events, while fatal crashes are mostly rural events.

Roadway type
Interstate highways carry high volumes of traffic efficiently and safely. In Minnesota, the Interstate system makes up less than 1% of approximately 134,000 miles of roadway in the state, yet it carried 22% of the vehicle miles traveled in 1994. The Interstates were the site of 8% of fatal crashes and 10% of total crashes. Trunk and "county state aid" highway systems, often carrying high-speed traffic on two-lane two-way roads, were the site of 76% of fatal crashes and 55% of total crashes. An additional 27% of total crashes occurred on local streets in urban areas.

WHEN they occurred

Day of week
Fatal crashes and total crashes were both distributed fairly evenly across days of the week. Total crashes were slightly more numerous on Fridays and slightly less numerous than average on Sundays. Fatal crashes were over-represented on weekends: 51% occurred on the three days, Friday, Saturday, and Sunday.

Time of day
During the 1970s and much of the 1980s, fatal crashes, many of which were alcohol related, peaked between 1:00 AM and 2:00 AM. That pattern gradually changed during the last decade. Fatal crashes now follow total crashes in peaking during the afternoon rush hour period. In 1994, 25% of total crashes and 20% of fatal crashes occurred between the hours of 3:00 PM and 6:00 PM. Fatal crashes still rise to a lesser peak between 1:00 AM and 2:00 AM. In 1994, 28 fatal crashes (5% of the total) occurred during that hour.

TABLE 1.01

CRASH, FATALITY, AND INJURY SUMMARY, 1985 - 1994

	1985	1986	1987	1988	1989	1990	1991	1992	1993	1994
Traffic Crashes	99,168	95,460	94,095	102,094	105,996	99,236	101,419	96,808	100,907	99,701
Persons Killed	610	572	530	615	605	568	531	581	538	644
Persons Injured	44,316	42,130	42,091	44,415	45,404	44,634	42,748	43,249	44,987	46,403
Registered Motor Vehicles (Millions of Vehicles)	3.22	3.25	3.31	3.39	3.46	3.52	3.51	3.55	3.48	3.67
Licensed Drivers* (Millions of Drivers)	3.04	3.07	3.10	3.13	3.16	3.18	3.22	3.27	3.28	3.34
Vehicular Miles Traveled (Billions of Miles)	33.1	34.2	35.1	36.4	37.6	38.8	39.3	41.3	42.3	43.4
Fatality Rate Per Hundred Million Vehicle Miles Traveled	1.84	1.67	1.51	1.69	1.61	1.47	1.35	1.41	1.27	1.48
Fatality Rate Per 100,000 Registered Motor Vehicles	18.9	17.6	16.0	18.1	17.5	16.1	15.1	16.4	15.5	17.6
Fatality Rate Per 100,000 Population	14.7	13.6	12.6	14.3	13.9	13.0	12.0	13.0	11.9	14.1
Crash Rate Per Hundred Million Vehicle Miles Traveled	300	279	268	280	282	256	258	235	239	230
Crash Rate Per 100,000 Registered Vehicles	3,080	2,937	2,840	3,012	3,060	2,817	2,890	2,730	2,899	2,720
Crash Rate Per 100,000 Population	2,380	2,266	2,233	2,371	2,435	2,268	2,288	2,161	2,234	2,183

* Permits included.

TABLE 1.02

TRAFFIC CRASH TRENDS
1989 - 1994

	1989	1990	1991	1992	1993	*1989-1993 Average*	1994	% Change from 5 Yr Average	Record	High
Total Crashes	**105,996**	**99,236**	**101,419**	**96,808**	**100,907**	**100,873.2**	**99,701**	**-1.2%**	**123,106**	**(1975)**
Fatal Crashes	**539**	**503**	**469**	**494**	**477**	**496.4**	**550**	**+10.8**	**878**	**(1973)**
Injury Crashes	**31,576**	**30,684**	**28,890**	**29,117**	**30,257**	**30,104.8**	**31,307**	**+4.0**	**33,686**	**(1978)**
Severe	4,111	4,016	3,356	3,387	3,206	3,615.2	3,172	-12.3	5,109	(1984)[1]
Moderate	11,057	10,641	10,421	10,204	10,503	10,565.2	11,057	+4.7	12,326	(1985)[1]
Minor	16,408	16,027	15,113	15,526	16,548	15,924.4	17,078	+7.2	17,078	(1994)[1]
Property Damage Crashes	**73,881**	**68,049**	**72,060**	**67,197**	**70,173**	**70,272.0**	**67,844**	**-3.5**	**94,810**	**(1975)**
Total Injuries	**45,404**	**44,634**	**42,748**	**43,249**	**44,987**	**44,204.4**	**46,403**	**+5.0**	**50,332**	**(1978)**
Severe	5,148	5,015	4,302	4,391	4,139	4,599.0	4,105	-10.7	6,573	(1984)[1]
Moderate	15,431	15,001	14,725	14,554	14,902	14,922.6	15,618	+4.7	17,670	(1985)[1]
Minor	24,825	24,618	23,721	24,304	25,946	24,682.8	26,680	+8.1	26,680	(1994)[1]
Total Fatalities	**605**	**568**	**531**	**581**	**538**	**564.6**	**644**	**+14.1**	**1,060**	**(1968)**
Pedestrian	67	65	61	46	47	57.2	53	-7.3	157	(1971)
Motor Vehicle/Train[2]	15	17	10	9	15	13.2	17	+28.8	62	(1932)
Bicycle	10	8	8	11	9	9.2	16	+73.9	24	(1977)
Motorcycle	37	50	40	28	34	37.8	43	+13.8	121	(1980)
All Terrain Vehicle	5	2	6	1	1	3.0	0	-100.0	9	(1986)
Snowmobile	3	1	2	4	4	2.8	3	+7.1	9	(1984)
Motor Vehicle Occupants	478	431	405	484	439	447.4	519	+16.0	519	(1994)[1]
Fatality Rate[3]	1.61	1.47	1.35	1.41	1.27	1.42	1.48	+4.1	23.6	(1934)
U.S. Fatality Rate[3]	2.2	2.1	1.9	1.8	1.7	1.9	1.7	-10.5	18.0	(1925)
Minnesota Economic Loss (millions)	$619.0	$717.9	$834.1	$965.8	$1,397.8	$906.9	$1,656.6	+82.7	$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

1994 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	27	60	38	30	11	21	37	224
		Female	0	8	26	16	15	11	9	22	107
	Passenger	Male	6	21	17	6	6	3	2	7	68
		Female	12	18	13	11	4	6	5	32	101
	Unknown	Male	1	2	4	0	0	0	0	1	8
		Female	4	0	5	2	0	0	0	0	11
Motorcycle	Operator	Male	0	3	11	4	10	3	1	1	33
		Female	0	0	0	1	2	0	0	0	3
	Passenger	Male	0	0	0	0	0	0	0	0	0
		Female	0	0	2	4	1	0	0	0	7
Motorscooter or Moped	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	1	0	0	0	0	0	1
All Terrain Vehicle	Driver	Male	0	0	0	0	0	0	0	0	0
		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	1	2	0	0	0	0	0	3
		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
Other Motor Vehicle*	Driver	Male	0	2	1	0	0	0	1	1	5
		Female	0	0	0	0	0	0	0	0	0
	Passenger	Male	0	0	0	1	0	0	0	0	1
		Female	0	0	0	0	1	0	0	0	1
	Unknown	Male	0	0	0	0	0	0	0	0	0
		Female	0	0	0	0	0	0	0	0	0
Bicyclist		Male	1	3	1	3	1	0	0	2	11
		Female	1	2	1	0	1	0	0	0	5
Pedestrian		Male	6	4	3	8	1	2	4	6	34
		Female	2	4	2	2	2	1	1	5	19
Total Fatalities		Male	14	65	99	60	48	19	29	55	389
		Female	19	32	50	36	26	18	15	59	255
		Total	33	97	149	96	74	37	44	114	644

* "Other motor vehicle" includes "farm tractor or equipment" (10 year-old male driver, 16 year-old male driver, 68 year-old male driver), "other privately owned vehicle" (39 year old male passenger), and "other vehicle type" (20 year-old male driver, 73 year-old male driver, 49 year-old female passenger).

TABLE 1.04

AGE AND GENDER OF PERSONS KILLED OR INJURED IN 1994 CRASHES

	Persons Killed			Persons Injured		
Age Group	Male	Female	Total	Male	Female	Total*
0 - 4	8	12	20	430	418	861
5 - 9	6	7	13	729	692	1,430
10 - 14	10	7	17	964	969	1,943
15 - 19	55	25	80	3,994	4,218	8,223
20 - 24	61	27	88	3,262	2,959	6,235
25 - 29	38	23	61	2,435	2,418	4,866
30 - 34	33	19	52	2,245	2,284	4,538
35 - 39	27	17	44	1,847	1,964	3,818
40 - 44	28	12	40	1,501	1,667	3,177
45 - 49	20	14	34	1,060	1,293	2,356
50 - 54	11	10	21	806	945	1,756
55 - 59	8	8	16	578	655	1,234
60 - 64	11	5	16	488	548	1,036
65 - 69	18	10	28	407	513	922
70 - 74	16	12	28	377	476	854
75 - 79	13	20	33	314	384	698
80 - 84	12	17	29	172	254	428
85 & Older	14	10	24	132	134	268
Not Stated	0	0	0	600	848	1,760
Total	389	255	644	22,341	23,639	46,403

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

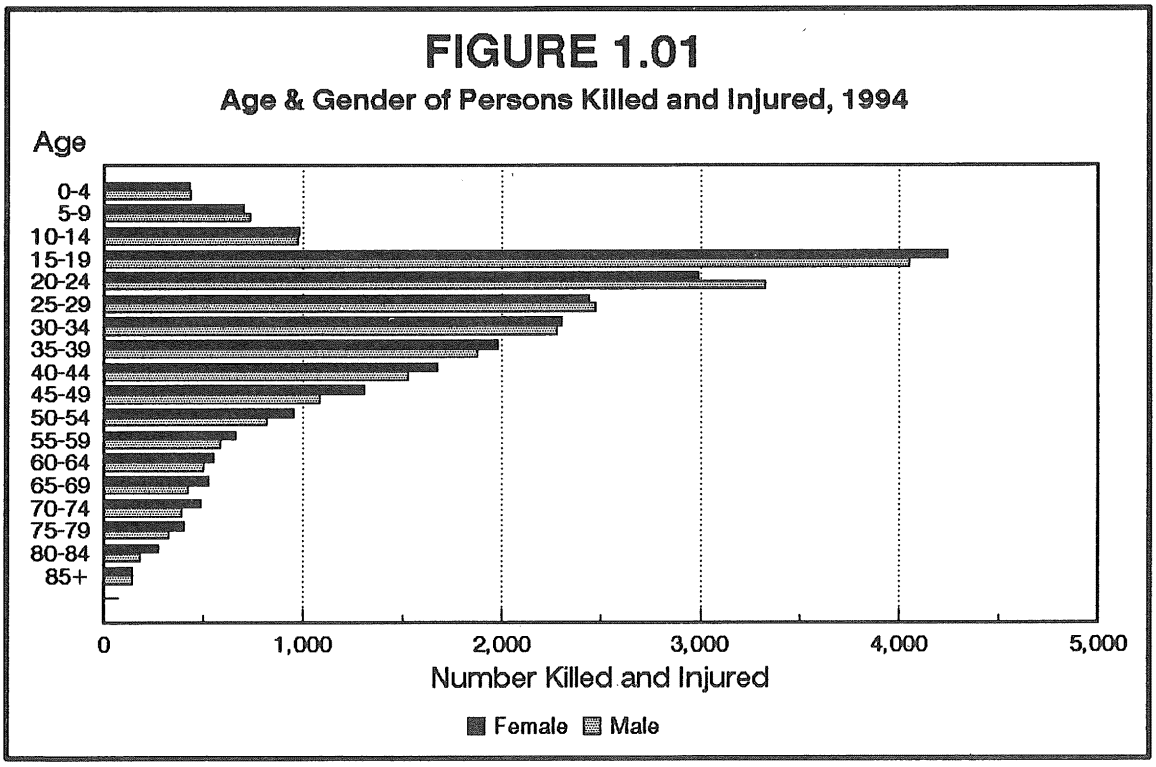


TABLE 1.05

DRIVERS IN 1994 CRASHES BY PHYSICAL CONDITION*

Physical Condition	Drivers in Fatal Crashes	Drivers in Injury Crashes	Drivers in Property Damages Crashes	Drivers in All Crashes
Normal	451	45,147	76,949	122,547
Under the Influence	73	1,919	1,671	3,663
Had Been Drinking	76	1,418	1,228	2,722
Had Been Using Drugs	0	46	40	86
Asleep	7	367	340	714
Fatigued	4	132	142	278
Ill	7	146	62	215
Other	11	246	206	463
Unknown	225	7,038	36,958	44,221
Total	854	56,459	117,596	174,909

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

TABLE 1.06

DRIVERS IN 1994 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	77.6%	79.4%	81.4%	81.9	82.5%	86.1%	86.9%
Parked Motor Vehicle	3.3	2.7	2.3	2.3	2.2	2.6	4.7
Railroad Train	0.1	0.1	0.1	0.1	0.1	0.1	0.0
Bicycle	0.7	0.7	0.7	0.8	0.8	1.0	1.1
Pedestrian	0.7	0.8	0.7	0.7	0.7	0.8	1.4
Deer	1.9	2.8	3.6	4.0	4.6	3.1	0.9
Other Animal	0.3	0.2	0.2	0.3	0.4	0.3	0.0
Fixed Object	8.7	7.9	6.8	6.0	5.0	3.8	3.3
Other Object	0.1	0.2	0.3	0.2	0.3	0.1	0.0
Non-Collision:							
Overturn	5.3	3.8	2.7	2.4	2.0	1.0	0.9
Other Non-Collision	0.2	0.2	0.2	0.2	0.2	0.1	0.0
Other or Unknown	1.2	1.3	1.2	1.2	1.3	1.1	0.9
Total Percent	100.0%	100.0%	100.0%	100.0	100.0%	100.0%	100.0%
Total Drivers	24,962	23,714	20,826	20,862	62,660	10,301	2,453

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 1994 CRASHES

	Drivers in Fatal Crashes				Drivers in All Crashes			
Age Group	Male	Female	Not Stated	Total	Male	Female	Not Stated	Total
14 & Younger	3	1	0	4	169	62	1	232
15 - 19	72	29	0	101	14,681	10,148	133	24,962
20 - 24	96	25	0	121	13,945	9,598	171	23,714
25 - 29	71	20	0	91	12,324	8,345	157	20,826
30 - 34	78	31	0	109	12,399	8,313	150	20,862
35 - 39	60	12	0	72	10,766	7,249	128	18,143
40 - 44	56	19	0	75	8,586	6,017	104	14,707
45 - 49	46	14	0	60	6,879	4,366	78	11,323
50 - 54	27	10	0	37	4,911	3,015	67	7,993
55 - 59	16	7	0	23	3,747	2,102	51	5,900
60 - 64	29	6	0	35	2,948	1,613	33	4,594
65 - 69	24	7	0	31	2,547	1,484	24	4,055
70 - 74	12	6	0	18	2,104	1,372	33	3,509
75 - 79	18	16	0	34	1,592	1,124	21	2,737
80 - 84	14	6	0	20	986	626	10	1,622
85 & Older	12	8	0	20	537	289	5	831
Not Stated	1	0	2	3	1,456	748	6,695	8,899
Total*	635	217	2	854	100,577	66,471	7,861	174,909

* 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, 1994

Age Group	Percentage of All Licensed Drivers	Percentage of Drivers in Fatal Crashes	Injury Crashes	Property Damage Crashes	All Crashes
14 & Younger	0.0%	0.5%	0.2%	0.1	0.1
15 - 19	6.9	11.8	15.6	13.6	14.3
20 - 24	8.7	14.2	14.3	13.2	13.6
25 - 29	9.9	10.7	12.2	11.8	11.9
30 - 34	11.8	12.8	12.1	11.9	11.9
35 - 39	11.9	8.4	10.6	10.3	10.4
40 - 44	10.7	8.8	8.4	8.4	8.4
45 - 49	8.9	7.0	6.4	6.5	6.5
50 - 54	6.7	4.3	4.6	4.6	4.6
55 - 59	5.4	2.7	3.4	3.4	3.4
60 - 64	4.7	4.1	2.5	2.7	2.6
65 - 69	4.5	3.6	2.2	2.4	2.3
70 - 74	4.0	2.1	2.0	2.0	2.0
75 - 79	3.0	4.0	1.7	1.5	1.6
80 - 84	1.9	2.3	0.9	0.9	0.9
85 & Older	1.1	2.3	0.5	0.5	0.5
Not Stated	0.0	0.4	2.4	6.4	5.1
Total Percent*	100.0	100.0	100.0	100.0	100.0
Total Number**	3,340,575	854	56,459	117,596	174,909

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

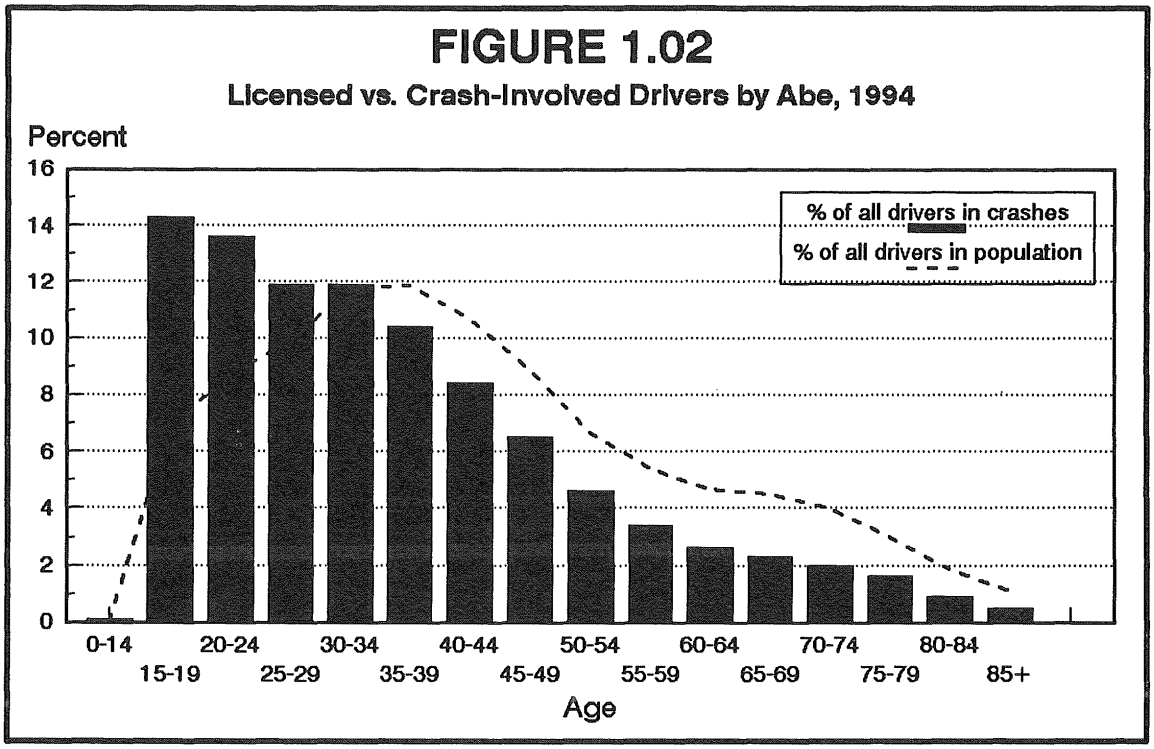


TABLE 1.09

SINGLE-VEHICLE CRASHES: CONTRIBUTING FACTORS, BY PERCENT, WITHIN DRIVER AGE GROUPS, 1994

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	23.4%	23.9%	23.1%	19.7%	17.5%	9.9%	5.6%
Driver Inattention/Distraction	17.9	17.9	17.3	17.9	17.9	24.5	26.8
Physical Impairment	5.8	13.7	13.5	14.6	11.7	11.0	11.8
Driver Inexperience	18.5	4.4	3.0	2.1	1.8	1.6	0.3
Improper/Unsafe Lane Use	3.1	4.3	4.3	4.5	3.9	4.6	9.8
Failure to Yield Right of Way	1.9	2.9	2.6	3.3	3.7	5.3	6.9
Unsafe Backing	1.4	1.4	1.9	1.6	2.5	4.6	4.6
Vision Obscured	1.3	1.3	1.6	1.9	2.8	3.7	4.6
Driving Left of Center--Not Passing	1.4	2.0	1.2	1.4	1.3	2.0	2.0
Improper Turn	0.9	1.1	1.2	1.4	1.5	1.7	1.6
Improper Parking/Starting/Stopping	0.4	0.7	0.3	1.0	1.1	2.4	3.6
Disregard for Traffic Control Device	0.6	0.8	1.0	1.0	0.9	0.8	1.3
Improper Passing/Overtaking	0.5	0.7	0.6	0.7	0.6	0.5	1.3
Following Too Closely	0.5	0.4	0.9	0.8	0.6	0.6	0.3
Driver on Cell Phone or CB Radio	0.1	0.0	0.1	0.2	0.1	0.0	0.0
Failure to Use Lights	0.1	0.1	0.1	0.0	0.1	0.0	0.3
Impeding Traffic	0.1	0.0	0.0	0.0	0.1	0.3	0.0
Other Human Factors	2.3	2.5	2.1	2.3	2.6	5.4	5.2
Vehicular Factors							
Skidding	7.9	7.3	7.6	7.4	8.5	6.2	3.9
Defective Equipment	1.1	1.4	1.5	1.9	1.8	1.1	1.0
Other Vehicular Factor	1.0	1.6	1.5	1.7	2.0	1.2	1.3
Miscellaneous Factors							
Weather	6.4	7.3	9.7	9.9	11.8	7.4	3.6
Other	3.4	4.1	4.9	4.8	5.1	5.2	4.3
Total Percent	100.0%	100.0%	100.0%	100.0%	100.0%	100.0%	100.0%
Total Contributing Factors Cited	6,534	4,913	3,360	2,945	7,297	969	306
Drivers for Whom There Was "No Clear Contributing Factor"	876	1,007	924	1,034	3,332	384	55
Total Number of Drivers	5,303	4,512	3,480	3,399	9,752	1,293	293

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, 1994

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	23.2%	23.7%	23.8%	22.9%	22.8%	23.9%	22.4%
Failure to Yield Right of Way	20.0	17.7	16.4	17.8	20.5	32.4	40.4
Illegal or Unsafe Speed	10.3	12.1	11.6	9.7	8.6	3.9	2.0
Following Too Closely	9.0	10.2	11.1	10.4	8.8	4.6	2.5
Disregard of Traffic Control Device	3.8	4.9	4.5	5.0	4.4	5.8	6.1
Improper or Unsafe Lane Use	3.4	4.1	4.3	4.2	4.6	5.0	5.4
Vision Obscured	3.0	3.1	3.1	3.4	3.6	3.8	2.5
Improper Turn	2.8	2.5	2.4	2.4	2.8	4.3	4.9
Driver Inexperience	7.5	1.5	1.0	0.6	0.5	0.3	0.0
Physical Impairment	0.6	1.9	2.5	3.1	2.3	1.4	2.2
Improper Passing or Overtaking	1.8	1.9	1.7	2.0	1.8	1.3	1.2
Improper Parking, Starting, or Stopping	1.3	1.3	1.3	1.1	1.4	2.0	1.8
Unsafe Backing	1.0	1.1	1.0	1.6	1.6	1.4	1.1
Driving Left of Center (Not Passing)	1.2	1.2	1.1	1.2	1.2	1.1	1.0
Improper or No Signal	0.4	0.4	0.4	0.5	0.7	0.5	0.5
Impeding Traffic	0.1	0.2	0.4	0.4	0.3	0.2	0.6
Failure to Use Lights	0.2	0.2	0.2	0.1	0.2	0.1	0.1
Driver on Cell Phone or CB Radio	0.0	0.0	0.1	0.1	0.1	0.0	0.0
Other Human Factors	0.4	0.6	0.6	0.7	0.7	0.6	0.9
Vehicular Factors							
Skidding	3.6	4.1	4.2	4.3	4.3	2.0	1.0
Defective Equipment	1.1	0.8	0.7	1.0	0.7	0.5	0.1
Other Vehicular Factor	0.3	0.5	0.5	0.3	0.5	0.3	0.3
Miscellaneous Factors							
Weather	3.5	4.3	5.0	5.0	5.5	2.9	1.5
Other	1.5	1.8	2.4	2.3	2.3	1.8	1.4
Total Percent	100.0%	100.0%	100.0%	100.0%	100.0%	100.0%	100.0%
Total Contributing Factors Cited	17,539	13,671	10,667	9,917	28,024	6,387	2,009
Drivers for Whom There Was "No Clear Contributing Factor"	6,271	7,419	7,495	7,987	25,307	3,353	511
Total Number of Drivers	19,619	19,125	17,246	17,378	52,642	8,974	2,155

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, 1994

Vehicle Type	Killed	Injured			
		Severe	Moderate	Minor	Total
Automobile	386	2,575	10,392	19,757	32,724
Pickup Truck	97	423	1,867	2,789	5,079
Van	30	218	935	1,819	2,972
Motorhome/Camper	0	2	10	13	25
Taxicab	0	6	36	56	98
Police Vehicle	0	3	46	73	122
Fire Department Vehicle	0	0	4	6	10
School Bus	0	4	23	132	159
Other Bus	0	0	62	41	103
Ambulance	0	3	10	5	18
Military Vehicle	0	1	6	6	13
Snowmobile	3	11	19	27	57
All Terrain Vehicle	0	10	17	14	41
Farm Tractor or Equipment	3	7	17	8	32
Motorcycle*	43	308	681	335	1,324
Motorscooter/Motorbike*	3	9	18	6	33
Motorized Bicycle (Moped)*	0	6	6	7	19
Hit and Run Vehicle	0	12	83	90	185
Road Maintenance Vehicle	0	1	3	5	9
Single Truck (2-axle, 6-tire)	2	4	32	56	92
Single Truck (3 or more axles)	1	8	24	29	61
Single Truck with Trailer	0	2	7	19	28
Truck Tractor with No Trailer	0	0	4	5	9
Truck Tractor with Semi Trailer	3	7	71	101	179
Truck Tractor with Double Trailers	0	0	1	5	6
Other or Unknown Truck Type	0	1	4	13	18
Other or Unknown Motor Vehicle	4	31	63	134	228
Bicycle	16	157	663	539	1,359
Pedestrian	53	296	514	590	1,400
Total	644	4,105	15,618	26,680	46,403

* 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, 1985 - 1994

Age	1985	1986	1987	1988	1989	1990	1991	1992	1993	1994
15	13,116	11,920	12,301	13,387	14,072	12,832	15,075	16,626	18,047	16,031
16	47,959	48,944	45,397	42,178	41,544	42,885	43,708	45,744	47,600	48,754
17	56,670	57,829	59,321	53,900	49,458	48,496	51,161	50,796	51,688	54,960
18	58,553	59,910	61,276	62,772	56,250	52,070	51,293	54,442	53,894	55,472
19	62,361	60,626	61,767	62,637	63,653	58,230	53,876	53,307	55,417	55,793
20	65,449	62,040	60,229	61,076	62,770	63,375	57,902	54,591	53645	56,765
Under 21	304,108	301,269	300,291	295,950	287,747	277,888	273,015	275,506	280,291	287,775
15 - 19	238,659	239,229	240,062	234,874	224,977	214,513	215,113	220,915	226,646	231,010
20 - 24	370,613	352,170	336,289	326,738	319,048	316,504	312,463	307,139	297,918	290,752
25 - 29	405,120	402,984	399,409	396,744	386,440	372,178	357,464	345,255	336,007	330,676
30 - 34	370,634	374,138	380,972	385,508	393,168	398,645	402,273	404,717	401,155	393,253
35 - 39	322,827	329,018	335,262	344,613	355,869	364,385	371,856	383,109	386,805	396,206
40 - 44	241,313	257,213	269,275	280,236	298,889	316,265	324,986	335,328	342,988	355,845
45 - 49	195,594	202,083	213,358	221,666	229,993	234,494	252,944	266,872	276,715	296,176
50 - 54	170,984	171,833	174,453	179,129	184,310	189,266	197,122	210,453	216,632	225,468
55 - 59	169,847	168,037	165,791	164,032	163,520	164,023	165,779	169,769	173,423	178,920
60 - 64	161,519	161,268	161,733	161,449	160,260	159,799	158,552	157,248	156,044	156,192
65 - 69	139,155	141,584	143,841	144,830	147,857	148,161	148,934	149,867	149,118	148,961
70 - 74	112,352	115,619	118,338	120,753	121,638	122,965	126,115	128,653	128,828	132,442
75 - 79	77,369	80,947	85,032	86,901	89,355	92,378	96,235	98,605	98,970	101,494
80 - 84	42,850	46,817	50,812	51,922	52,667	55,000	58,863	60,829	60,181	65,022
85 & Older	20,482	23,305	27,326	27,634	27,179	29,915	34,455	35,198	32,723	38,158
Total	3,039,318	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

* Information provided by Department of Public Safety, Driver and Vehicle Service Division. Counts of licensed drivers include drivers who only hold learner's permits. The column for 1993 is updated from last year.

TABLE 1.13

MOTOR VEHICLE REGISTRATIONS, 1985 - 1994

Type of Vehicle*	1985	1986	1987	1988	1989	1990	1991	1992	1993	1994
Passenger Cars	2,339,782	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
Pickups	500,744	501,646	509,070	515,968	526,212	528,342	520,339	525,205	511,677	584,044
Trucks	118,990	124,323	127,888	135,918	137,690	140,874	139,263	141,144	144,367	145,413
Recreational Vehicles	33,133	32,026	33,120	34,226	34,805	35,328	35,515	36,290	36,826	37,049
Motorcycles	151,449	141,261	134,590	128,956	123,308	120,081	117,492	116,124	114,548	113,337
Motorized Bicycles	13,034	12,047	12,311	10,529	9,987	9,306	8,703	7,947	7,304	6,752
School Buses	4,185	4,598	5,095	5,115	5,026	5,037	5,109	5,058	5,052	5,168
Buses	3,575	3,405	3,502	3,879	4,217	3,780	3,822	3,804	4,039	4,103
Van Pool	180	209	229	253	248	259	264	256	319	300
Tax Exempt Vehicles	53,510	35,741	37,659	35,969	38,106	37,739	39,727	38,829	40,773	40,263
Motor Vehicle Subtotal	3,218,582	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
Trailers	602,795	663,559	653,630	726,054	708,693	780,484	754,942	830,527	807,187	894,909
Collectors' Vehicles	45,269	50,702	56,146	61,280	66,860	72,031	76,947	82,116	87,405	92,775
Total Registrations	3,866,646	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

* 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 1994 CRASHES

Motor Vehicle Type*	Vehicles in Fatal Crashes	Vehicles in Injury Crashes	Vehicles in Property Damage Crashes	Vehicles in All Crashes
Automobile	488	40,482	83,077	124,047
Pickup Truck	165	7,949	19,133	27,247
Van	56	3,817	8,579	12,452
Motorhome/Camper	0	35	110	145
Taxicab	0	142	309	451
Police Vehicle	1	169	328	498
Fire Department Vehicle	0	20	48	68
School Bus	2	217	625	844
Other Bus	1	110	275	386
Ambulance	1	18	38	57
Military Vehicle	1	18	39	58
Snowmobile	3	59	38	100
All Terrain Vehicle	0	31	7	38
Farm Tractor or Equipment	5	75	104	184
Motorcycle*	44	1,179	192	1,415
Motorscooter/Motorbike*	3	33	4	40
Motorized Bicycle (Moped)*	0	16	2	18
Hit and Run Vehicle	8	1,219	6,035	7,262
Road Maintenance Vehicle	2	41	187	230
Single Truck (2-axle, 6-tire)	11	320	852	1,183
Single Truck (3 or more axles)	12	175	337	524
Single Truck with Trailer	3	125	290	418
Truck Tractor with No Trailer	0	36	107	143
Truck Tractor with Semi Trailer	53	656	1,718	2,427
Truck Tractor with Double Trailers	0	11	30	41
Other or Unknown Truck Type	2	93	497	592
Other or Unknown Motor Vehicle	9	369	1,107	1,485
Total**	870	57,415	124,068	182,353

* 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

1994 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	269	21,063	45,546	66,878	338	33,540	5.1
Parked Motor Vehicle	5	629	5,311	5,945	6	794	1.0
Railroad Train	14	51	79	144	17	75	118.1
Bicycle	16	1,302	80	1,398	16	1,345	11.4
Pedestrian	50	1,276	0	1,326	51	1,350	38.5
Deer	1	339	5,547	5,887	1	406	0.2
Other Animal	1	97	383	481	2	122	4.2
Fixed Object	91	3,414	7,195	10,700	106	4,466	9.9
Other Object	0	35	195	230	0	40	0.0
Non-Collision:							
Overturn	87	2,505	2,100	4,692	91	3,536	19.4
Fire/Explosion	1	11	249	261	1	16	3.8
Submersion	3	17	41	61	3	25	49.2
Other or Unknown	12	568	1,118	1,698	12	688	7.1
Total	550	31,307	67,844	99,701	644	46,403	6.5

TABLE 1.16

1994 "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	3	744	2,753	3,500	3	1,030
Parked Motor Vehicle	0	46	2,293	2,339	0	50
Railroad Train	0	0	3	3	0	0
Bicycle	1	134	23	158	1	136
Pedestrian	4	174	0	178	4	179
Deer	0	0	1	1	0	0
Other Animal	0	1	3	4	0	1
Fixed Object	0	70	780	850	0	101
Other Object	0	2	12	14	0	2
Non-Collision:						
Overturn	0	16	31	47	0	20
Fire/Explosion	0	0	3	3	0	0
Other or Unknown	0	14	95	109	0	20
Total	8	1,201	5,997	7,206	8	1,539

TABLE 1.17

1994 CRASHES BY TRAFFIC CONTROL DEVICE

Traffic Control Device	Fatal Crashes	Personal Injury Crashes	Property Damage Crashes	Total Crashes	Killed	Injured
Not Applicable	379	16,547	34,188	51,114	434	24,241
Traffic Signal	36	7,052	12,241	19,329	40	10,449
Overhead Flashers	2	130	315	447	2	206
Stop Sign-All Approaches	5	552	1,200	1,757	5	801
Other Stop Sign	79	4,655	8,350	13,084	103	7,290
Yield Sign	13	636	1,164	1,813	16	1,034
Flagman, Officer, or School Patrol	0	41	95	136	0	57
School Bus Stop Arm	1	39	43	83	1	68
School Zone Sign	1	6	21	28	1	7
No Passing Zone	18	253	407	678	20	427
RR Crossing Gate	0	16	28	44	0	26
RR Flashing Lights	1	19	36	56	1	26
RR Crossing Stop Sign	3	9	15	27	4	14
RR Other	5	36	55	96	7	56
Other	5	423	2,299	2,727	8	580
Unknown	2	893	7,387	8,282	2	1,121
Total	550	31,307	67,844	99,701	644	46,403

TABLE 1.18

1994 CRASHES BY WEATHER CONDITION

Weather Condition	Fatal Crashes	Personal Injury Crashes	Property Damage Crashes	Total Crashes	Killed	Injured
Clear	307	17,116	35,904	53,327	362	25,264
Cloudy	161	8,673	17,357	26,191	182	13,059
Rain	26	2,411	4,428	6,865	31	3,649
Snow	21	1,705	5,270	6,996	31	2,463
Sleet/Hail/Freezing Rain	4	268	732	1,004	4	392
Fog/Smog/Smoke	16	284	604	904	18	442
Blowing Sand/Dust	8	271	785	1,064	8	377
Severe Crosswinds	1	33	74	108	1	54
Other	0	84	276	360	0	125
Not Stated/Unknown	6	462	2,414	2,882	7	578
Total	550	31,307	67,844	99,701	644	46,403

TABLE 1.19

CONTRIBUTING FACTORS IN 1994 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	11.4%	22.4%	20.9%	124	15,201
Failure to Yield Right of Way	12.2	16.6	15.7	136	12,154
Illegal/Unsafe Speed	14.9	12.1	11.9	152	8,481
Following Too Closely	0.4	6.8	7.0	4	4,397
Improper/Unsafe Lane Use	5.4	3.3	5.6	55	2,256
Disregard of Traffic Control Device	4.4	5.1	2.9	51	4,001
Physical Impairment	13.3	5.5	2.7	127	3,860
Driver Inexperience	3.2	3.5	2.9	33	2,596
Vision Obscured	2.7	2.7	2.9	27	1,650
Improper Turn	1.2	1.9	2.9	11	1,459
Improper Passing/Overtaking	1.5	1.1	1.9	20	777
Unsafe Backing	0.1	0.4	2.3	1	233
Improper Parking/Starting/Stopping	0.9	1.2	1.6	10	848
Driving Left of Center (Not Passing)	8.4	1.6	1.1	93	1,263
Pedestrian Violation or Error	3.3	1.5	0.0	29	699
Improper or No Signal	0.3	0.3	0.4	3	213
Impeding Traffic	0.0	0.3	0.2	0	187
Failure to Use Lights	0.6	0.2	0.1	5	163
Other Human Factor	1.6	1.3	1.0	18	882
Vehicular Factors					
Skidding	4.2	3.7	5.1	42	2,383
Defective Equipment	1.0	1.0	1.0	11	635
Other Vehicular Factor	0.9	0.5	0.8	8	361
Miscellaneous Factors					
Weather	3.0	4.2	5.9	32	2,406
Other	5.3	2.9	3.2	39	1,598
Total Percent	100.0%	100.0%	100.0%		
Total contributing factors cited	915	47,438	75,393		
Vehicles for Which There Was "No Clear Contributing Factor"	316	24,535	48,564		
Total Number of Vehicles	943	60,174	124,147		

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

1994 CRASHES BY LIGHT CONDITION

Light Condition	Fatal Crashes	Personal Injury Crashes	Property Damage Crashes	Total Crashes	Killed	Injured
Daylight	303	20,946	42,492	63,741	365	31,077
Dawn/Dusk	28	2,004	5,119	7,151	33	2,879
Dark/Street Lights On	53	4,933	10,651	15,637	56	7,256
Dark/No Street Lights	154	2,995	6,830	9,979	174	4,629
Other/Unknown	12	429	2,752	3,193	16	562
Total	550	31,307	67,844	99,701	644	46,403

TABLE 1.21

1994 CRASHES BY ROAD SURFACE CONDITION

Road Surface Condition	Fatal Crashes	Personal Injury Crashes	Property Damage Crashes	Total Crashes	Killed	Injured
Dry	419	20,545	38,882	59,846	492	30,698
Wet	56	4,951	9,315	14,322	62	7,471
Snow/Slush	14	1,531	4,603	6,148	21	2,217
Ice or Packed Snow	44	3,559	11,968	15,571	50	5,045
Other	8	399	819	1,226	9	584
Not Stated/Unknown	9	322	2,257	2,588	10	388
Total	550	31,307	67,844	99,701	644	46,403

TABLE 1.22

1994 CRASHES BY ROAD DESIGN

Road Design	Fatal Crashes	Personal Injury Crashes	Property Damage Crashes	Total Crashes	Killed	Injured
Freeway (Including Ramps)	50	2,854	7,368	10,272	65	4,053
Other Divided Highway	67	4,584	6,548	11,199	76	7,103
One-Way Street	4	1,009	1,318	2,331	4	1,474
4-6 Lanes Undivided	33	5,687	8,637	14,357	38	8,380
3 Lanes	6	325	483	814	6	517
2 Lanes--Two-Way	382	13,998	26,044	40,424	447	21,152
Alley/Driveway	1	205	535	741	1	236
Other	6	445	866	1,317	6	633
Not Stated/Unknown	1	2,200	16,045	18,246	1	2,855
Total	550	31,307	67,844	99,701	644	46,403

TABLE 1.23

1994 CRASHES BY TYPE OF ROADWAY

Type of Roadway	Fatal Crashes	Personal Injury Crashes	Property Damage Crashes	Total Crashes	Killed	Injured
Urban						
Interstate	22	2,018	5,779	7,819	27	2,754
Trunk Highway	68	5,945	11,600	17,613	76	8,841
County State Aid Highway	38	5,637	10,447	16,122	44	8,332
County Road	3	290	561	854	3	436
Local Street	36	7,594	18,896	26,526	37	10,625
Total	167	21,484	47,283	68,934	187	30,988
Rural						
Interstate	21	578	1,704	2,303	31	908
Trunk Highway	193	4,100	8,297	12,590	229	6,870
County State Aid Highway	121	2,942	5,183	8,246	138	4,484
County Road	16	441	778	1,235	18	675
Township Road	25	803	1,159	1,987	34	1,233
Local Street	4	798	2,789	3,591	4	1,043
Other Road	3	161	651	815	3	202
Total	383	9,823	20,561	30,767	457	15,415
All Roadways						
Interstate	43	2,596	7,483	10,122	58	3,662
Trunk Highway	261	10,045	19,897	30,203	305	15,711
County State Aid Highway	159	8,579	15,630	24,368	182	12,816
County Road	19	731	1,339	2,089	21	1,111
Township Road	25	803	1,159	1,987	34	1,233
Local Street	40	8,392	21,685	30,117	41	11,668
Other Road	3	161	651	815	3	202
Total	550	31,307	67,844	99,701	644	46,403

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

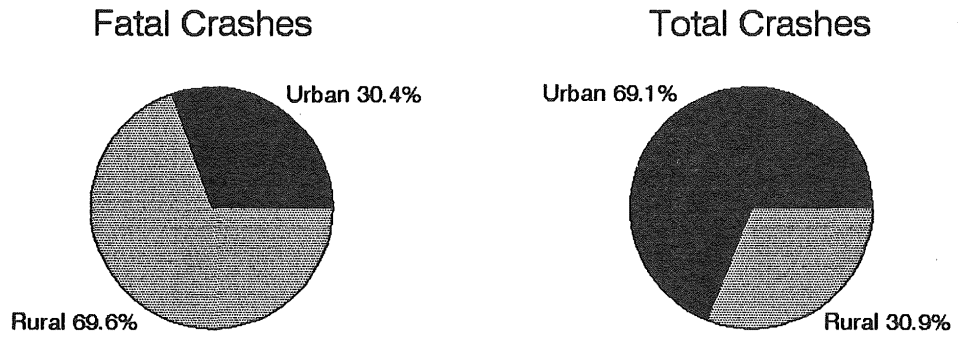
TABLE 1.24

1994 CRASHES BY POPULATION OF AREA

Population of City or Township	Personal Fatal Crashes	Property Injury Crashes	Damage Crashes	Total Crashes	Killed	Injured
100,000 & Over	34	6,608	15,156	21,798	37	9,401
50,000 - 99,999	18	3,225	6,302	9,545	22	4,731
25,000 - 49,999	34	4,857	10,419	15,310	41	6,898
10,000 - 24,999	57	4,707	10,615	15,379	60	6,867
5,000 - 9,999	24	2,087	4,791	6,902	27	3,091
2,500 - 4,999	12	887	2,134	3,033	18	1,344
1,000 - 2,499	12	632	1,475	2,119	12	951
Under 1,000	359	8,304	16,952	25,615	427	13,120
Total	550	31,307	67,844	99,701	644	46,403

FIGURE 1.03

Fatal vs Total Crashes, by Location, 1994



"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

1994 COUNTY CRASH REPORT

County	1994 Crashes: Fatal Crashes	Personal Injury Crashes	Property Damage Crashes	Total Crashes	Average Crashes 1989-1993	Number Killed 1994	Average Killed 1989-1993	Number Injured 1994	Average Injured 1989-1993
Aitkin	5	89	169	263	260	5	5	146	128
Anoka	27	1,741	3,292	5,060	4,951	31	20	2,612	2,543
Becker	11	181	248	440	453	14	5	289	271
Beltrami	4	207	544	755	715	7	5	310	314
Benton	2	261	477	740	725	3	7	409	357
Big Stone	0	17	65	82	100	0	1	32	35
Blue Earth	4	468	1,083	1,555	1,542	6	8	658	574
Brown	4	180	336	520	468	4	3	251	203
Carlton	6	139	272	417	505	8	7	225	251
Carver	7	388	745	1,140	1,064	7	9	582	538
Cass	11	148	258	417	402	11	10	292	235
Chippewa	5	62	149	216	203	5	4	103	111
Chisago	9	177	465	651	684	12	7	264	320
Clay	6	302	904	1,212	1,064	6	7	446	450
Clearwater	5	37	70	112	114	5	1	72	61
Cook	0	44	99	143	178	0	1	70	68
Cottonwood	2	71	115	188	173	3	3	119	97
Crow Wing	8	400	783	1,191	1,081	8	11	681	557
Dakota	17	1,712	3,411	5,140	5,092	19	20	2,551	2,283
Dodge	3	75	187	265	260	4	5	118	117
Douglas	11	226	680	917	848	17	6	382	342
Faribault	1	72	156	229	221	1	4	111	104
Fillmore	4	119	204	327	367	5	4	179	174
Freeborn	4	204	507	715	723	4	5	291	295
Goodhue	8	314	780	1,102	1,077	8	11	477	475
Grant	0	39	64	103	99	0	1	52	38
Hennepin	59	9,271	19,241	28,571	29,077	65	61	13,239	12,241
Houston	2	74	226	302	321	3	4	115	133
Hubbard	5	95	140	240	263	5	3	170	161
Isanti	3	184	340	527	542	5	6	302	277

TABLE 1.25 CONTINUED

1994 COUNTY CRASH REPORT

County	1994 Crashes: Fatal Crashes	Personal Injury Crashes	Property Damage Crashes	Total Crashes	Average Crashes 1989-1993	Number Killed 1994	Average Killed 1989-1993	Number Injured 1994	Average Injured 1989-1993
Itasca	5	230	459	694	704	6	11	355	392
Jackson	7	57	150	214	212	8	2	87	101
Kanabec	2	86	135	223	234	2	2	145	134
Kandiyohi	10	267	536	813	838	18	12	447	442
Kittson	0	27	52	79	82	0	1	35	33
Koochiching	3	96	134	233	297	6	4	163	144
Lac Qui Parle	2	29	85	116	97	4	3	48	51
Lake	1	57	148	206	243	1	4	85	101
Lake of The Woods	2	22	46	70	72	2	1	32	34
Le Sueur	5	137	366	508	510	7	7	227	192
Lincoln	0	29	90	119	105	0	2	46	41
Lyon	4	141	384	529	437	6	5	210	202
Mcleod	13	221	445	679	690	14	5	361	326
Mahnomen	5	38	31	74	65	6	2	80	55
Marshall	4	49	70	123	143	4	3	75	80
Martin	4	108	304	416	406	4	3	159	190
Meeker	2	109	227	338	371	2	5	174	148
Mille Lacs	6	141	207	354	379	6	5	225	243
Morrison	4	159	339	502	501	4	8	271	269
Mower	2	199	535	736	748	2	5	301	293
Murray	0	33	77	110	125	0	2	44	67
Nicollet	4	137	379	520	506	4	6	212	188
Nobles	3	124	356	483	385	3	2	187	150
Norman	5	33	69	107	97	5	2	55	57
Olmsted	10	703	1,635	2,348	2,521	11	10	1,026	1,052
Otter Tail	13	266	667	946	918	13	10	423	453
Pennington	5	131	154	290	273	6	2	192	132
Pine	3	187	337	527	460	5	6	301	249
Pipestone	2	46	96	144	169	2	2	63	74
Polk	6	173	405	584	528	7	6	281	249

TABLE 1.25 CONTINUED

1994 COUNTY CRASH REPORT

County	1994 Crashes: Fatal Crashes	Personal Injury Crashes	Property Damage Crashes	Total Crashes	Average Crashes 1989-1993	Number Killed 1994	Average Killed 1989-1993	Number Injured 1994	Average Injured 1989-1993
Pope	3	45	106	154	150	3	2	63	71
Ramsey	24	4,010	9,901	13,935	14,640	28	26	5,697	5,495
Red Lake	4	19	54	77	63	6	1	29	24
Redwood	3	92	162	257	247	3	3	132	133
Renville	8	94	172	274	254	10	7	151	148
Rice	5	310	712	1,027	1,055	8	10	464	466
Rock	1	54	165	220	225	1	1	80	81
Roseau	1	53	152	206	233	1	4	81	95
St. Louis	27	1,030	2,096	3,153	3,606	32	24	1,534	1,630
Scott	13	433	951	1,397	1,333	13	11	624	623
Sherburne	10	265	571	846	786	12	8	424	416
Sibley	3	65	152	220	255	3	4	98	97
Stearns	17	990	1,961	2,968	2,959	21	15	1,475	1,337
Steele	6	195	590	791	750	6	5	279	273
Stevens	1	46	89	136	138	1	2	62	56
Swift	4	49	83	136	122	5	2	79	64
Todd	3	129	289	421	404	4	4	206	211
Traverse	0	14	24	38	43	0	1	18	19
Wabasha	7	112	257	376	382	7	4	179	161
Wadena	3	76	158	237	271	5	1	115	127
Waseca	2	79	242	323	339	3	4	115	123
Washington	11	869	1,987	2,867	2,816	13	16	1,277	1,206
Watonwan	4	48	140	192	188	4	2	74	85
Wilkin	1	59	126	186	175	1	2	82	94
Winona	9	329	841	1,179	1,178	9	7	433	466
Wright	14	451	822	1,287	1,265	15	16	686	666
Yellow Medicine	1	58	108	167	136	1	2	87	74
Unknown	0	1	5	6	170	0	0	1	69
Total	550	31,307	67,844	99,701	100,873	644	565	46,403	44,204

TABLE 1.26

1994 CRASHES IN CITIES OF 2,500 OR MORE POPULATION

City	Fatal Crashes	Personal Injury Crashes	Property Damage Crashes	Total Crashes	Killed	Injured
Afton	1	23	54	78	3	31
Albert Lea	1	116	276	393	1	158
Alexandria	1	118	349	468	1	161
Andover	3	75	154	232	3	117
Anoka	3	153	368	524	3	231
Apple Valley	1	185	281	467	1	288
Arden Hills	2	90	252	344	2	124
Aurora	0	8	19	27	0	9
Austin	1	129	347	477	1	193
Baxter	0	60	105	165	0	91
Bayport	0	7	20	27	0	11
Belle Plaine	0	15	51	66	0	21
Bemidji	0	103	329	432	0	135
Benson	0	10	32	42	0	12
Big Lake	0	15	33	48	0	20
Blaine	4	295	502	801	5	432
Bloomington	4	763	1,716	2,483	5	1,050
Blue Earth	0	4	54	58	0	7
Brainerd	0	146	399	545	0	228
Branch	1	20	42	63	1	34
Breckenridge	0	20	70	90	0	26
Brooklyn Center	1	312	439	752	1	447
Brooklyn Park	3	509	509	1021	3	806
Buffalo	0	58	112	170	0	88
Burnsville	2	356	692	1,050	3	532
Byron	2	7	12	21	2	13
Caledonia	0	9	31	40	0	16
Cambridge	0	40	115	155	0	65
Cannon Falls	0	8	41	49	0	9
Champlin	0	81	138	219	0	119
Chanhassen	1	111	257	369	1	162
Chaska	0	64	152	216	0	95
Chisholm	0	15	54	69	0	17
Circle Pines	0	23	29	52	0	35
Cloquet	4	60	95	159	6	108
Cold Spring	0	7	36	43	0	10
Columbia Heights	2	94	176	272	2	126
Coon Rapids	2	427	796	1,225	2	667
Corcoran	0	22	36	58	0	32
Cottage Grove	0	65	228	293	0	92
Crookston	1	45	106	152	1	58
Crystal	0	129	176	305	0	183
Dayton	1	17	46	64	1	22
Deephaven	0	8	17	25	0	13
Delano	0	16	49	65	0	20
Detroit Lakes	1	61	102	164	1	97
Dilworth	0	5	23	28	0	13
Duluth	6	463	859	1,328	8	686
Eagan	3	233	593	829	4	337
East Bethel	2	61	84	147	3	104

TABLE 1.26 CONTINUED

1994 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	2	40	131	173	2	61
Eden Prairie	4	286	741	1,031	4	391
Edina	2	289	640	931	2	412
Elk River	3	86	173	262	4	138
Ely	0	14	49	63	0	23
Eveleth	0	11	52	63	0	12
Excelsior	1	17	33	51	1	19
Fairmont	2	61	207	270	2	87
Falcon Heights	0	34	79	113	0	44
Faribault	0	128	297	425	0	188
Farmington	0	30	72	102	0	43
Fergus Falls	1	104	249	354	1	166
Forest Lake	0	50	107	157	0	73
Fridley	1	258	427	686	1	373
Gilbert	0	2	30	32	0	4
Glencoe	0	22	46	68	0	30
Glenwood	0	8	30	38	0	11
Golden Valley	2	208	481	691	2	292
Goodview	0	6	24	30	0	6
Grand Rapids	0	51	199	250	0	85
Granite Falls	0	12	51	63	0	18
Ham Lake	3	59	116	178	4	96
Hastings	1	96	204	301	1	135
Hermantown	1	36	65	102	1	63
Hibbing	4	134	261	399	4	205
Hopkins	0	106	253	359	0	140
Hoyt Lakes	0	3	22	25	0	4
Hugo	1	16	39	56	1	25
Hutchinson	1	84	167	252	1	126
Independence	0	28	62	90	0	47
International Falls	0	46	63	109	0	74
Inver Grove Heights	2	144	275	421	2	210
Jackson	0	9	25	34	0	11
Jordan	0	12	46	58	0	15
Kasson	0	10	39	49	0	13
La Crescent	0	11	55	66	0	15
Lake City	0	18	68	86	0	31
Lake Elmo	1	62	97	160	1	98
Lakeville	3	138	292	433	3	208
Lauderdale	0	28	63	91	0	45
Le Sueur	0	9	45	54	0	11
Lindstrom	0	3	34	37	0	3
Lino Lakes	1	44	161	206	1	62
Litchfield	0	39	80	119	0	66
Little Canada	2	95	230	327	2	130
Little Falls	0	48	128	176	0	77
Long Prairie	0	8	36	44	0	13
Luverne	0	28	73	101	0	46
Mahtomedi	0	13	37	50	0	25

TABLE 1.26 CONTINUED

1994 CRASHES IN CITIES OF 2,500 OR MORE POPULATION

City	Fatal Crashes	Personal Injury Crashes	Property Damage Crashes	Total Crashes	Killed	Injured
Mankato	0	325	774	1,099	0	455
Maple Grove	1	153	372	526	1	233
Maplewood	0	328	638	966	0	455
Marshall	0	57	204	261	0	74
Medina	2	31	91	124	3	63
Melrose	0	11	42	53	0	13
Mendota Heights	0	75	154	229	0	110
Minneapolis	24	4,321	9,366	13,711	25	6,138
Minnetonka	1	328	604	933	1	452
Minnetrista	2	36	77	115	4	59
Montevideo	0	37	92	129	0	55
Monticello	0	48	121	169	0	68
Moorhead	1	205	681	887	1	283
Mora	1	27	37	65	1	44
Morris	0	19	60	79	0	28
Mound	0	39	62	101	0	46
Mounds View	3	61	110	174	3	89
Mountain Iron	1	14	35	50	2	21
New Brighton	1	101	307	409	1	148
New Hope	0	115	142	257	0	165
Newport	2	65	144	211	2	85
New Prague	1	5	30	36	1	8
New Ulm	2	104	209	315	2	143
Northfield	1	59	128	188	1	84
North Mankato	0	40	121	161	0	57
North Oaks	0	7	23	30	0	8
North St. Paul	1	87	133	221	1	120
Oakdale	1	78	175	254	1	112
Oak Park Heights	0	21	59	80	0	33
Olivia	0	13	25	38	0	17
Orono	1	59	140	200	1	88
Ortonville	0	5	20	25	0	5
Osseo	0	41	79	120	0	60
Otsego	2	25	48	75	2	41
Owatonna	2	105	321	428	2	130
Park Rapids	0	15	48	63	0	29
Pine City	0	21	36	57	0	33
Pipestone	0	20	42	62	0	28
Plainview	0	11	20	31	0	17
Plymouth	0	278	633	911	0	391
Princeton	0	33	55	88	0	47
Prior Lake	1	86	76	163	1	119
Proctor	0	7	19	26	0	9
Ramsey	4	67	150	221	4	112
Red Wing	0	115	343	458	0	162
Redwood Falls	0	24	69	93	0	32
Richfield	2	388	805	1,195	3	526
Robbinsdale	1	94	178	273	1	143
Rochester	1	522	1,293	1,816	1	724

TABLE 1.26 CONTINUED

1994 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	25	33	0	9
Roseau	0	5	32	37	0	6
Rosemount	0	56	114	170	0	87
Roseville	3	286	821	1,110	5	403
St. Anthony	0	33	70	103	0	46
St. Charles	0	8	25	33	0	10
St. Cloud	4	612	1,208	1,824	6	896
St. Francis	0	19	21	40	0	26
St. James	1	13	52	66	1	20
St. Joseph	0	10	30	40	0	12
St. Louis Park	3	305	686	994	3	443
St. Michael	0	5	12	17	0	6
St. Paul	10	2,475	6,342	8,827	12	3,518
St. Paul Park	0	16	40	56	0	22
St. Peter	1	39	81	121	1	66
Sartell	0	13	27	40	0	22
Sauk Centre	0	18	61	79	0	28
Sauk Rapids	0	47	107	154	0	60
Savage	0	62	173	235	0	89
Shakopee	4	136	328	468	4	205
Shoreview	0	100	246	346	0	152
Shorewood	0	45	83	128	0	69
Silver Bay	0	1	18	19	0	2
Sleepy Eye	0	16	60	76	0	21
South St. Paul	0	126	305	431	0	178
Spring Lake Park	0	48	99	147	0	65
Spring Valley	0	12	29	41	0	15
Staples	0	17	59	76	0	32
Stewartville	0	11	33	44	0	13
Stillwater	0	81	220	301	0	110
Thief River Falls	1	96	100	197	1	141
Two Harbors	0	13	46	59	0	21
Vadnais Heights	1	85	221	307	1	114
Victoria	0	38	52	90	0	59
Virginia	0	63	192	255	0	87
Waconia	0	26	53	79	0	36
Wadena	0	34	88	122	0	50
Waite Park	0	64	160	224	0	101
Waseca	0	36	118	154	0	49
Wayzata	0	54	117	171	0	76
Wells	0	8	12	20	0	9
West St. Paul	1	116	205	322	1	177
White Bear Lake	1	211	388	600	1	304
Willmar	2	134	373	509	2	215
Windom	0	36	61	97	0	57
Winona	3	192	531	726	3	241
Woodbury	0	132	280	412	0	202
Worthington	1	64	237	302	1	94

TABLE 1.27

1994 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	1,367	9	297	2	151	1	112	2	107	2	155	0	187	0	358	2
1:00	2,067	28	548	8	160	1	153	4	161	3	209	2	290	1	546	9
2:00	1,237	22	324	5	91	1	87	1	96	2	130	3	179	2	330	8
3:00	756	18	213	4	65	1	69	1	65	2	54	0	87	2	203	8
4:00	613	5	143	1	54	0	60	2	68	0	70	0	72	0	146	2
5:00	1,022	6	123	1	174	0	130	1	122	0	157	1	164	2	152	1
6:00	2,366	17	141	2	459	1	350	3	346	1	470	4	419	2	181	4
7:00	4,937	26	167	1	893	1	827	7	948	3	971	6	925	7	206	1
8:00	4,681	21	232	2	748	0	770	4	864	4	841	4	865	6	361	1
9:00	3,664	13	318	1	551	3	537	2	540	5	555	1	668	1	495	0
10:00	4,083	19	489	3	548	3	557	0	539	4	591	3	743	2	616	4
11:00	4,856	21	570	5	652	4	644	2	627	1	701	3	881	2	781	4
Noon	5,909	22	684	4	760	5	866	3	746	1	871	2	1,068	7	914	0
1:00	5,621	31	663	3	786	6	781	5	752	3	808	3	1,005	7	826	4
2:00	6,377	30	764	5	912	3	971	3	940	5	919	2	1,129	7	742	5
3:00	8,132	40	712	6	1,224	9	1,265	1	1,300	5	1,315	8	1,526	5	790	6
4:00	8,208	31	728	3	1,186	9	1,301	2	1,317	0	1,381	6	1,523	7	772	4
5:00	8,201	40	638	6	1,197	4	1,409	3	1,398	5	1,401	8	1,368	6	790	8
6:00	5,761	30	648	5	751	4	807	4	848	4	1,009	3	1,020	2	678	8
7:00	4,377	18	531	1	560	4	575	1	557	2	709	3	843	4	602	3
8:00	3,442	28	451	1	374	4	449	3	496	3	577	5	581	7	514	5
9:00	3,597	19	421	1	413	0	442	4	518	2	584	2	663	5	556	5
10:00	2,933	22	315	3	321	0	282	2	458	3	426	6	604	4	527	4
11:00	2,424	26	253	7	243	4	222	0	309	1	308	3	563	7	526	4
Unknown	3,070	8	366	3	427	1	410	0	394	1	480	1	513	1	480	1
Total	99,701	550	10,739	83	13,700	69	14,076	60	14,516	62	15,692	79	17,886	96	13,092	101

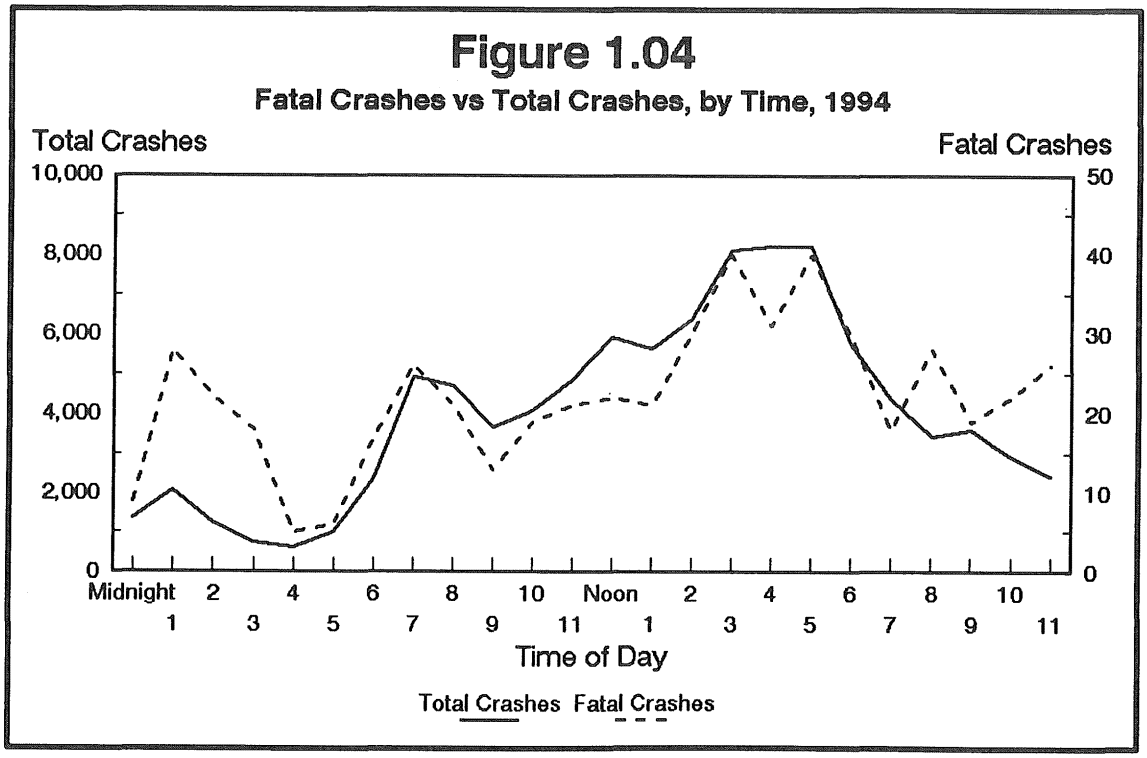


TABLE 1.28

1994 CRASHES, FATALITIES, AND INJURIES BY MONTH

Month	Fatal Crashes	Injury Crashes	Property Damage Crashes	Total Crashes	Killed	Injured
January	31	3,095	10,299	13,425	36	4,386
February	30	2,274	6,819	9,123	40	3,380
March	37	2,064	4,489	6,590	42	2,979
April	43	2,243	4,473	6,759	50	3,268
May	41	2,505	4,674	7,220	47	3,792
June	50	2,816	5,068	7,934	60	4,153
July	62	2,832	5,001	7,895	77	4,333
August	44	2,833	4,595	7,472	48	4,258
September	58	2,749	4,762	7,569	62	4,092
October	51	2,764	5,376	8,191	63	4,135
November	47	2,433	5,840	8,320	58	3,596
December	56	2,699	6,448	9,203	61	4,031
Total	550	31,307	67,844	99,701	644	46,403

TABLE 1.29

HOLIDAY CRASH SUMMARY, 1990 - 1994

Holiday Period	Year	Hours*	Fatal Crashes	Personal Injury Crashes	Property Damage Crashes	Total Crashes	Killed	Injured
Memorial Day	1990	78	4	310	547	861	4	497
(For 1994, the holiday	1991	78	4	230	505	739	4	333
period was 6 PM Fri.,	1992	78	7	232	443	682	7	388
May 27 - midnight	1993	78	6	249	468	723	8	415
Mon., May 30.)	1994	78	7	258	398	663	8	431
July 4th	1990	30	2	142	207	351	2	216
(For 1994, the holiday	1991	102	13	392	583	988	15	644
period was 6 PM Fri.,	1992	78	7	248	447	702	9	422
July 1 - midnight	1993	78	11	261	509	781	12	487
Mon., July 4.)	1994	78	5	283	444	732	6	468
Labor Day	1990	78	8	307	398	713	10	486
(For 1994, the holiday	1991	78	8	236	411	655	12	403
period was 6 PM Fri.,	1992	78	6	250	467	723	7	413
Sep. 2 - midnight	1993	78	4	254	390	648	5	430
Mon., Sep. 5.)	1994	78	6	267	441	714	6	435
Thanksgiving	1990	102	8	237	600	845	11	377
(For 1994, the holiday	1991	102	5	305	1,134	1,444	10	452
period was 6 PM Wed.,	1992	102	6	295	765	1,066	7	444
Nov. 23 - midnight	1993	102	7	375	1,391	1,773	7	581
Sun., Nov. 27.)	1994	102	12	383	1,018	1,413	18	584
Christmas	1990	102	2	443	1,462	1,907	3	662
(For 1994, the holiday	1991	54	2	114	298	414	2	164
period was 6 PM Fri.	1992	102	4	285	828	1,117	7	425
Dec. 23 - midnight	1993	78	2	171	476	649	2	256
Mon., Dec. 26.)	1994	78	6	164	357	527	6	255
New Year's								
(For 1994-95, the	1990/91	102	4	386	1,067	1,457	4	564
holiday period was	1991/92	54	2	126	325	453	2	213
6 PM Fri., Dec. 30,	1992/93	102	5	432	1,225	1,662	6	657
1994 - midnight Mon.,	1993/94	78	6	297	766	1,069	6	485
Jan. 2, 1995)	1994/95	78	3	193	476	672	4	286

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

II: ALCOHOL - RELATED CRASHES

The 1980s saw a decrease in the percentage of drivers killed who tested positive for alcohol. This percentage declined until the mid-80s, then reached a plateau at around 50%. Since 1990 this percentage has declined even more and is now around 40%. In Minnesota, it is illegal to drive with an alcohol concentration of .10 or higher. Minnesota law requires alcohol testing of any driver or pedestrian, 16 years of age or older, who dies within 4 hours as a result of a traffic crash.

"Alcohol-related" defined
In the case of fatal crashes and fatalities, both the investigating officer's perception of alcohol involvement as well as the alcohol test results for any driver, pedestrian, or bicyclist involved in the crash are used. In the case of injury crashes, injuries, and property damage crashes, only the officer's perception of alcohol involvement is used. Thus, the number of alcohol-related injury crashes, injuries, and property damage crashes are probably underestimated.

Arrests similar to last year
There were 32,391 DWI arrests in 1994 -- 127 fewer arrests than in 1993. For the last three years, 82% of those arrested were male and 18% were female. In 1994, 8% of those arrested were under 21 and 59% were between 20 and 34 years old. There were 32,742 alcohol-related driver license revocations processed; 16% of these were for refusing to take an alcohol test.

20 to 34 year olds
People between the ages of 20 and 34 years old made up 59% of DWI arrests, 48% of fatalities, and 49% of injuries in alcohol-related crashes.

Alcohol-related fatalities
There were 226 motor vehicle fatalities classified as alcohol-related in 1994. This was 35% of all motor vehicle fatalities. This is the 5th year in a row that the percentage has gone down slightly. It has gone from 45% in 1989 to 35% in 1994. A common misconception is that the vast majority of people killed in alcohol-related crashes were non-drinkers killed by drunk drivers. However, in Minnesota, at least 56% of alcohol-related motor vehicle fatalities in 1994 were drivers or pedestrians who had been drinking. Another 6% were passengers who had been drinking.

Differences in fatal crashes
Alcohol-related fatal crashes tended to involve more collisions with fixed objects (28% vs. 17%) and overturns (20% vs. 16%) than all fatal crashes.

60% of those tested were negative for alcohol
Of the 377 drivers killed in crashes, 303 (80%) were tested for alcohol concentrations. Of those tested, 60% had not been drinking, 8% were between .01 and .09, and 32% were at or above .10. For the 120 drivers who had been drinking, 83% were male, 20% were in crashes between midnight and 3:00 AM, and 13% were under the age of 21.

20 to 44 year olds
Half or more of killed drivers tested for alcohol who were between 20 and 44 years old were positive. For 25 to 39 year olds, over 50% were at or above .10. Those under 21 were different than those over 21. For the under 21s, 67% had not been drinking, 15% were between .01 and .09, and 17% were at or above .10.

July worst month
Crashes were distributed throughout the months of the year, but July had the highest number of crashes (638), fatalities (26), and injuries (571).

Non-Interstate roads more deadly
One hundred forty (62%) of the fatalities occurred on a rural trunk highway or county state aid highway. This is also true of 2,602 (49%) of the injuries. Another 1,075 (20%) of the injuries and 6 (3%) of the fatalities occurred on local streets.

Most crashes occur on weekends
Sixty-three percent of alcohol-related crashes occurred on a Friday, Saturday, or Sunday. Saturday had the most crashes (1,637) and Monday had the least (508). With respect to time of day, crashes follow a "U" shaped curve with very few crashes from 5:00 AM to 4:00 PM and more into the later hours. Not surprisingly, there is a big jump in the number of crashes classified as alcohol-related from 1:00 to 2:00 AM. The hour from 11:00 PM to midnight had the second highest number of crashes and injuries, and the highest number of fatalities.

TABLE 2.01

DRINKING DRIVER SUMMARY, 1985 - 1994

	1985	1986	1987	1988	1989	1990	1991	1992	1993	1994
Drunken Driving Arrests	35,383	36,390	34,664	32,827	34,562	37,261	33,574	31,973	32,518	32,391
% Male	85%	85%	84%	84%	84%	83%	84%	82%	82%	82%
% Female	15%	15%	16%	16%	16%	17%	16%	18%	18%	18%
Alcohol-Related Driver License Revocations Processed[1]	40,807	42,586	40,899	37,530	38,619	42,470	37,679	36,511	35,309	32,742
Administrative Revocations For Refusing Test	9,219	8,468	8,336	7,907	7,943	8,354	7,452	6,742	5,743	5,246
(These are included in the total number of Revocation Processed above.)										
Drivers Killed	372	347	297	361	368	334	327	344	355	377
Tested	79%	81%	89%	87%	85%	78%	74%	85%	80%	80%
Alcohol Concentration										
(.00)	53%	51%	50%	52%	50%	50%	56%	58%	61%	60%
(.01 - .09)	11%	9%	7%	10%	8%	9%	9%	5%	7%	8%
(.10 or higher)	37%	41%	43%	38%	41%	42%	35%	37%	32%	32%
Alcohol-Related Fatalities	261	264	224	277	275	235	212	229	196	226
% of Total Fatalities	43%	46%	42%	45%	45%	41%	40%	39%	36%	35%

[1] Total alcohol revocations are higher than the number of DWI arrests because they include certain multiple offenders who are revoked twice, under separate statutes, and those who have their Minnesota driver's license revoked because of an arrest outside of Minnesota.

Information on Driver License Revocations Processed provided by the Driver and Vehicle Services division.
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.

TABLE 2.02

DWI ARRESTS BY AGE, 1985 - 1994

Age	1985	1986	1987	1988	1989	1990	1991	1992	1993	1994
14 & Younger	8	8	8	6	8	7	5	3	5	6
15	24	27	13	15	25	12	14	9	10	15
16	171	254	208	160	175	158	126	128	100	117
17	446	546	485	503	458	431	299	275	241	240
18	1,109	1,151	1,084	1,038	1,072	959	740	576	542	560
19	1,864	1,813	1,363	1,229	1,284	1,318	1,063	836	787	684
20	2,035	2,002	1,709	1,291	1,426	1,472	1,315	1,048	929	845
Total Under 21	5,657	5,801	4,870	4,242	4,448	4,357	3,562	2,875	2,614	2,467
14 & Younger	8	8	8	6	8	7	5	3	5	6
15 - 19	3,614	3,791	3,153	2,945	3,014	2,878	2,242	1,824	1,680	1,616
20 - 24	10,289	10,273	9,345	7,933	8,071	8,357	7,470	7,217	7,101	6,321
25 - 29	7,618	8,295	8,146	7,920	8,293	8,744	7,332	6,646	6,559	6,281
30 - 34	4,933	5,002	5,110	5,146	5,554	6,509	6,312	6,109	6,177	6,371
35 - 39	3,200	3,316	3,356	3,265	3,577	4,111	4,100	4,073	4,613	4,658
40 - 44	2,062	2,098	2,087	2,101	2,418	2,689	2,680	2,549	2,724	3,069
45 - 49	1,292	1,274	1,289	1,360	1,407	1,531	1,340	1,510	1,567	1,852
50 - 54	911	857	834	786	892	985	845	856	943	915
55 - 59	686	631	584	556	568	590	489	523	533	582
60 - 64	395	397	359	406	389	417	369	349	287	364
65 & Older	375	448	393	403	371	441	390	314	329	356
Total	35,383	36,390	34,664	32,827	34,562	37,261*	33,574	31,973	32,518	32,391

* 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" is defined differently for fatal crashes and fatalities than it is for injury crashes, injuries, and property damage crashes.

Alcohol-related fatality: The investigating officer suspected alcohol involvement and/or there was a positive blood test for alcohol for any driver, pedestrian, or bicyclist involved in the crash.

Alcohol-related fatal crash: The investigating officer suspected alcohol involvement and/or there was a positive blood test for alcohol for any driver, pedestrian, or bicyclist involved in the crash.

Alcohol-related injury crash/injury: 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: 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 property damage crashes are probably underestimated.

TABLE 2.03

AGE OF PERSONS KILLED AND INJURED IN 1994 ALCOHOL - RELATED CRASHES

Age	Killed[1]	Injured[2]
0 - 4	3	52
5 - 9	2	66
10 - 14	4	91
15 - 19	29	772
20 - 24	45	1,130
25 - 29	35	761
30 - 34	29	687
35 - 39	20	511
40 - 44	19	369
45 - 49	11	222
50 - 54	6	143
55 - 59	0	80
60 - 64	8	50
65 - 69	6	55
70 - 74	6	28
75 - 79	1	13
80 - 84	1	10
85 & Older	1	4
Not Stated	0	218
Total	226*	5,262

[1] Includes alcohol test information as well as officer's perception of alcohol noted on accident report.
[2] Includes only police officer's perception of alcohol noted on accident report.

* 11 of the 226 alcohol-related fatalities were pedestrians who had been drinking. In 4 of these 11 cases, the motor vehicle driver had also been drinking.

TABLE 2.04

1994 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	125	116	9	21	86
Car or Truck Passenger	55	14	1	4	9
Motorcycle Driver	12	12	2	2	8
Motorcycle Passenger	2	1	0	1	0
Snowmobile Driver	2	2	0	0	2
Pedestrian	22	13	5	1	7
Bicyclist	2	0	0	0	0
Other/Unknown	6	4	0	0	4
Total	226	162	17	29	116

TABLE 2.05

PERCENT OF DEATHS, INJURIES, AND PROPERTY DAMAGE CRASHES DETERMINED TO BE ALCOHOL - RELATED, 1985 - 1994

	1985	1986	1987	1988	1989	1990	1991	1992	1993	1994
Deaths*	43%	46%	42%	45%	45%	41%	40%	39%	36%	35%
Injuries**	16%	17%	17%	15%	15%	15%	13%	13%	12%	11%
Property Damage Crashes**	6%	7%	7%	5%	5%	6%	5%	5%	4%	4%

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

TABLE 2.06

ALCOHOL - RELATED* FATAL CRASHES BY FIRST HARMFUL EVENT, 1994

First Harmful Event	Alcohol-Related Fatal Crashes Number	Percent	All Fatal Crashes Number	Percent
Collision with:				
Another Motor Vehicle	68	34.3%	269	48.9%
Parked Motor Vehicle	3	1.5	5	0.9
Railroad Train	4	2.0	14	2.5
Bicycle	2	1.0	16	2.9
Pedestrian	20	10.1	50	9.1
Deer	0	0.0	1	0.2
Other Animal	0	0.0	1	0.2
Fixed Object	55	27.8	91	16.5
Non-Collision:				
Overturn	40	20.2	87	15.8
Submersion	1	0.5	3	0.5
Fire/Explosion	0	0.0	1	0.2
Other	5	2.5	12	2.2
Total	198	100.0%	550	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, 1985 - 1994

Year	Killed	Tested	Alcohol Concentration* (.00)	(.01 - .09)	(.10 or more)
1985	372	295	156 (53%)	31 (11%)	108 (37%)
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%)

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

TABLE 2.08

DRIVERS KILLED WHO TESTED .01 OR HIGHER, 1985 - 1994 ("Any Alcohol")

Year	Total	Male		Female		Occurred Between Midnight - 3 AM		Under Legal Age	
1985	139	116	(83%)	23	(17%)	60	(43%)	14	(10%)
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%)

* On September 1, 1986, the drinking age was raised from 19 to 21.

TABLE 2.09

DRIVERS KILLED WHO TESTED .10 OR HIGHER, 1985 - 1994 ("Over Limit")

Year	Total	Male		Female		Occurred Between Midnight - 3 AM		Under Legal Age	
1985	108	90	(83%)	18	(17%)	49	(45%)	6	(6%)
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%)

* On September 1, 1986, the drinking age was raised from 19 to 21.

FIGURE 2.01

Drivers Killed Who Had Been Drinking

1985 - 1994

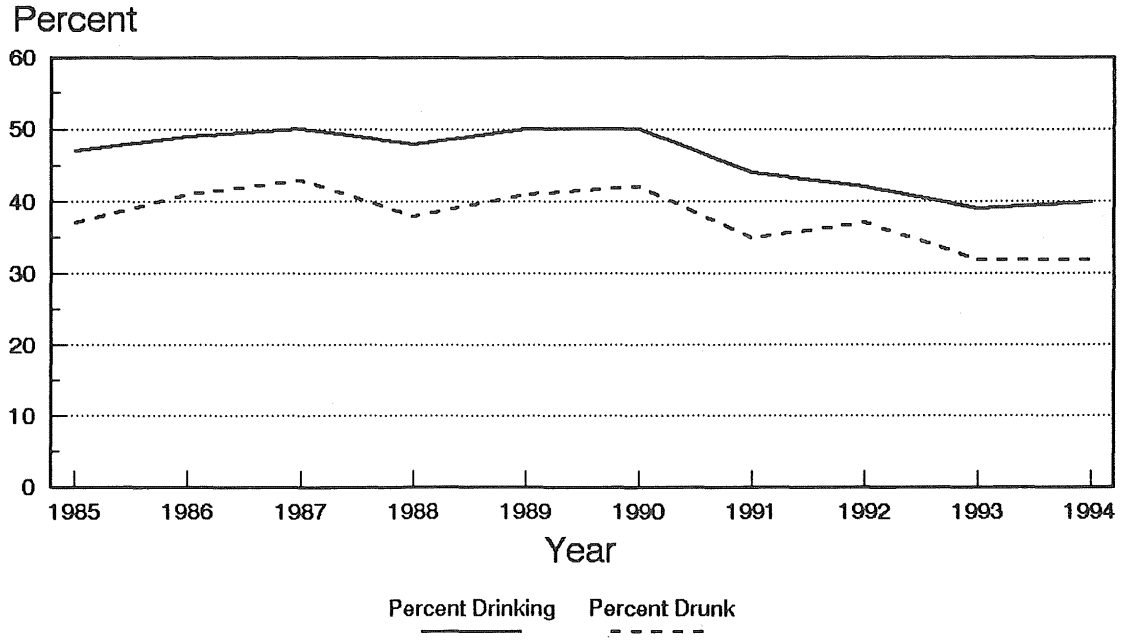


FIGURE 2.02

Percent of Drivers Killed Who Had Been Drinking, by Age, 1994

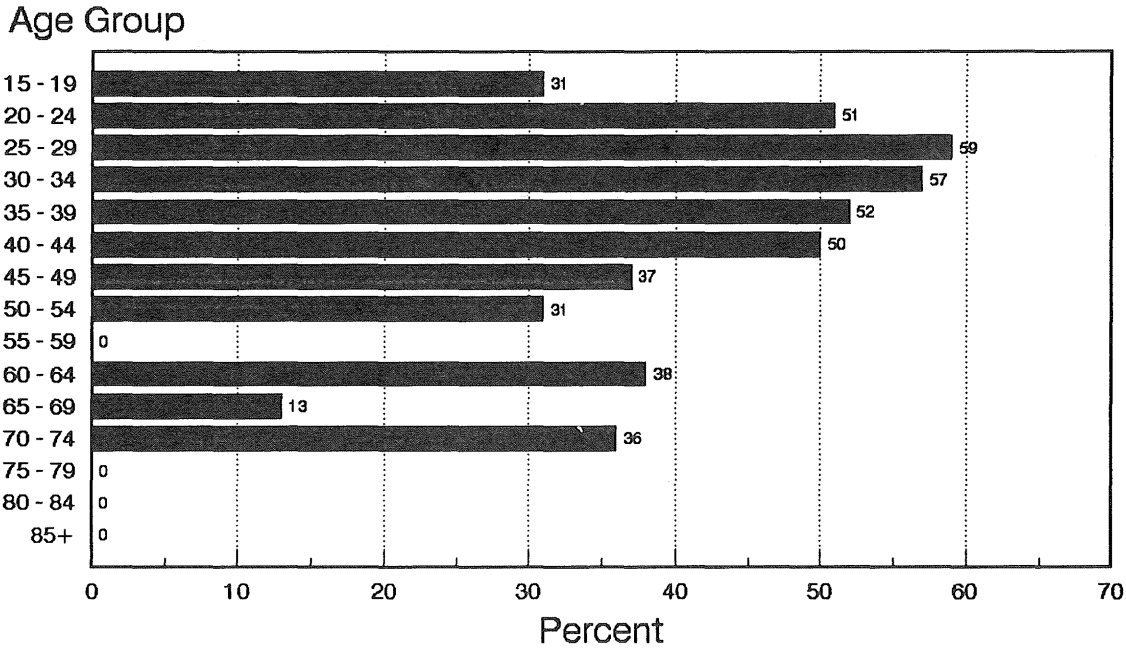


TABLE 2.10

1994 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	2	1	1	(100%)	0		0		1	0	0	0	0	0	0
15	4	3	3	(100%)	0		0		3	0	0	0	0	0	0
16	6	6	3	(50%)	2	(33%)	1	(17%)	3	1	1	1	0	0	0
17	8	8	6	(75%)	1	(13%)	1	(13%)	6	0	1	1	0	0	0
18	14	10	8	(80%)	1	(10%)	1	(10%)	8	0	1	0	1	0	0
19	9	9	5	(56%)	2	(22%)	2	(22%)	5	0	2	1	1	0	0
20	14	9	5	(56%)	1	(11%)	3	(33%)	5	1	0	2	1	0	0
Under 21	57	46	31	(67%)	7	(15%)	8	(17%)	31	2	5	5	3	0	0
14 & Younger	2	1	1	(100%)	0	(0%)	0	(0%)	1	0	0	0	0	0	0
15 - 19	41	36	25	(69%)	6	(17%)	5	(14%)	25	1	5	3	2	0	0
20 - 24	56	41	20	(49%)	4	(10%)	17	(41%)	20	2	2	3	9	4	1
25 - 29	44	41	17	(41%)	2	(5%)	22	(54%)	17	1	1	6	7	5	4
30 - 34	34	30	13	(43%)	1	(3%)	16	(53%)	13	1	0	3	4	3	6
35 - 39	25	23	11	(48%)	0	(0%)	12	(52%)	11	0	0	1	2	7	2
40 - 44	32	30	15	(50%)	5	(17%)	10	(33%)	15	2	3	1	3	0	6
45 - 49	25	19	12	(63%)	1	(5%)	6	(32%)	12	0	1	0	3	3	0
50 - 54	15	13	9	(69%)	1	(8%)	3	(23%)	9	1	0	0	0	1	2
55 - 59	10	9	9	(100%)	0	(0%)	0	(0%)	9	0	0	0	0	0	0
60 - 64	10	8	5	(63%)	1	(13%)	2	(25%)	5	0	1	1	0	0	1
65 - 69	22	16	14	(88%)	0	(0%)	2	(13%)	14	0	0	0	0	2	0
70 - 74	13	11	7	(64%)	2	(18%)	2	(18%)	7	1	1	0	1	1	0
75 - 79	22	11	11	(100%)	0	(0%)	0	(0%)	11	0	0	0	0	0	0
80 - 84	13	7	7	(100%)	0	(0%)	0	(0%)	7	0	0	0	0	0	0
85 & Older	13	7	7	(100%)	0	(0%)	0	(0%)	7	0	0	0	0	0	0
Total	377	303	183	(60%)	23	(8%)	97	(32%)	183	9	14	18	31	26	22

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

TABLE 2.11

1994 ALCOHOL - RELATED CRASHES BY MONTH

Month	Fatal Crashes	Injury Crashes	Property Damage Crashes	Total Crashes	Killed	Injured
January	8	235	292	535	8	388
February	8	193	262	463	8	312
March	13	256	243	512	15	386
April	21	279	197	497	25	435
May	14	300	212	526	15	488
June	17	296	208	521	21	454
July	21	360	257	638	26	571
August	14	323	202	539	17	486
September	25	304	225	554	25	475
October	19	306	239	564	23	464
November	16	272	204	492	20	402
December	22	259	300	581	23	401
Total	198	3,383	2,841	6,422	226	5,262

TABLE 2.12

1994 ALCOHOL - RELATED CRASHES BY ROADWAY TYPE

Roadway Type	Fatal Crashes	Injury Crashes	Property Damage Crashes	Total Crashes	Killed	Injured
Urban Interstate	7	189	249	445	9	275
Rural Interstate	9	54	53	116	13	95
Urban Trunk Hwy	28	470	420	918	31	739
Rural Trunk Hwy	53	570	376	999	61	982
County State Aid Hwy	73	1,019	673	1,765	79	1,620
County Road	9	129	82	220	11	189
Township Road	12	147	79	238	15	257
Local Street	6	783	884	1,673	6	1,075
Other	1	22	25	48	1	30
Total	198	3,383	2,841	6,422	226	5,262

FIGURE 2.03

1994 Alcohol - Related Crashes by Time of Day

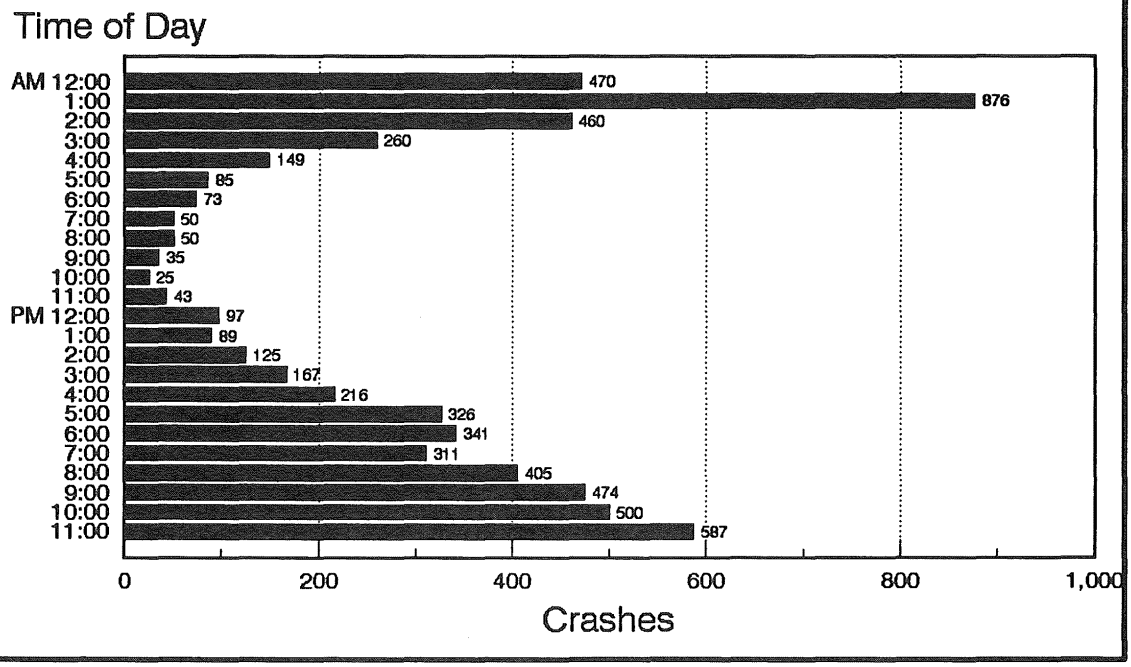


FIGURE 2.04

1994 Alcohol-Related Crashes by Day of Week

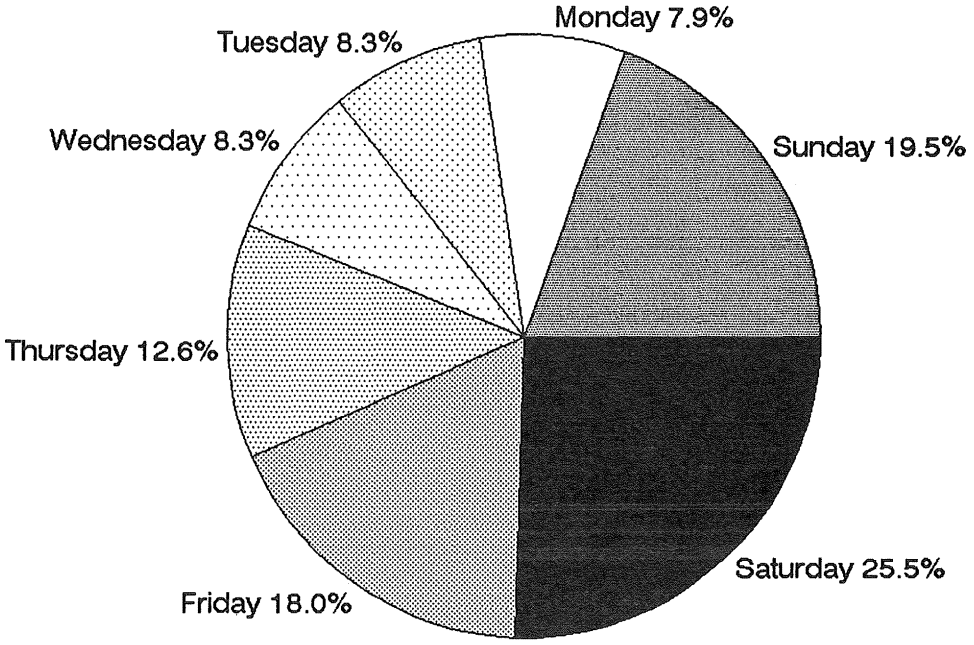


TABLE 2.13

1994 ALCOHOL - RELATED CRASHES BY TIME OF DAY AND DAY OF WEEK

Hour Beginning	Sunday	Monday	Tuesday	Wednesday	Thursday	Friday	Saturday	Total	Killed	Injured
Midnight	99	41	39	39	61	70	121	470	9	333
1:00 AM	234	51	58	56	88	124	265	876	25	739
2:00 AM	150	27	25	21	42	60	135	460	16	406
3:00 AM	90	11	17	13	18	21	90	260	14	209
4:00 AM	61	7	10	7	11	10	43	149	5	123
5:00 AM	29	5	3	4	7	9	28	85	1	61
6:00 AM	16	7	3	2	10	9	26	73	5	51
7:00 AM	15	3	2	3	5	6	16	50	3	41
8:00 AM	17	3	2	4	2	9	13	50	6	46
9:00 AM	5	2	3	3	7	6	9	35	2	31
10:00 AM	4	4	4	3	1	4	5	25	0	16
11:00 AM	8	3	7	4	6	5	10	43	0	27
Noon	18	6	6	6	12	17	32	97	5	89
1:00 PM	16	11	7	5	13	10	27	89	2	70
2:00 PM	26	13	15	15	14	16	26	125	7	107
3:00 PM	26	16	8	18	23	38	38	167	7	138
4:00 PM	41	21	20	17	30	42	45	216	9	185
5:00 PM	42	35	26	37	46	61	79	326	15	242
6:00 PM	65	36	32	28	46	75	59	341	13	272
7:00 PM	48	21	24	28	48	73	69	311	6	262
8:00 PM	38	36	49	40	64	77	101	405	14	315
9:00 PM	55	38	51	46	78	112	94	474	14	433
10:00 PM	53	39	42	61	66	116	123	500	16	462
11:00 PM	51	55	61	54	80	147	139	587	26	469
Unknown	48	17	17	16	28	38	44	208	6	135
Total	1,255	508	531	530	806	1,155	1,637	6,422	226	5,262

III: SAFETY EQUIPMENT USE BY VEHICLE OCCUPANTS IN 1994 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 50%. 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 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, and use rates have remained fairly stable since then -- at 53% in 1991, 51% in 1992, 55% in 1993, and 55% again in 1994. It is likely that a significant factor contributing to the dramatic increase in traffic deaths in 1994 is that seat belt use has stabilized while other factors that normally cause fatality increases, such as volume of travel, have continued their normal trend upward.

Young people disproportionately killed and used belts least often
There were 519 people killed and an additional 41,463 people injured inside vehicles normally equipped with occupant restraint devices. A disproportionate share were young people. Fifteen to twenty-four year-olds, who account for 13% of the state's population, made up 28% of the occupants who were killed and 32% of the occupants who were injured. Young people also had the lowest seat belt usage rate -- fewer than half of the 11- to 19-year -olds injured were belted.

Belt use increases as injury severity decreases
Only 25% of those killed were using belts, compared to 43% of severely injured persons, 55% of moderately injured persons, and 60% of those who only suffered minor injuries.

Airbag deployments increasing
Airbags are designed to deploy in the most dangerous type of collision -- front-end. In 1993, there were 598 deployments. Last year there were 913 -- a 53% increase.

Belt use low on small roads and in western regions of state
Seat belt use is highest (70%) on interstate highways and lowest (36%) on the typically small rural township roads. Use is relatively high (about 55% to 65%) in the five eastern regions of the state, and relatively low (40% to 47%) in the Northwest, West Central, and Southwest regions of the state.

TABLE 3.01

MOTOR VEHICLE OCCUPANTS KILLED OR INJURED, BY AGE AND SEVERITY OF INJURY, 1994

Age Group	Killed	Injured			
		Severe	Moderate	Minor	Total
0 - 4	15	43	236	472	751
5 - 9	8	50	368	592	1,010
10 - 14	7	109	461	683	1,253
15 - 19	69	613	2,938	4,040	7,591
20 - 24	77	498	1,940	3,147	5,585
25 - 29	48	312	1,383	2,715	4,410
30 - 34	41	346	1,215	2,583	4,144
35 - 39	32	244	1,026	2,196	3,466
40 - 44	30	221	789	1,899	2,909
45 - 49	25	141	654	1,381	2,176
50 - 54	19	113	454	1,040	1,607
55 - 59	12	85	365	707	1,157
60 - 64	13	84	288	591	963
65 - 69	24	86	269	511	866
70 - 74	19	68	288	455	811
75 - 79	30	73	227	361	661
80 - 84	27	45	135	225	405
85 & Older	23	35	94	123	252
Not Stated	0	88	322	1,036	1,446
Total	519	3,254	13,452	24,757	41,463

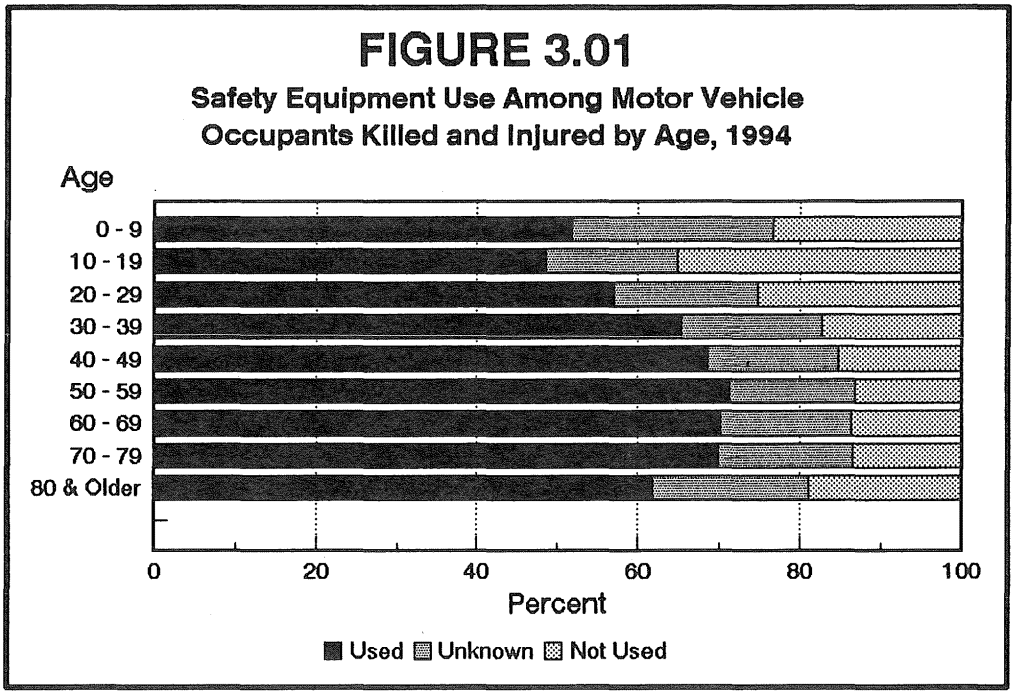


TABLE 3.02

SAFETY EQUIPMENT USE BY VEHICLE OCCUPANTS KILLED OR INJURED, BY AGE AND INJURY SEVERITY, 1994

Age Group	Restraint Use	Killed		Injured							
				Severe		Moderate		Minor		Total	
		#	%	#	%	#	%	#	%	#	%
0 - 3 Years	Used	3	30.0	11	40.7	79	49.1	183	54.3	273	52.0
	Not Used	5	50.0	5	18.5	34	21.1	57	16.9	96	18.3
	Unknown	2	20.0	11	40.7	48	29.8	97	28.8	156	29.7
	Subtotal	10	100.0	27	100.0	161	100.0	337	100.0	525	100.0
4 - 10 Years	Used	5	35.7	33	40.7	279	55.7	431	51.8	743	52.6
	Not Used	3	21.4	35	43.2	120	24.0	207	24.9	362	25.6
	Unknown	6	42.9	13	16.1	102	20.4	194	23.3	309	21.9
	Subtotal	14	100.0	81	100.0	501	100.0	832	100.0	1,414	100.0
11 - 19 Years	Used	14	18.7	223	31.5	1,475	44.2	2,514	54.4	4,212	48.6
	Not Used	45	60.0	358	50.6	1,408	42.1	1,283	27.8	3,049	35.2
	Unknown	16	21.3	126	17.8	458	13.7	821	17.8	1,405	16.2
	Subtotal	75	100.0	707	100.0	3,341	100.0	4,618	100.0	8,666	100.0
20 - 29 Years	Used	15	12.0	297	36.7	1,665	50.1	3,792	64.7	5,754	57.6
	Not Used	88	70.4	364	44.9	1,120	33.7	985	16.8	2,469	24.7
	Unknown	22	17.6	149	18.4	538	16.2	1,085	18.5	1,772	17.7
	Subtotal	125	100.0	810	100.0	3,323	100.0	5,862	100.0	9,995	100.0
30 - 39 Years	Used	14	19.2	285	48.3	1,332	59.4	3,388	70.9	5,005	65.8
	Not Used	47	64.4	186	31.5	549	24.5	535	11.2	1,270	16.7
	Unknown	12	16.4	119	20.2	360	16.1	856	17.9	1,335	17.5
	Subtotal	73	100.0	590	100.0	2,241	100.0	4,779	100.0	7,610	100.0
40 - 49 Years	Used	11	20.0	189	55.2	930	64.5	2,393	73.0	3,512	69.1
	Not Used	34	61.8	105	29.0	297	20.6	343	10.5	745	14.7
	Unknown	10	18.2	68	18.8	216	15.0	544	16.6	828	16.3
	Subtotal	55	100.0	362	100.0	1,443	100.0	3,280	100.0	5,085	100.0
50 - 59 Years	Used	18	58.1	106	53.5	560	68.4	1,310	75.0	1,976	71.5
	Not Used	10	32.3	47	23.7	148	18.1	164	9.4	359	13.0
	Unknown	3	9.7	45	22.7	111	13.6	273	15.6	429	15.5
	Subtotal	31	100.0	198	100.0	819	100.0	1,747	100.0	2,764	100.0
60 - 69 Years	Used	11	29.7	100	58.8	379	68.0	818	74.2	1,297	70.9
	Not Used	19	51.4	38	22.4	94	16.9	103	9.4	235	12.9
	Unknown	7	18.9	32	18.8	84	15.1	181	16.4	297	16.2
	Subtotal	37	100.0	170	100.0	557	100.0	1,102	100.0	1,829	100.0
70 & Older	Used	41	41.4	127	57.5	499	67.1	832	71.5	1,458	68.5
	Not Used	41	41.4	53	24.0	120	16.1	126	10.8	299	14.0
	Unknown	17	17.2	41	18.6	125	16.8	206	17.7	372	17.5
	Subtotal	99	100.0	221	100.0	744	100.0	1,164	100.0	2,129	100.0
Age Not Stated	Used	0	0.0	29	33.0	134	41.6	438	42.3	601	41.6
	Not Used	0	0.0	31	35.2	97	30.1	163	15.7	291	20.1
	Unknown	0	0.0	28	31.8	91	28.3	435	42.0	554	38.3
	Subtotal	0	0.0	88	100.0	322	100.0	1,036	100.0	1,446	100.0
All Ages	Used	132	25.4	1,400	43.0	7,332	54.5	16,099	65.0	24,831	59.9
	Not Used	292	56.3	1,222	37.6	3,987	29.6	3,966	16.0	9,175	22.1
	Unknown	95	18.3	632	19.4	2,133	15.9	4,692	19.0	7,457	18.0
	Total	519	100.0	3,254	100.0	13,452	100.0	24,757	100.0	41,463	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,* 1994

	Airbag Deployed		Airbag Not in Vehicle or Not Deployed		Safety Restraint	
	Belt Used	Belt Not Used	Belt Used	Belt Not Used	Use Unknown	Total
Killed	5	5	127	287	95	519
Injured						
Severe	33	5	1,367	1,217	632	3,254
Moderate	160	16	7,172	3,971	2,133	13,452
Minor	179	17	15,920	3,949	4,692	24,757
No Apparent Injury	465	28	95,102	9,189	96,345	201,129
Total	842	71	119,688	18,613	103,897	243,111

* "Belt use" is used as a shorthand term for safety restraint use. Safety restraint devices are normally lap or 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, 1985 - 1994

	1985	1986	1987	1988	1989	1990	1991	1992	1993	1994
Killed										
Used	8.8	9.2	17.7	21.1	20.5	20.9	24.4	27.5	32.1	25.4
Not Used	70.8	69.7	67.9	64.1	63.8	65.9	57.0	58.5	52.6	56.3
Unknown	20.4	21.1	14.4	14.8	15.7	13.2	18.5	14.0	15.3	18.3
Injured										
Severe Injuries										
Used	8.4	16.9	22.0	30.5	31.6	32.6	35.7	36.6	40.7	43.0
Not Used	60.3	57.8	55.1	48.9	47.9	48.4	40.7	41.7	37.4	37.6
Unknown	31.3	25.4	22.9	20.6	20.5	18.9	23.6	21.7	21.9	19.4
Moderate Injuries										
Used	10.7	20.8	29.3	38.2	39.9	41.1	45.9	48.5	51.8	54.5
Not Used	58.8	53.4	48.4	41.7	40.6	40.2	33.7	34.0	31.9	29.6
Unknown	30.4	25.9	22.3	20.1	19.5	18.7	20.4	17.5	16.3	15.9
Minor Injuries										
Used	14.4	25.7	36.2	42.9	45.5	45.3	54.3	61.4	64.8	65.0
Not Used	45.6	38.9	32.2	24.4	21.9	23.1	19.8	19.9	17.0	16.0
Unknown	40.0	35.3	31.6	32.7	32.6	31.6	25.9	18.8	18.1	19.0
Total Injured										
Used	12.4	23.0	32.0	39.9	42.3	42.7	49.8	55.0	58.7	59.9
Not Used	54.2	46.5	40.9	32.9	30.7	31.2	26.3	26.4	23.5	22.1
Unknown	33.4	30.5	27.1	27.1	27.0	26.1	23.9	18.6	17.9	18.0

TABLE 3.05

SAFETY EQUIPMENT USE BY MOTOR VEHICLE OCCUPANTS KILLED AND INJURED, BY ROADWAY TYPE, 1994

	Used		Not Used		Unknown		Total	
Roadway Type	Number	Percent	Number	Percent	Number	Percent	Number	Percent
Interstate	2,468	70.3	566	16.1	475	13.5	3,509	100.0%
Trunk Highway	9,162	61.7	3,347	22.6	2,330	15.7	14,839	100.0
County State-Aid Highway	6,829	58.5	2,611	22.4	2,233	19.1	11,673	100.0
County Road	480	46.8	344	33.6	201	19.6	1,025	100.0
Township Road	415	35.5	481	41.1	274	23.4	1,170	100.0
Local Street	5,558	57.7	2,078	21.6	2,000	20.8	9,636	100.0
Other Road	51	39.2	40	30.8	39	30.0	130	100.0
Total	24,963	59.5	9,467	22.6	7,552	18.0	41,982	100.0%

TABLE 3.06

SAFETY EQUIPMENT USE BY MOTOR VEHICLE OCCUPANTS KILLED AND INJURED, BY EMS REGION* OF STATE, 1994

EMS Region	Percent Used	Percent Not Used	Percent Unknown	Number of People
Metropolitan	64.6	16.9	18.5	23,652
Central	58.3	27.5	14.2	5,371
Northeast	55.3	26.8	17.9	2,348
Northwest	39.5	39.1	21.4	1,333
South Central	55.5	28.7	15.8	1,733
Southeast	54.2	27.9	17.9	3,496
Southwest	46.9	34.5	18.6	2,364
West Central	45.4	32.3	22.3	1,684
Unknown	0.0	0.0	100.0	1
Statewide	59.5	22.6	18.0	41,982

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

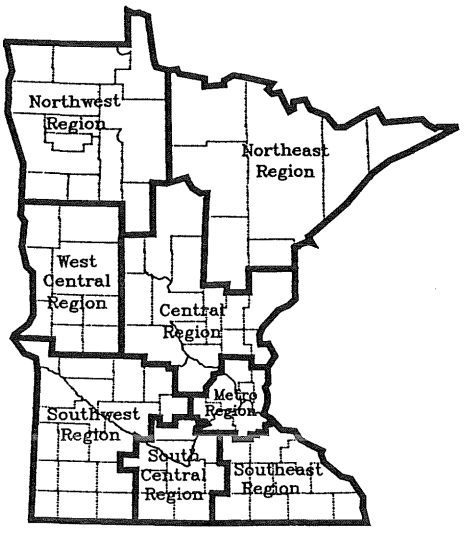


TABLE 3.07

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

	June 1986	Aug 1986	Nov 1986	Aug 1987	Aug 1988	Aug 1989	Aug 1990	Aug 1991	Aug 1992	Aug 1993	Aug 1994
Statewide	**20%**	**33%**	**32%**	**32%**	**47%**	**44%**	**47%**	**53%**	**51%**	**55%**	**55%**
Metro	30	43	39	40	51	52	54	62	62	59	61
Non-Metro	15	26	24	28	45	40	42	47	46	52	52
Weather											
Clear	19	32	33	32	47	44	47	53	52	55	54
Other	23	36	19	41	48	53	50	48	41	52	59
Time											
Rush Hour	21	31	30	30	47	42	47	53	55	59	54
Non-rush Hour	20	34	32	33	47	44	48	52	51	54	62
Day of the Week											
Weekday	19	33	33	32	45	42	45	51	51	56	55
Weekend	21	33	29	33	52	49	50	56	53	52	54
Speed											
20 MPH	14	29	33	29	35	39	46	47	39	50	48
40 MPH	20	32	27	30	47	46	46	56	58	57	60
60 MPH	28	39	36	41	57	52	53	61	62	61	64
Road Class											
Major Roads	23	35	31	35	48	44	49	53	55	57	60
Local Roads	17	31	32	29	46	45	46	52	48	53	51

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.

IV: MOTORCYCLE CRASHES

Motorcyclists are exposed to a greater chance of injury should a crash occur because they are not protected by the body of a vehicle. In 1994, 86% of motorcycle crashes resulted in an injury or fatality; for total motor vehicle crashes, only 32% of the crashes produced an injury or fatality. Motorcycle crashes were more than five times more likely to involve a fatality.

Crashes up from 1993, down from average
There were 1,381 crashes that involved a motorcycle in 1994. This is up 11% from 1993 but down 9% from the average of the prior five years. There were 43 motorcyclists killed in these crashes, and 1,324 motorcyclists injured. There were also 66 other people injured in these crashes.

Number of registrations and licensed operators continue trends
There were 113,337 registered motorcycles in 1994. This is the 14th year that the number of registered motorcycles has decreased. There were 293,164 people who were licensed to operate a motorcycle. This number has stayed at or above 290,000 since 1989.

Crashes more likely to involve overturn
Crashes involving motorcycles were much more likely to involve an overturn than crashes as a whole -- 21% for motorcycle crashes versus 5% for all crashes. The most common occurrence was collision with another vehicle which happened in 47% of crashes.

Rural areas overrepresented in fatalities
Areas of populations of under 1,000 accounted for 35% of crashes, 65% of motorcyclists killed, and 37% of motorcyclists injured.

Crashes reflect riding season
July had the highest number of crashes (280) and injuries (293). September had the most fatalities (12). January and December each had one crash.

Afternoon hours most crash involved
The hours from 3:00 to 6:00 PM had the highest number of crashes. There was also an increase in crashes from 1:00 to 2:00 AM compared to the hours just before and after. Saturday and Sunday together accounted for 37% of the total crashes but 49% of the fatal crashes. Saturday from 3:00 to 4:00 PM was the single hour with the most total crashes (28) and fatal crashes (4).

20 to 24 year olds most often injured
People aged 20 to 24 years old made up 24% of the injuries and 14% of the fatalities. For fatalities, 88% were between 15 and 49 years old. Males made up 85% of those injured and 77% of those killed.

Helmet use low
Only 7% of motorcyclists killed, and 28% of those injured were wearing a helmet at the time of the crash. Three-fourths (75%) of motorcycle operators in fatal crashes had a motorcycle endorsement at the time of the crash and 16% had a valid license but no motorcycle endorsement.

Majority of motorcycle fatalities not drinking
Of the 36 motorcycle operators killed, 27 (75%) were tested for alcohol concentration. In a departure from previous years, 63% of motorcycle operators killed and tested for alcohol had *not* been drinking. Another 7% had concentrations between .01 and .09; the remaining 30% were at or above .10.

Single vehicle crashes differ
The top two contributing factors in single vehicle motorcycle crashes were illegal or unsafe speed and driver inexperience. Twenty-one percent of drivers in these crashes committed no improper driving. For multiple vehicle crashes, 51% of motorcycle operators committed no improper driving compared with 32% of other drivers in these crashes. The top two contributing factors for motorcycle operators in multiple vehicle crashes were driver inattention or distraction and illegal or unsafe speed. For other drivers, the top factors were failure to yield the right of way and driver inattention or distraction.

TABLE 4.01

MOTORCYCLE CRASH SUMMARY, 1985 - 1994

	1985	1986	1987	1988	1989	1990	1991	1992	1993	1994	Record High (since 1970)
Total Crashes	**2,748**	**2,318**	**2,121**	**1,969**	**1,748**	**1,735**	**1,461**	**1,361**	**1,245**	**1,381**	**3,308 (1980)**
Fatal Crashes	75	63	51	57	37	46	38	29	33	41	112 (1980)
Personal Injury Crashes	2,238	1,891	1,692	1,628	1,463	1,446	1,198	1,133	1,022	1,151	2,728 (1980)
Property Damage Crashes	435	364	378	284	248	243	225	199	190	189	537 (1976)
Persons Killed:											
Motorcyclists	77	66	51	58	37	50	40	28	34	43	121 (1980)
Non-Motorcyclists/Unknown	1	0	3	4	0	2	0	3	3	0	9 (1975)
Persons Injured:											
Motorcyclists	2,500	2,152	1,853	1,817	1,617	1,605	1,357	1,288	1,151	1,324	3,359 (1980)
Non-Motorcyclists/Unknown	204	142	145	126	104	126	104	60	104	66	N/A
Licensed Operators	272,317	282,087	288,424	293,347	290,000	292,074	296,624	290,722	291,756	293,164	296,624 (1991)
Registered Motorcycles	151,449	141,261	134,590	128,956	123,308	120,081	117,492	116,124	114,548	113,337	166,151 (1981)
Rates:											
Fatal Motorcycle Crashes Per 100 Motorcycle Crashes	2.7	2.7	2.4	2.9	2.1	2.7	2.6	2.1	2.7	3.0	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	0.5	0.6	0.8 (1970)

TABLE 4.02

1994 MOTORCYCLE CRASHES BY FIRST HARMFUL EVENT

First Harmful Event	Fatal Crashes	Injury Crashes	Property Damage Crashes	Total Crashes	Motorcyclists Killed	Motorcyclists Injured
Collision With:						
Other Motor Vehicle	17	526	105	648	18	601
Parked Motor Vehicle	0	17	29	46	0	17
Bicycle	0	7	0	7	0	8
Pedestrian	0	4	0	4	0	1
Deer	1	37	3	41	1	45
Other Animal	1	22	1	24	2	25
Fixed Object	9	113	10	132	9	133
Other Object	0	3	1	4	0	3
Non-Collision:						
Overturn	10	265	20	295	10	314
Other / Unknown	3	157	20	180	3	177
Total	41	1,151	189	1,381	43	1,324

TABLE 4.03

1994 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	4	166	51	221	4	181
50,000 - 99,999	0	100	13	113	0	109
25,000 - 49,999	1	179	18	198	1	202
10,000 - 24,999	5	147	43	195	5	169
5,000 - 9,999	3	91	9	103	3	103
2,500 - 4,999	1	33	5	39	1	37
1,000 - 2,499	1	28	5	34	1	33
Under 1,000	26	407	45	478	28	490
Total	41	1,151	189	1,381	43	1,324

TABLE 4.04

1994 MOTORCYCLE CRASHES BY MONTH

Month	Fatal Crashes	Injury Crashes	Property Damage Crashes	Total Crashes	Motorcyclists Killed	Motorcyclists Injured
January	0	0	1	1	0	0
February	0	1	1	2	0	1
March	1	21	6	28	1	23
April	5	94	24	123	5	110
May	7	198	33	238	7	223
June	4	190	29	223	5	222
July	5	244	31	280	5	293
August	7	204	33	244	7	231
September	11	117	19	147	12	134
October	1	65	8	74	1	67
November	0	16	4	20	0	19
December	0	1	0	1	0	1
Total	41	1,151	189	1,381	43	1,324

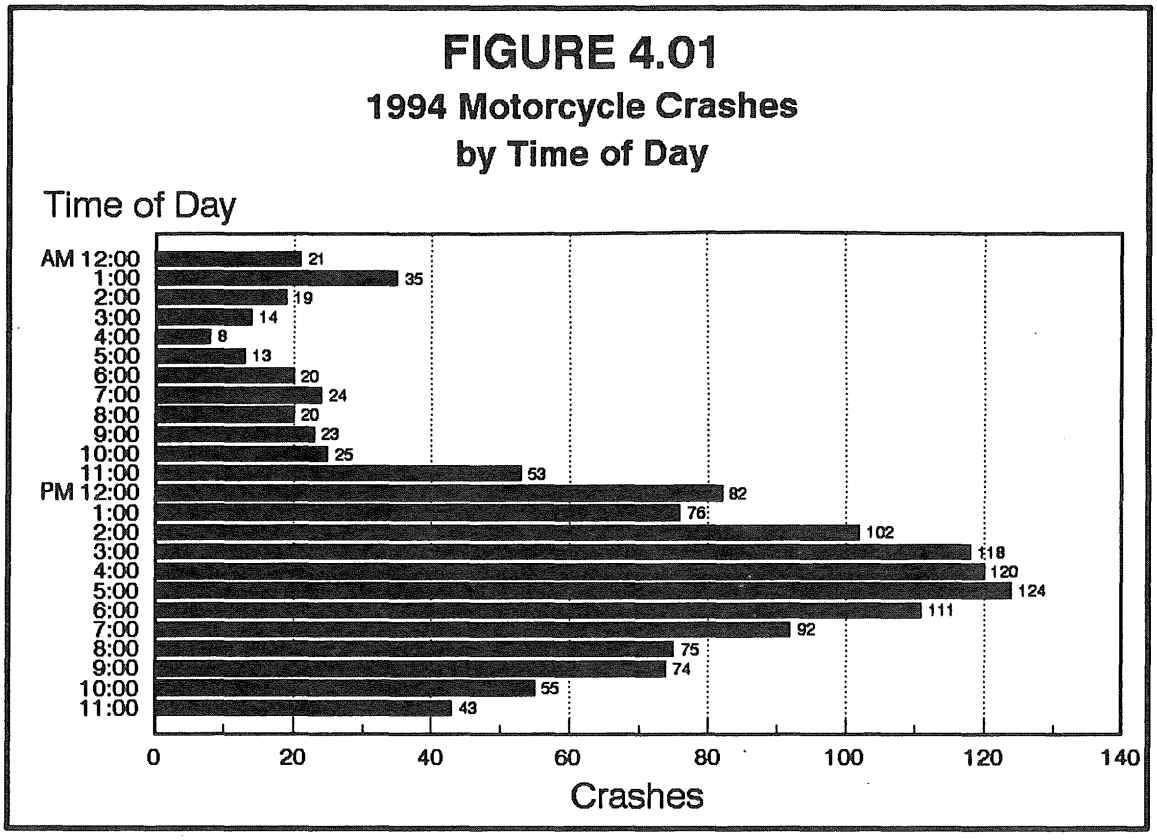


TABLE 4.05

1994 MOTORCYCLE 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	21	0	4	0	3	0	0	0	0	0	6	0	6	0	2	0
1:00	35	1	12	1	1	0	2	0	5	0	5	0	4	0	6	0
2:00	19	1	6	0	3	0	0	0	1	1	2	0	2	0	5	0
3:00	14	0	5	0	1	0	0	0	1	0	0	0	3	0	4	0
4:00	8	1	3	0	0	0	1	1	1	0	2	0	1	0	0	0
5:00	13	2	2	0	1	0	3	0	0	0	2	1	3	0	2	1
6:00	20	1	1	0	1	0	2	0	4	0	7	1	2	0	3	0
7:00	24	0	2	0	7	0	2	0	4	0	3	0	2	0	4	0
8:00	20	0	6	0	1	0	4	0	3	0	0	0	4	0	2	0
9:00	23	1	6	1	1	0	2	0	4	0	3	0	3	0	4	0
10:00	25	2	6	0	4	1	3	0	0	0	2	0	4	1	6	0
11:00	53	0	7	0	5	0	5	0	9	0	8	0	4	0	15	0
Noon	82	1	14	1	11	0	11	0	7	0	9	0	16	0	14	0
1:00	76	1	13	0	8	0	7	0	10	0	8	1	15	0	15	0
2:00	102	2	21	1	13	0	11	0	13	0	10	0	16	1	18	0
3:00	118	7	25	2	9	0	15	0	12	0	13	1	16	0	28	4
4:00	120	5	21	0	12	1	18	1	18	0	8	0	22	1	21	2
5:00	124	3	26	1	20	1	19	0	10	0	9	0	18	0	22	1
6:00	111	2	19	1	12	0	10	0	13	0	11	0	25	0	21	1
7:00	92	4	21	0	8	1	15	0	10	1	19	0	9	1	10	1
8:00	75	2	10	0	9	0	10	0	8	1	10	0	10	1	18	0
9:00	74	1	14	0	13	0	8	0	9	0	7	1	10	0	13	0
10:00	55	2	4	1	7	0	6	0	7	0	9	1	11	0	11	0
11:00	43	1	4	1	8	0	5	0	4	0	6	0	8	0	8	0
Not Stated	34	1	7	0	4	0	4	0	4	0	8	1	2	0	5	0
Total	1,381	41	259	10	162	4	163	2	157	3	167	7	216	5	257	10

TABLE 4.06

MOTORCYCLISTS KILLED OR INJURED BY AGE AND GENDER, 1994

	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	0	0	0	0	0	0	0	0	0	0	0	0
5 - 9	0	0	0	1	0	1	1	0	1	0	0	0	2	0	2
10 - 14	0	0	0	5	1	6	4	3	7	4	0	4	13	4	17
15 - 19	3	0	3	38	9	47	80	11	91	33	5	38	151	25	176
20 - 24	5	1	6	59	4	63	166	20	186	57	11	68	282	35	317
25 - 29	6	1	7	40	3	43	82	11	93	60	7	67	182	21	203
30 - 34	3	1	4	29	10	39	68	17	85	31	5	36	128	32	160
35 - 39	1	4	5	25	5	30	66	10	76	31	9	40	122	24	146
40 - 44	5	1	6	31	7	38	41	5	46	19	3	22	91	15	106
45 - 49	5	2	7	15	2	17	27	4	31	19	5	24	61	11	72
50 - 54	2	0	2	9	4	13	22	5	27	12	3	15	43	12	55
55 - 59	1	0	1	2	0	2	17	0	17	3	2	5	22	2	24
60 - 64	1	0	1	3	1	4	5	1	6	3	1	4	11	3	14
65 - 69	0	0	0	2	0	2	3	0	3	4	0	4	9	0	9
70 & Older	1	0	1	0	0	0	2	0	2	1	0	1	3	0	3
Not Stated	0	0	0	2	1	3	6	4	10	1	5	7	9	10	20
Total	33	10	43	261	47	308	590	91	681	278	56	335	1,129	194	1,324

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

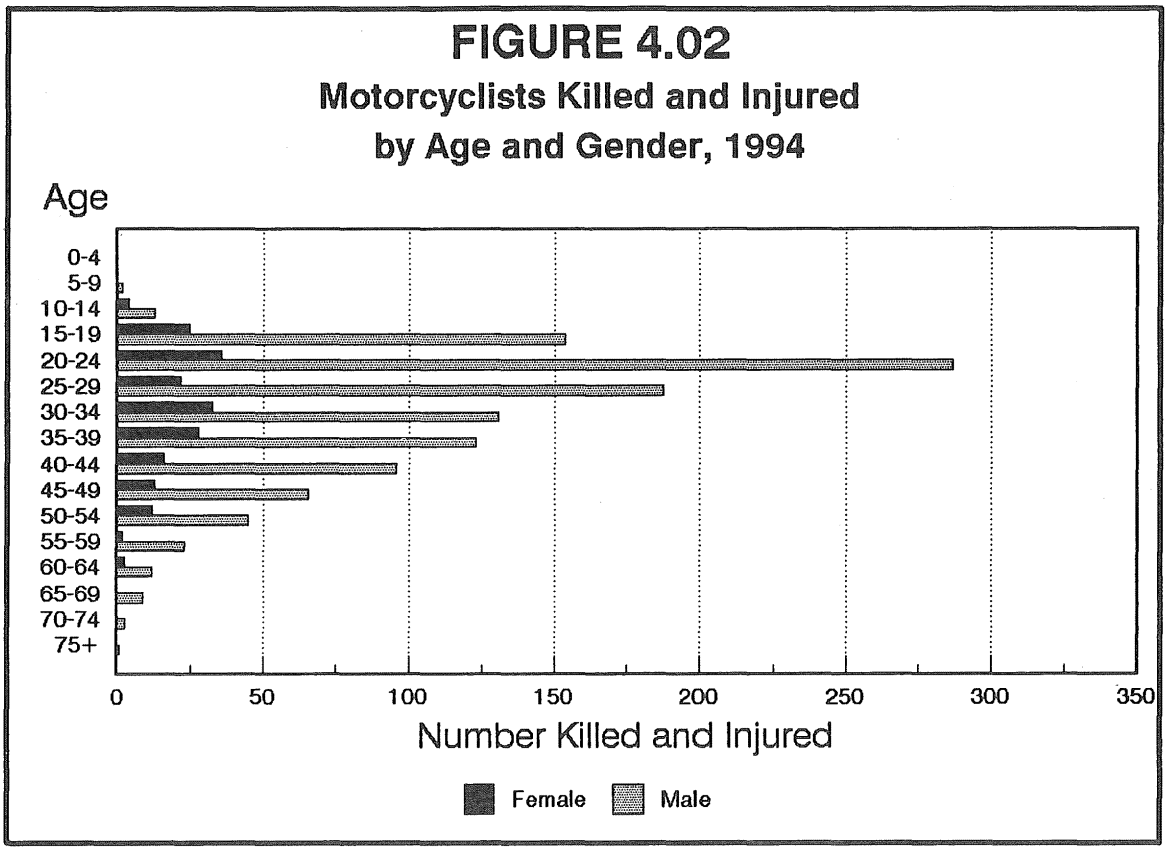


TABLE 4.07

HELMET USE BY MOTORCYCLISTS KILLED OR INJURED, 1990 - 1994

	Helmet Used		Helmet Not Used		Helmet Use Unknown		Total	
	Number	Percent	Number	Percent	Number	Percent	Number	Percent
Killed								
1990	2	4.0%	42	84.0%	6	12.0%	50	100.0%
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
Injured								
1990	419	26.1	917	57.1	269	16.8	1,605	100.0
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

TABLE 4.08

ENDORSEMENT STATUS OF MOTORCYCLE OPERATORS INVOLVED IN FATAL CRASHES, 1985 - 1994

	Valid Endorsement*		Permit Only		Canceled, Suspended, Revoked		No Endorsement		Total** For Year	
Year	Number	Percent	Number	Percent	Number	Percent	Number	Percent	Number	Percent
1985	50	64.9%	5	6.5%	7	9.1%	15	19.5%	77	100.0%
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

* 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, 1985 - 1994

Year	Killed	Tested	Alcohol Concentration* (.00)	(.01 - .09)	(.10 or more)
1985	63	51	18 (35%)	8 (16%)	25 (49%)
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%)

*Percentages are based on those motorcycle drivers tested.

TABLE 4.10

1994 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	1	1	0		0		1	0	0	0	0	0	0
18	2	1	0		0		1	0	0	0	0	0	0
19	0	0	0		0		0	0	0	0	0	0	0
20	0	0	0		0		0	0	0	0	0	0	0
Under 21	3	2	0		0		2	0	0	0	0	0	0
14 & Younger	0	0	0		0		0	0	0	0	0	0	0
15 - 19	3	2	0	(0%)	0	(0%)	2	0	0	0	0	0	0
20 - 24	5	3	0	(0%)	1	(33%)	2	0	0	0	1	0	0
25 - 29	6	4	0	(0%)	3	(75%)	1	0	0	2	1	0	0
30 - 34	3	3	0	(0%)	2	(67%)	1	0	0	2	0	0	0
35 - 39	2	1	0	(0%)	0	(0%)	1	0	0	0	0	0	0
40 - 44	6	5	1	(20%)	2	(40%)	2	1	0	1	0	0	1
45 - 49	6	4	1	(25%)	0	(0%)	3	0	1	0	0	0	0
50 - 54	2	2	0	(0%)	0	(0%)	2	0	0	0	0	0	0
55 - 59	1	1	0	(0%)	0	(0%)	1	0	0	0	0	0	0
60 & Older	2	2	0	(0%)	0	(0%)	2	0	0	0	0	0	0
Total	36	27	2	(7%)	8	(30%)	17	1	1	5	2	0	1

* Percentages are based on those motorcycle drivers tested.

TABLE 4.11

CONTRIBUTING FACTORS IN 1994 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	199	25.5%	88	17.5%	26	3.9%
Driver Inattention/Distraction	104	13.3	100	19.9	155	23.2
Driver Inexperience	106	13.6	29	5.8	10	1.5
Physical Impairment	91	11.7	23	4.6	8	1.2
Improper/Unsafe Lane Use	28	3.6	21	4.2	37	5.5
Following Too Closely	9	1.2	38	7.6	27	4.0
Failure to Yield Right of Way	7	0.9	57	11.4	244	36.5
Improper Passing/Overtaking	9	1.2	35	7.0	13	1.9
Disregard for Traffic Control Device	2	0.3	13	2.6	16	2.4
Driving Left of Roadway Center--Not Passing	7	0.9	6	1.2	12	1.8
Vision Obscured	12	1.5	11	2.2	26	3.9
Improper Turn	7	0.9	9	1.8	42	6.3
Improper Parking/Starting/ Stopping	10	1.3	6	1.2	15	2.2
Unsafe Backing	1	0.1	1	0.2	2	0.3
Impeding Traffic	0	0.0	5	1.0	0	0.0
Improper or No Signal	0	0.0	4	0.8	5	0.7
Failure to Use Lights	0	0.0	3	0.6	1	0.1
Other Human Factor	13	1.7	6	1.2	2	0.3
Vehicular Factors:						
Skidding	69	8.8	10	2.0	1	0.1
Defective Equipment	14	1.8	8	1.6	4	0.6
Other Vehicular Factors	25	3.2	3	0.6	1	0.1
Miscellaneous Factors:						
Weather Conditions	11	1.4	8	1.6	5	0.7
Other	57	7.3	18	3.6	17	2.5
Total	781	100.0%	502	100.0%	669	100.0%
No Improper Driving	144		378		224	
Total Number Drivers	672		743		704	

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.

Crashes, deaths, and injuries

There were 5,132 truck crashes in 1994. These crashes involved 5,185 trucks and 4,436 other motor vehicles (excluding parked vehicles). There were 81 fatal crashes, killing 94 people. The people killed included 2 bicyclists, 3 pedestrians, 6 truck occupants, and 83 occupants of other motor vehicles. There were 1,902 people injured -- 5 bicyclists, 26 pedestrians, 393 truck occupants, and 1,478 occupants of other motor vehicles. With two exceptions, the pattern of these numbers is similar to the pattern of recent years. The first exception is that deaths in 1994 increased 22% over 1993. (This is similar to the 20% increase in fatalities in all types of crashes -- not just those involving trucks -- in 1994 compared to 1993.) The second exception is that the proportion of injuries classified as severe went down as the proportion of moderate and minor injuries increased.

Leading type: collision with another vehicle

Seventy-six percent of truck crashes involved collision with another vehicle -- this is 13% more than the 67% of crashes in general that involved collision with another motor vehicle. The three next most frequent types of truck crashes were: collision with fixed object, 7% (compared to 11% for crashes in general), overturn accident, 5% (equal to the 5% for crashes in general), and collision with parked motor vehicle, 5% (compared to 6% for crashes in general).

Contributing factors

Driver inattention or distraction was the most frequently cited contributing factor in truck crashes. It represented about 21% of all factors cited for both the truck drivers and the other motor vehicle drivers. The next most commonly cited factors for the truck drivers were: failure to yield right of way (9%), illegal or unsafe speed (8%), improper or unsafe lane use (8%), following too closely (6%), and improper turn (5%). For the other motor vehicle drivers, the next most frequently cited factors were: illegal or unsafe speed (13%), failure to yield right of way (13%), improper or unsafe lane use (9%), and following too closely (6%). Truck drivers are less likely to have been drinking alcohol than other motor vehicle drivers. Only 18 of the 5,174 truck drivers, and 123 of the 4,432 other motor vehicle drivers, were suspected to have been drinking or to have been under the influence of alcohol or other drugs at the time of the crash.

Truck crashes are most likely on weekdays

Truck crashes are more likely than crashes in general to occur on Monday through Friday. In 1994, 90% of truck crashes occurred on Monday through Friday, compared to 76% for crashes in general. Seventy-eight percent of truck crashes occurred between 7:00 AM and 6:00 PM.

Road conditions

Sixty-five percent of all truck crashes, and 74% of fatal truck crashes, occurred on dry roads. The less serious crashes tended to occur inside towns and cities, whereas 70% of the fatal crashes occurred in rural areas -- areas having a population of 1,000 or less, that is, generally, open country. Eighty percent of the fatal crashes occurred on interstate or trunk highways.

TABLE 5.01

TRUCK CRASH SUMMARY, 1985 - 1994

	1985	1986	1987	1988	1989	1990	1991	1992	1993	1994
Total Crashes	**7,973**	**6,908**	**5,668**	**7,038**	**7,381**	**6,712**	**5,152**	**4,463**	**4,931**	**5,132**
Fatal Crashes	86	85	65	70	77	70	72	65	63	81
Persons Killed	101	100	71	78	94	83	85	84	77	94
Injury Crashes	1,941	1,674	1,443	1,729	1,784	1,652	1,250	1,213	1,268	1,369
Severe	337	266	232	282	247	225	137	167	148	151
Moderate	755	615	548	604	586	617	477	418	452	481
Minor	845	793	663	843	951	810	636	628	668	737
Persons Injured	2,798	2,371	2,033	2,444	2,411	2,390	1,762	1,721	1,764	1,902
Severe	447	347	291	362	293	285	179	222	198	203
Moderate	1,048	859	767	856	777	876	667	560	598	630
Minor	1,303	1,165	975	1,226	1,341	1,229	916	939	968	1,069
Property Damage Crashes	6,424	5,149	4,160	5,239	5,520	4,990	3,830	3,185	3,600	3,682

TABLE 5.02

PERSONS KILLED OR INJURED IN 1994 TRUCK CRASHES BY VEHICLE OCCUPIED

		Injured			
Vehicle Type	**Killed**	**Severe**	**Moderate**	**Minor**	**Total**
Automobile	67	139	342	637	1,118
Pickup Truck	8	15	73	94	182
Van	4	9	41	79	129
Police or Fire Department Vehicle	0	0	0	2	2
School Bus	0	0	1	0	1
Farm Equipment	1	3	1	0	4
Motorcycle	1	5	5	1	11
Hit and Run Vehicle	0	0	1	0	1
Two-Axle, Six-Tire Single Unit Truck or Stepvan	2	4	32	56	92
Three or More Axle Single Unit Truck	1	8	24	29	61
Single Unit Truck with Trailer	0	2	7	19	28
Truck Tractor with No Trailer	0	0	4	5	9
Truck Tractor with Semi Trailer	3	7	71	101	179
Truck Tractor with Twin Trailers	0	0	1	5	6
Heavy Truck--Other or Unknown Type	0	1	4	13	18
Other or Unknown Vehicle Type	2	4	10	16	30
Bicycle	2	0	3	2	5
Pedestrian	3	6	10	10	26
Total	94	203	630	1,069	1,902

TABLE 5.03

CONTRIBUTING FACTORS IN 1994 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	837	21.4%	727	21.7%
Illegal or Unsafe Speed	324	8.3	425	12.7
Failure to Yield Right of Way	341	8.7	422	12.6
Improper or Unsafe Lane Use	308	7.9	288	8.6
Following Too Closely	230	5.9	195	5.8
Improper Turn	190	4.9	79	2.4
Vision Obscured	161	4.1	88	2.6
Improper Passing or Overtaking	79	2.0	154	4.6
Disregard for Traffic Control Device	123	3.1	101	3.0
Unsafe Backing	202	5.2	17	0.5
Driver Inexperience	72	1.8	68	2.0
Physical Impairment	48	1.2	110	3.3
Improper Parking, Starting, or Stopping	66	1.7	62	1.8
Driving Left of Center (Not Passing)	31	0.8	81	2.4
Improper or No Signal	31	0.8	16	0.5
Impeding Traffic	18	0.5	18	0.5
Failure to Use Lights	1	0.0	7	0.2
Pedestrian Violation or Error	0	0.0	11	0.3
Use of Phone or CB Radio	7	0.2	2	0.1
Other Human Factors	42	1.1	27	0.8
Vehicular Factors				
Skidding	105	2.7	143	4.3
Defective Brakes	105	2.7	17	0.5
Oversize or Overweight Vehicle	38	1.0	2	0.1
Defective Tire	28	0.7	7	0.2
Defective Lights	14	0.4	10	0.3
Other Vehicular Factor	126	3.2	18	0.5
Miscellaneous Factors				
Weather	238	6.1	190	5.7
Other	151	3.9	71	2.1
Total Contributing Factors Cited	3,916	100.0%	3,356	100.0%
Vehicles for Which There Was "No Clear Contributing Factor"	2,344		2,209	
Total Number of Vehicles	5,328		4,694	

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 1994 CRASHES

Driver Age	Truck or Truck Tractor	Truck with Semi-Trailer	Truck with Twin Trailer	Truck with Other Trailer	Total
15 - 19	78	15	0	22	115
20 - 24	305	176	1	47	529
25 - 29	333	272	0	71	676
30 - 34	410	368	6	58	842
35 - 39	319	390	7	52	768
40 - 44	224	307	10	45	586
45 - 49	219	256	5	37	517
50 - 54	150	247	7	22	426
55 - 59	117	170	4	13	304
60 - 64	73	89	1	17	180
65 & Older	72	43	0	15	130
Not Stated	59	39	0	3	101
Total*	2,359	2,372	41	402	5,174

* There were 5,328 trucks in crashes in 1994. However, 143 of these were parked vehicles. The driver could not be identified for an additional 11 of these trucks. This table tabulates the ages of drivers for the remaining 5,174 trucks where it was possible to identify a driver.

TABLE 5.05

DRIVERS IN 1994 TRUCK CRASHES BY PHYSICAL CONDITION*

	Truck Driver		Other Driver	
Physical Condition	Number	Percent	Number	Percent
Normal	4,428	85.6	3,601	81.3
Under the Influence	9	0.2	80	1.8
Had Been Drinking	9	0.1	40	0.9
Had Been Using Drugs	0	0.0	3	0.1
Asleep	25	0.5	20	0.5
Fatigued	16	0.3	10	0.2
Ill	6	0.1	4	0.1
Other	5	0.1	18	0.4
Unknown	676	13.1	656	14.8
Total **	5,174	100.0%	4,432	100.0%

* As noted by police officer on accident report.

** There were 5,328 trucks in crashes in 1994. However, 143 were parked. The driver could not be identified for an additional 11. This table tabulates the apparent physical condition of drivers for the remaining 5,174 trucks where it was possible to identify a driver. Also, there were 4,657 non-truck motor vehicles in 1994 truck crashes. However, 221 of them were parked, and there were 4 more for which a driver could not be identified, leaving 4,432 for which an apparent physical condition was recorded.

TABLE 5.06

1994 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	71	1,108	2,723	3,902	83	1,600
Parked Motor Vehicle	0	31	215	246	0	38
Railroad Train	0	8	10	18	0	12
Bicycle	2	5	1	8	2	5
Pedestrian	3	18	0	21	3	22
Deer	0	3	55	58	0	4
Other Animal	0	1	30	31	0	1
Fixed Object	3	55	301	359	4	61
Other Object	0	3	38	41	0	3
Non-Collision:						
Overturn	2	115	140	257	2	128
Fire or Explosion	0	2	9	11	0	3
Other	0	20	160	180	0	25
Total	81	1,369	3,682	5,132	94	1,902

TABLE 5.07

1994 TRUCK CRASHES BY MONTH

Month	Fatal Crashes	Injury Crashes	Property Damage Crashes	Total Crashes	Killed	Injured
January	5	131	452	588	5	169
February	7	115	367	489	7	158
March	10	75	232	317	12	123
April	4	80	249	333	4	114
May	2	94	256	352	3	123
June	11	120	336	467	12	156
July	8	102	299	409	12	149
August	5	149	323	477	6	220
September	7	130	323	460	7	180
October	12	149	297	458	14	210
November	5	106	273	384	7	135
December	5	118	275	398	5	165
Total	81	1,369	3,682	5,132	94	1,902

TABLE 5.08

1994 TRUCK CRASHES BY TIME AND DAY

Time of Day	Total	Sunday	Monday	Tuesday	Wednesday	Thursday	Friday	Saturday
Midnight - 2:59 AM	99	8	14	12	13	9	23	20
3:00 - 5:59 AM	139	9	15	24	24	19	37	11
6:00 - 8:59 AM	789	22	123	149	121	169	159	46
9:00 - 11:59 AM	1,128	22	198	204	195	204	227	78
Noon - 2:59 PM	1,205	38	195	239	209	218	230	76
3:00 - 5:59 PM	1,051	34	188	201	188	209	202	29
6:00 - 8:59 PM	403	32	56	60	70	84	75	26
9:00 - 11:59 PM	225	28	38	32	41	37	33	16
Unknown	93	7	13	15	15	21	12	10
Total	5,132	200	840	936	876	970	998	312

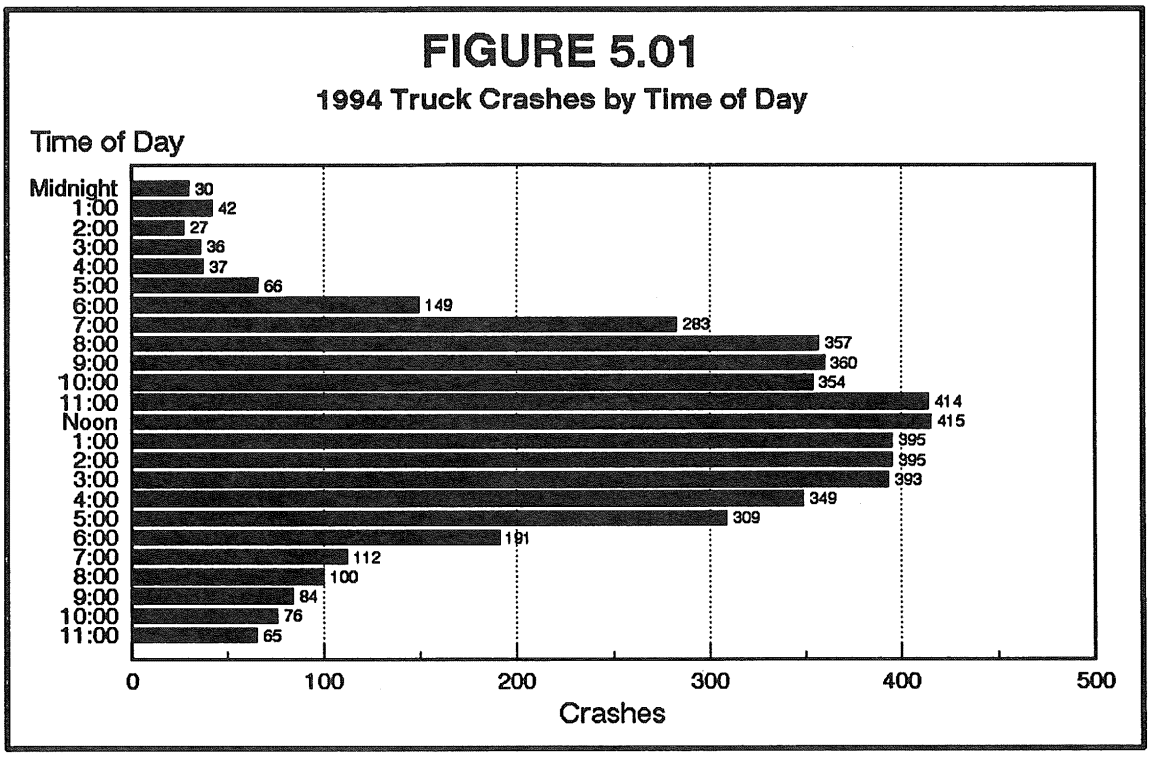


TABLE 5.09

1994 TRUCK CRASHES BY ROAD SURFACE CONDITION

Road Surface Condition	Fatal Crashes	Injury Crashes	Property Damage Crashes	Total Crashes	Killed	Injured
Dry	60	904	2,366	3,330	70	1,268
Wet	12	214	469	695	14	302
Snow or Slush	1	75	250	326	1	95
Ice or Packed Snow	7	148	500	655	8	201
Other	0	18	41	59	0	24
Unknown	1	10	56	67	1	12
Total	81	1,369	3,682	5,132	94	1,902

TABLE 5.10

1994 TRUCK CRASHES BY WEATHER CONDITION

Weather Condition	Fatal Crashes	Injury Crashes	Property Damage Crashes	Total Crashes	Killed	Injured
Clear	43	743	1,990	2,776	50	1,041
Cloudy	19	357	947	1,323	22	506
Rain	8	107	216	331	10	143
Snow	3	97	322	422	3	125
Sleet/Hail/Freezing Rain	0	6	36	42	0	7
Fog/Smog/Smoke	4	19	40	63	5	32
Blowing Sand/Dust/Snow	3	19	46	68	3	23
Severe Cross Winds	0	6	15	21	0	7
Other	0	4	11	15	0	4
Unknown	1	11	59	71	1	14
Total	81	1,369	3,682	5,132	94	1,902

TABLE 5.11

1994 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	2	196	659	857	2	263
50,000 - 99,999	0	127	349	476	0	170
25,000 - 49,999	8	175	514	697	12	253
10,000 - 24,999	8	189	563	760	8	242
5,000 - 9,999	5	86	238	329	6	124
2,500 - 4,999	0	44	153	197	0	57
1,000 - 2,499	1	47	103	151	1	65
Under 1,000	57	505	1,103	1,665	65	728
Total	81	1,369	3,682	5,132	94	1,902

TABLE 5.12

1994 TRUCK CRASHES BY TYPE OF ROADWAY

Roadway Type	Fatal Crashes	Injury Crashes	Property Damage Crashes	Total Crashes	Killed	Injured
Interstate Highway	6	248	769	1,023	7	335
US Trunk Highway	28	276	585	889	31	382
State Trunk Highway	31	365	767	1,163	35	534
County State-Aid Highway	13	251	644	908	18	348
County Road	1	18	48	67	1	21
Township Road	0	31	42	73	0	42
Local Street	2	174	793	969	2	233
Other Road	0	6	34	40	0	7
Total	81	1,369	3,682	5,132	94	1,902

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.

Crashes up slightly from 1993
There were 1,409 crashes that involved pedestrians in 1994. This is a 2% increase from last year, but a 3% decrease from the average of the prior five years. There were 53 pedestrians killed which is 6 more than last year. There were also 1,400 pedestrians injured in crashes.

Half under 25
Half (50%) of the pedestrians who were injured were under the age of 25. Thirty-four percent of pedestrians killed were under the age of 25. Children from 5 to 9 years old made up the largest group of pedestrians injured. Only 9% of people injured were over 60, but 30% of those killed were over 60.

Injury severity
Of the 1,400 pedestrians injured, 21% had severe injuries, 37% had moderate injuries, and 42% had minor injuries. Slightly more than half (55%) were male. Of the 53 fatalities, 64% were male and 36% were female.

Differences by gender
For pedestrians under 45 years old, many more males than females were injured. After age 45 these differences become smaller and, in some age groups, females outnumber males.

Crashes by month and area
Crashes were fairly evenly distributed by month. October had the highest number of crashes (144), and February had the least (81). December had the highest number of fatalities with 11. Areas of over 100,000 population had 45% of the crashes and 19% of the fatalities. Areas of under 1,000 population had only 13% of the crashes but 30% of the deaths.

Afternoons and Fridays most crash involved
The hours from 3:00 to 6:00 PM had the highest number of crashes. From 3:00 to 4:00 PM was the single hour with the most crashes. Of the days of the week, Friday had the most crashes (243) and Sunday had the least (128).

Majority of motor vehicles going straight ahead
In fatal crashes, 82% of the motor vehicles were going straight prior to striking a pedestrian. This was true of 60% of vehicles in injury crashes. Only 2% of vehicles in pedestrian crashes were making a turn on red.

Pedestrians crossing the road
While motor vehicles were most often going straight, pedestrians were most often crossing the street when struck. Thirty percent of pedestrians killed and 27% of those injured were crossing where there was no signal or crosswalk. Pedestrians who were killed were next most likely to have been walking in the road with traffic. For those injured the next highest category was crossing with the signal.

Drivers distracted
The top two contributing factors for motor vehicle drivers in crashes involving pedestrians were driver inattention or distraction and failure to yield the right of way. However, 43% of drivers were found to have committed no improper driving.

When pedestrians drink, they drink a lot
Of the 53 pedestrians who were killed, 26 (49%) were tested for alcohol concentrations. Of those tested, 69% (18) had not been drinking, 1 (4%) had an alcohol concentration between .01 and .09, and 7 (27%) had alcohol concentrations of .10 or over. So, seven of the eight who had been drinking were at .10 or higher. Four of the seven at .10 or higher were between 30 and 39 years old and four of the seven were involved in a crash between 9:00 PM and Midnight.

TABLE 6.01

PEDESTRIAN CRASH SUMMARY, 1985 - 1994

	1985	1986	1987	1988	1989	1990	1991	1992	1993	1994
Pedestrian Crashes*	1,845	1,610	1,556	1,575	1,591	1,512	1,338	1,420	1,383	1,409
Pedestrians Killed	65	71	62	69	67	65	61	46	47	53
Pedestrians Injured	1,837	1,570	1,533	1,566	1,578	1,499	1,339	1,424	1,390	1,400

*Prior to 1984 a crash was defined as a pedestrian crash only if a 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.

TABLE 6.02

PEDESTRIANS KILLED OR INJURED BY AGE AND GENDER, 1994

Age	Killed			Injured											
				Severe			Moderate			Minor			Total		
Group	M	F	Total	M	F	Total*	M	F	Total*	M	F	Total*	M	F	Total*
0 - 4	4	1	5	10	8	19	19	12	31	22	9	36	51	29	86
5 - 9	2	1	3	19	12	31	37	39	77	43	25	70	99	76	178
10 - 14	2	3	5	27	18	46	30	30	61	29	28	60	86	76	167
15 - 19	2	1	3	14	10	24	31	31	63	29	23	54	74	64	141
20 - 24	0	2	2	11	8	19	37	19	57	25	18	46	73	45	122
25 - 29	3	0	3	10	10	20	19	14	34	21	13	36	50	37	90
30 - 34	3	2	5	10	9	19	15	4	20	27	15	45	52	28	84
35 - 39	5	0	5	12	6	18	20	7	27	28	9	39	60	22	84
40 - 44	1	1	2	12	7	19	15	10	25	19	12	31	46	29	75
45 - 49	0	1	1	8	7	15	14	13	27	5	5	11	27	25	53
50 - 54	0	0	0	8	6	14	7	10	17	9	9	18	24	25	49
55 - 59	2	1	3	3	4	7	7	4	11	5	1	6	15	9	24
60 - 64	2	0	2	6	2	8	6	5	11	2	8	10	14	15	29
65 - 69	2	1	3	0	3	3	4	3	7	2	8	10	6	14	20
70 - 74	3	2	5	0	5	5	6	5	11	5	4	9	11	14	25
75 - 79	1	2	3	3	3	6	3	2	5	0	6	6	6	11	17
80 - 84	1	1	2	3	7	10	2	2	4	1	5	6	6	14	20
85 & Older	1	0	1	1	3	4	2	3	5	1	3	4	4	9	13
Not Stated	0	0	0	6	2	9	11	9	21	45	25	93	62	36	123
Total	34	19	53	163	130	296	285	222	514	318	226	590	766	578	1,400

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

FIGURE 6.01

Pedestrian Fatalities by Age

1985 - 1994 Combined

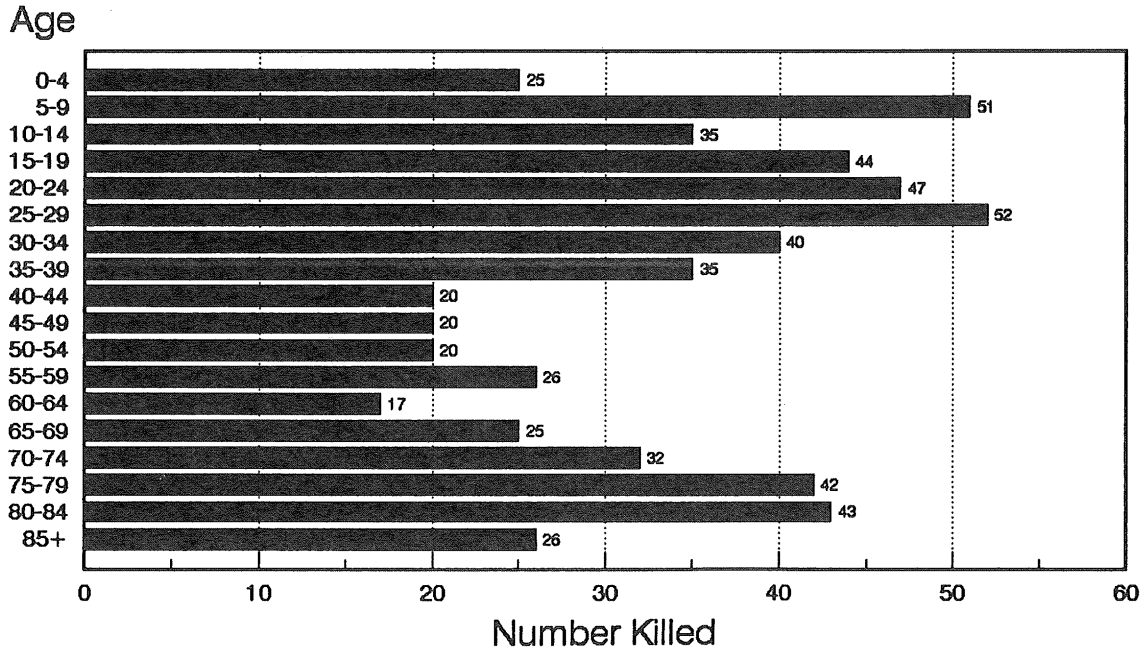


FIGURE 6.02

Pedestrians Killed and Injured

by Age and Gender, 1994

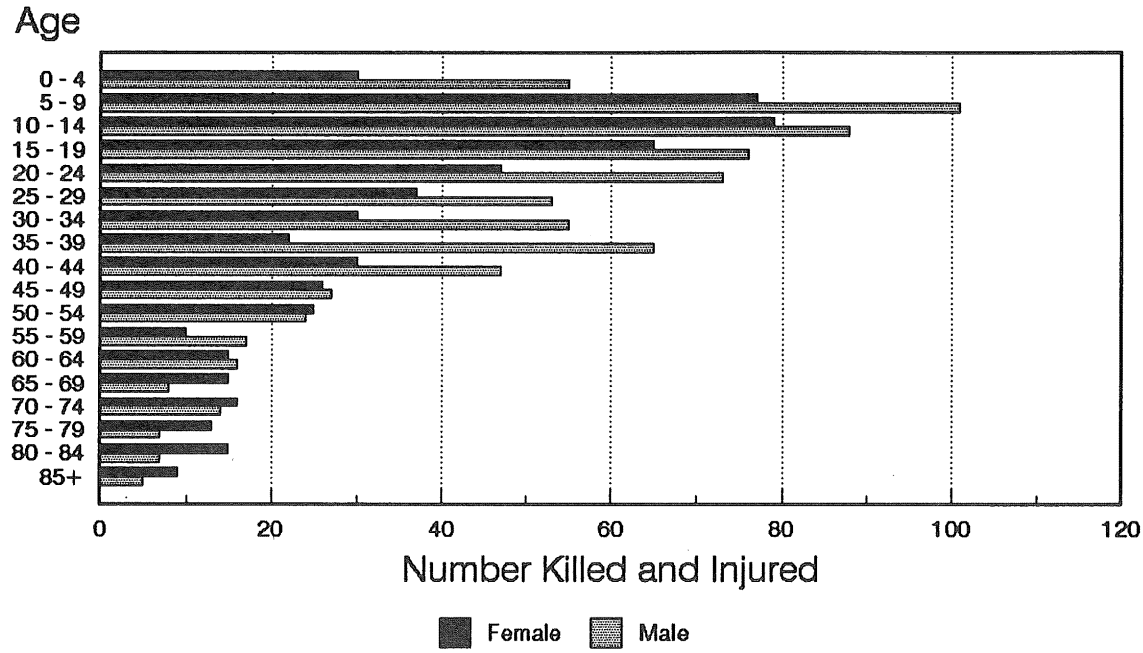


TABLE 6.03

1994 PEDESTRIAN CRASHES BY MONTH

Month	Fatal Crashes	Injury Crashes	Total Crashes	Pedestrians Killed	Pedestrians Injured
January	1	111	112	1	115
February	4	77	81	4	82
March	3	114	117	3	120
April	2	103	105	2	105
May	8	134	142	8	138
June	3	109	112	4	116
July	4	107	111	4	109
August	1	102	103	1	104
September	5	121	126	5	125
October	6	138	144	6	140
November	4	126	130	4	130
December	11	115	126	11	116
Total	52	1,357	1,409	53	1,400

TABLE 6.04

1994 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	10	623	633	10	633
50,000 - 99,999	3	104	107	3	112
25,000 - 49,999	6	178	184	6	189
10,000 - 24,999	9	176	185	9	178
5,000 - 9,999	5	66	71	5	66
2,500 - 4,999	1	28	29	1	29
1,000 - 2,499	3	10	13	3	10
Under 1,000	15	172	187	16	183
Total	52	1,357	1,409	53	1,400

TABLE 6.05

1994 PEDESTRIAN CRASHES BY TIME AND DAY

Time of Day	Fatal Crashes	Total Crashes	Sunday	Monday	Tuesday	Wednesday	Thursday	Friday	Saturday
Midnight 2:59 AM	4	69	12	6	7	7	7	9	21
3:00 - 5:59 AM	2	21	6	2	6	1	1	2	3
6:00 - 8:59 AM	5	109	1	18	17	27	22	16	8
9:00 - 11:59 AM	3	134	10	20	23	21	17	31	12
Noon - 2:59 PM	4	233	20	26	38	35	33	45	36
3:00 - 5:59 PM	14	392	27	64	70	64	70	58	39
6:00 - 8:59 PM	10	274	25	33	47	40	51	42	36
9:00 - 11:59 PM	10	139	21	13	15	11	24	31	24
Unknown	0	38	6	5	6	4	3	9	5
Total	52	1,409	128	187	229	210	228	243	184

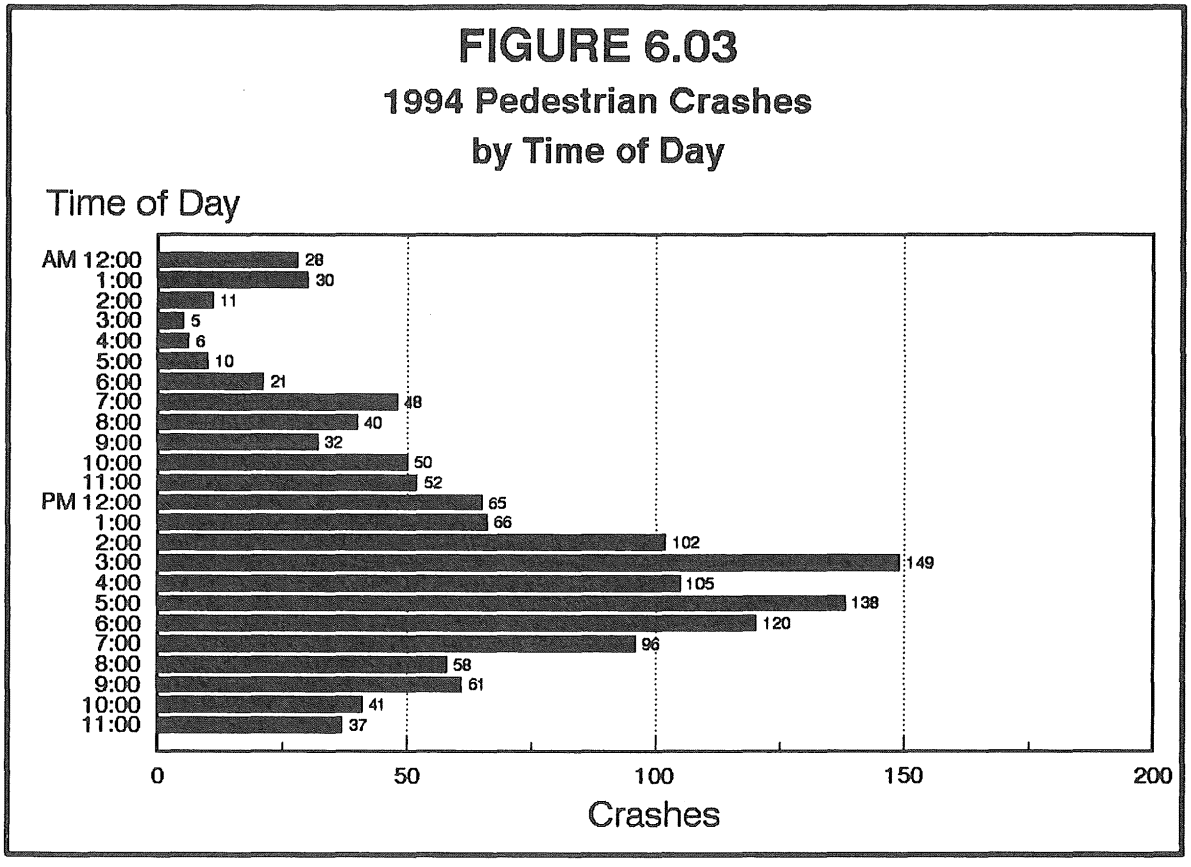


TABLE 6.06

PRIOR ACTION OF VEHICLES IN 1994 PEDESTRIAN CRASHES

Action	Vehicles in Fatal Crashes	Vehicles in Injury Crashes	Vehicles in Total Crashes*
Going Straight	50	871	921
Wrong Way Opposing Traffic	0	8	8
Turning Right on Red	0	23	23
Turning Left on Red	0	2	2
Turning Right	1	92	93
Turning Left	1	143	144
Making U Turn	0	4	4
Starting From Parked	0	31	31
Starting in Traffic	0	19	19
Slowing in Traffic	1	13	14
Parking	0	8	8
Avoiding Object in Road	3	30	33
Changing Lanes	1	10	11
Passing	0	6	6
Backing	0	56	56
All Others	3	96	99
Unknown	1	37	38
Total	61	1,449	1,510

* 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 1994

Action	Pedestrians Killed		Pedestrians Injured	
	Number	Percent	Number	Percent
Crossing Road (No Crosswalk and No Signal)	16	30.2%	373	26.6%
Crossing Against Signal	1	1.9	105	7.5
Crossing With Signal	2	3.8	146	10.4
Crossing In Crosswalk (No Signal)	1	1.9	99	7.1
Walking In Road With Traffic	6	11.3	97	6.9
Walking In Road Against Traffic	2	3.8	70	5.0
Standing In Road	5	9.4	77	5.5
Emerging From Front/Behind Parked Car	4	7.5	78	5.6
Child Getting On/Off School Bus	0	0.0	5	0.4
Pushing/Working On Vehicle	0	0.0	8	0.6
Working In Road	1	1.9	12	0.9
Getting On/Off Vehicle	0	0.0	20	1.4
Playing In Road	1	1.9	22	1.6
Not In Road	3	5.7	48	3.4
Other Pedestrian Action	4	7.5	109	7.8
Unknown	7	13.2	131	9.4
Total	53	100.0%	1,400	100.0%

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

TABLE 6.08

CONTRIBUTING FACTORS IN 1994 PEDESTRIAN CRASHES

Contributing Factors	Attributed to Motor Vehicle Drivers Number	Percent
Human Factors		
Driver Inattention/Distraction	305	27.7%
Failure to Yield Right of Way	232	21.1
Vision Obscured	88	8.0
Illegal or Unsafe Speed	85	7.7
Physical Impairment	40	3.6
Improper/Unsafe Lane Use	37	3.4
Driver Inexperience	26	2.4
Unsafe Backing	30	2.7
Disregard for Traffic Control Device	27	2.5
Improper Turn	21	1.9
Improper Parking/Stopping/Starting	20	1.8
Driving Left of Roadway Center - Not Passing	9	0.8
Improper Passing	11	1.0
Following Too Closely	5	0.5
Failure to Use Lights	3	0.3
Impeding Traffic	3	0.3
Other Human Factors	20	1.8
Vehicular Factors		
Defective Equipment	5	0.5
Skidding	27	2.5
Other Vehicular Factors	4	0.4
Miscellaneous Factors		
Weather Conditions	35	3.2
Other	69	6.3
Total Contributing Factors Cited	1,102	100.0%
No Improper Actions:	655	
Total Number of Drivers	1,510	

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, 1985 - 1994

Year	Killed	Tested	Alcohol Concentration* (.00)	(.01 - .09)	(.10 or more)
1985	65	37	22 (59%)	5 (14%)	10 (27%)
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%)

* 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

1994 PEDESTRIAN FATALITIES' LEVEL OF ALCOHOL CONCENTRATION BY AGE

Age Group	Killed	Tested	Alcohol Concentration (.00)	(.01 - .09)	(.10 or more)
14 & Younger	13	5	5	0	0
15 - 19	3	1	1	0	0
20 - 24	2	1	0	0	1
25 - 29	3	1	1	0	0
30 - 34	5	2	0	0	2
35 - 39	5	4	2	0	2
40 - 44	2	2	2	0	0
45 - 49	1	1	1	0	0
50 - 54	0	0	0	0	0
55 - 59	3	1	1	0	0
60 - 64	2	2	1	0	1
65 - 69	3	0	0	0	0
70 - 74	5	4	3	1	0
75 - 79	3	2	1	0	1
80 - 84	2	0	0	0	0
85 & Older	1	0	0	0	0
Total	53	26	18	1	7

TABLE 6.11

1994 PEDESTRIAN FATALITIES' LEVEL OF ALCOHOL CONCENTRATION BY TIME OF DAY

Time of Day	Killed	Tested	Alcohol Concentration (.00)	(.01 - .09)	(.10 or more)
Midnight - 2:59 AM	4	2	1	0	1
3:00 - 5:59 AM	2	0	0	0	0
6:00 - 8:59 AM	5	1	1	0	0
9:00 - 11:59 AM	3	1	1	0	0
Noon - 2:59 PM	4	2	2	0	0
3:00 - 5:59 PM	15	6	5	1	0
6:00 - 8:59 PM	10	6	4	0	2
9:00 - 11:59 PM	10	8	4	0	4
Total	53	26	18	1	7

VII: BICYCLE CRASHES

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

Data collected before 1984 counted bicycles only if they were the first "object" struck by the motor vehicle. Beginning in 1984, all motor vehicle crashes that involved a collision with a bicycle were reported as bicycle crashes. The number of bicycle crashes reported here rose slightly as a result.

Fatalities increase
There were 1,436 motor vehicle crashes that involved a bicycle in 1994. This is an increase of 8% over the average of the prior five years. There were 16 bicyclists killed in these crashes; this is an increase of 74% from the average of the prior five years. There were also 1,359 bicyclists were injured in these crashes. This is a 7% increase from the average of the prior five years.

Summer months crash involved
Over half the crashes, injuries, and fatalities occurred in the months of June, July, and August combined. Only 5% of the crashes (and no fatalities) occurred in the months of January, February, November, and December combined.

Crashes in afternoon hours
Over one-third (34%) of the crashes occurred between the hours of 3:00 and 6:00 PM. The hour from 5:00 to 6:00 PM had the highest number of crashes for a one hour period. Only 2% of the crashes occurred from Midnight to 6:00 AM, while 72% of crashes occurred from Noon to 9:00 PM.

Sunday had fewest crashes
Of the days of the week, Sunday had the lowest number of crashes (131) and Thursday the highest (239). Saturday and Sunday combined accounted for 23% of the crashes.

Fatalities higher in rural areas
More than one-third of crashes (35%) and injuries (34%) occurred in areas of over 100,000 population, but only 13% of the fatalities occurred there. Areas of under 1,000 population, on the other hand, accounted for 31% of fatalities, 14% of the injuries, and 14% of the crashes.

Injuries highest under 25
People from ages 5 to 24 made up 50% of the fatalities and 67% of the injuries. Those from 10 to 14 years of age alone accounted for 31% of the injuries and 25% of the fatalities. There were more than twice as many males as females injured at all levels of severity. Twelve percent of bicyclist injuries were severe, 49% were moderate, and 40% were minor. Only 5% of bicyclists involved in crashes were known to have been wearing a helmet.

Bicyclists crossing road
The most common action of bicyclists prior to collision was riding across the road. Next most common was riding with traffic. (This is not surprising since bicyclists are required to ride with traffic.)

Common contributing factors
The top two contributing factors in bicycle crashes for both the bicyclist and the motor vehicle driver were driver inattention or distraction and failure to yield the right of way. Over half (51%) of the motor vehicle drivers committed no improper driving; this was true of only 28% of bicyclists.

TABLE 7.01

BICYCLE CRASH SUMMARY, 1985 - 1994

	1985	1986	1987	1988	1989	1990	1991	1992	1993	1994
Bicycle Crashes	1,375	1,367	1,574	1,448	1,392	1,357	1,208	1,343	1,321	1,436
Bicyclists Killed	10	12	15	16	10	8	8	11	9	16
Bicyclists Injured	1,342	1,309	1,452	1,401	1,353	1,327	1,157	1,249	1,240	1,359

TABLE 7.02

1994 BICYCLE CRASHES BY MONTH

Month	Fatal Crashes	Injury Crashes	Property Damage Crashes	Total Crashes	Bicyclists Killed	Bicyclists Injured
January	0	6	0	6	0	6
February	0	14	2	16	0	14
March	1	46	3	50	1	49
April	2	93	3	98	2	94
May	2	174	13	189	2	175
June	2	243	11	256	2	246
July	5	233	12	250	5	238
August	2	235	8	245	2	238
September	2	125	16	143	2	125
October	0	122	5	127	0	124
November	0	37	5	42	0	37
December	0	13	1	14	0	13
Total	16	1,341	79	1,436	16	1,359

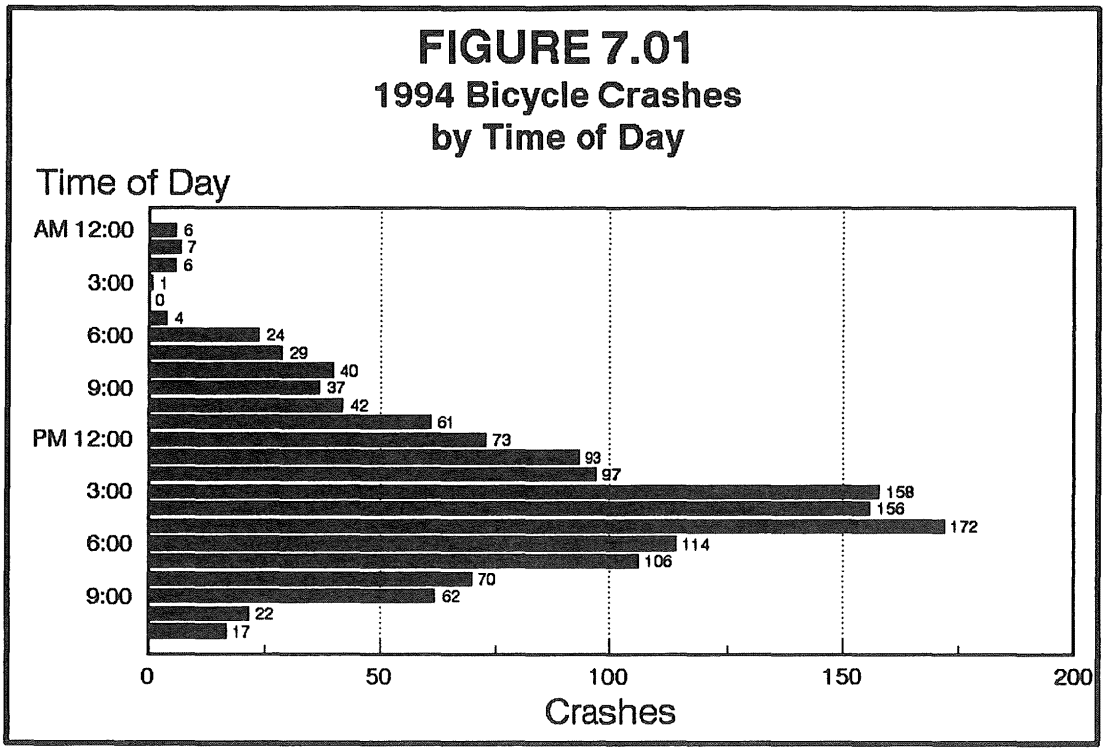


TABLE 7.03

1994 BICYCLE CRASHES BY TIME AND DAY

Time of Day	Total	Sunday	Monday	Tuesday	Wednesday	Thursday	Friday	Saturday
Midnight - 2:59 AM	19	4	1	2	1	3	3	5
3:00 - 5:59 AM	5	1	1	2	0	0	0	1
6:00 - 8:59 AM	93	5	13	16	18	19	19	3
9:00 - 11:59 AM	140	12	13	22	24	20	18	31
Noon - 2:59 PM	263	26	34	31	45	36	43	48
3:00 - 5:59 PM	486	33	83	80	80	85	77	48
6:00 - 8:59 PM	290	36	37	39	50	47	38	43
9:00 - 11:59 PM	101	13	11	10	14	18	18	17
Unknown	39	1	6	4	6	11	7	4
Total	1,436	131	199	206	238	239	223	200

TABLE 7.04

1994 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	2	455	45	502	2	462
50,000 - 99,999	3	116	4	123	3	117
25,000 - 49,999	0	220	7	227	0	223
10,000 - 24,999	4	226	9	239	4	227
5,000 - 9,999	2	70	1	73	2	72
2,500 - 4,999	0	45	3	48	0	45
1,000 - 2,499	0	26	1	27	0	26
Under 1,000	5	183	9	197	5	187
Total	16	1,341	79	1,436	16	1,359

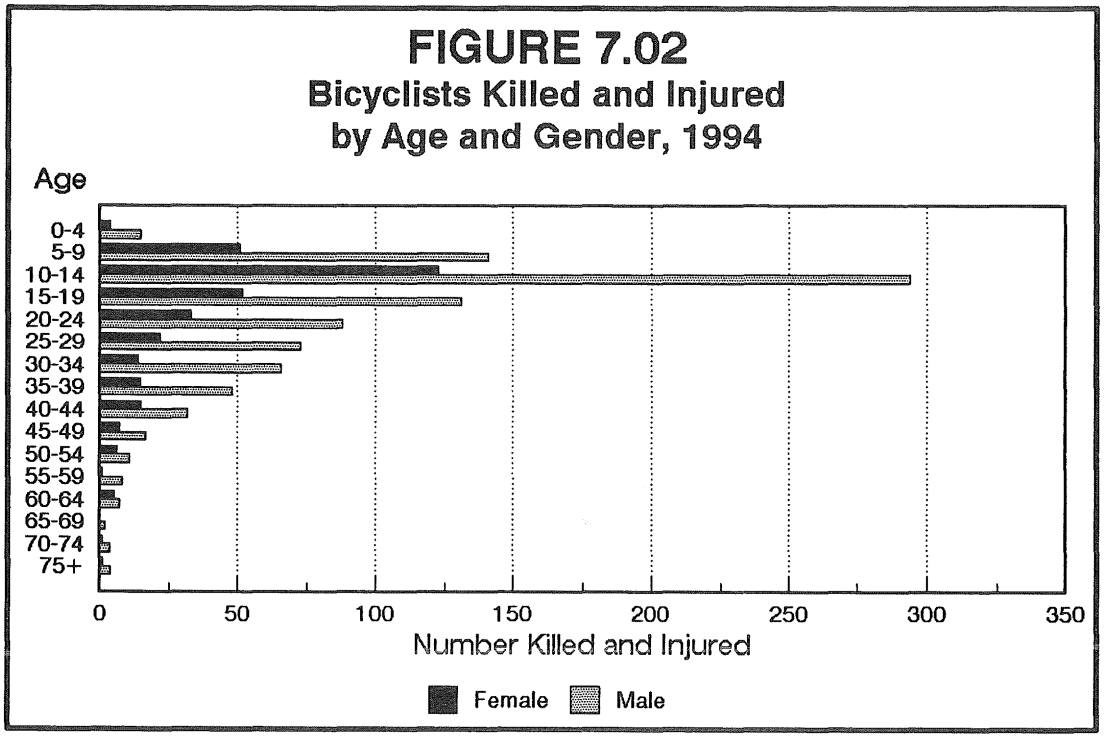


TABLE 7.05

BICYCLISTS KILLED OR INJURED BY AGE AND GENDER, 1994

	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	6	3	9	8	1	9	15	4	19
5 - 9	1	1	2	14	6	20	79	20	101	47	24	71	140	50	192
10 - 14	2	2	4	32	12	44	156	53	209	104	56	162	292	121	415
15 - 19	1	0	1	18	9	27	70	21	92	42	22	64	130	52	183
20 - 24	1	0	1	7	2	9	43	18	61	37	13	50	87	33	120
25 - 29	0	1	1	6	3	9	32	11	43	35	7	42	73	21	94
30 - 34	2	0	2	7	2	9	31	7	38	26	5	31	64	14	78
35 - 39	1	0	1	10	0	10	22	8	30	15	7	22	47	15	62
40 - 44	1	1	2	5	3	8	14	6	21	12	5	18	31	14	47
45 - 49	0	0	0	1	0	1	8	5	13	8	2	10	17	7	24
50 - 54	0	0	0	3	3	7	7	3	10	1	0	1	11	6	18
55 - 59	0	0	0	3	0	3	3	0	3	2	1	3	8	1	9
60 - 64	0	0	0	1	0	1	2	3	5	4	2	6	7	5	12
65 - 69	0	0	0	0	0	0	1	0	1	1	0	1	2	0	2
70 - 74	2	0	2	0	1	1	1	0	1	1	0	1	2	1	3
75 & Older	0	0	0	1	0	1	2	1	3	1	0	1	4	1	5
Not Stated	0	0	0	2	2	6	15	6	23	26	9	47	43	17	76
Total	11	5	16	111	43	157	492	165	663	370	154	539	973	362	1,359

* 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 1994 CRASHES

Prior Action	Bicyclists In Fatal Crashes	Bicyclists In Injury Crashes	Bicyclists In Property Damage Crashes	Bicyclists In All Crashes*
Riding With Traffic	1	231	16	248
Riding Against Traffic	1	149	6	156
Making Right Turn	1	12	1	14
Making Left Turn	2	45	3	50
Making U Turn	0	4	0	4
Riding Across Road	6	452	25	483
Slowing, Starting, Stopping	0	28	5	33
Other	2	265	12	279
Unknown	3	169	11	183
Total	16	1,355	79	1,450

* 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 1994 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	267	21.2%	255	29.8%
Driver Inattention/Distraction	254	20.2	271	31.6
Disregard for Traffic Control Device	140	11.1	24	2.8
Improper/Unsafe Lane Use	128	10.2	17	2.0
Driver Inexperience	73	5.8	15	1.8
Vision Obscured	45	3.6	102	11.9
Improper Turn	38	3.0	26	3.0
Failure to Use Lights	36	2.9	0	0.0
Illegal/Unsafe Speed	35	2.8	21	2.5
Driving Left of Roadway Center--Not Passing	34	2.7	8	0.9
Physical Impairment	19	1.5	9	1.1
Improper Parking/ Starting/Stopping	9	0.7	11	1.3
Improper Passing/Overtaking	6	0.5	15	1.8
Impeding Traffic	6	0.5	4	0.5
Following Too Closely	4	0.3	8	0.9
Improper or No Signal	3	0.2	2	0.2
Unsafe Backing	0	0.0	5	0.6
Other Human Factors	25	2.0	10	1.2
Vehicular Factors				
Defective Equipment	35	2.8	4	0.5
Skidding	4	0.3	9	1.1
Other Vehicular Factors	2	0.2	1	0.1
Miscellaneous Factors				
Weather Conditions	16	1.3	10	1.2
Other	80	6.4	30	3.5
Total	1,259	100.0%	857	100.0%
No Improper Driving	404		740	
Total Number of Bicyclists/Drivers	1,450		1,446	

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 remains remarkably safe in Minnesota. For the past ten years, the number of fatalities in school bus crashes has ranged from 1 to 6 per year. However, because school buses may carry many passengers, a small number of crashes may involve a large number of injuries. Crashes included in this section are those in which at least one school bus was physically involved (the bus was struck by or struck another vehicle or pedestrian).

Crashes down from record high
There were 821 crashes that involved a school bus in 1994. This is 8% fewer than the record high number (894) that occurred in 1993. Crashes are up 3% from the average of the prior five years. Less than one-half of one percent (.2%) of the crashes involved a fatality, 26% involved an injury, and 74% involved only property damage. There were 401 people injured in school bus crashes.

Two dead in school bus crashes
School bus crashes were less likely to involve a fatality than crashes as a whole: .2% of school bus crashes involved a death as opposed to .6% for all crashes. There were 2 fatalities in 1994. The first involved a driver of a vehicle who was rear-ended into the school bus; the other was a 40-year-old pedestrian who was crossing the street. In addition, there was a death involving a student waiting for the bus who was struck and killed by another vehicle. Because the school bus was not physically involved in the crash, that death is not reported in this section.

Crashes center around school day
Most school bus crashes (65%) occurred during the transport hours before or after school; 32% between 6:00 and 9:00 AM and 33% between 3:00 and 6:00 PM. Only 5% of crashes happened in June, July, or August. January had the highest number of crashes (161); February the most injuries (53). One fatality occurred in March; the other occurred in December.

15 to 19 year olds in other vehicles
Forty-one percent of the injuries were to people between the ages of 5 and 19. People aged 15 to 19 years old made up the largest age group injured; however, 72% of them were in a vehicle other than a school bus. Only 3% of people injured were pedestrians, 40% were in the school bus, and 57% were in other vehicles. Half (50%) of the people injured were female, 43% were male, and in 6% the gender was not stated.

Majority of injuries minor
Most (63%) of the injuries in these crashes were minor, 30% were moderate, and 7% were severe. As in past years, areas of under 1,000 population and areas of over 100,000 population had the highest number of people injured -- 34% and 25% respectively.

More than one vehicle involved
Most crashes and injuries (85%) involved a collision with another vehicle. Another 10% of crashes involved a collision with a parked car. Only 1% of school bus crashes involved a collision with a pedestrian.

No traffic control device
In 43% of the crashes (46% of injuries) there was no traffic control device present. Another 21% occurred where there was a stop sign, but not for all approaches. Only 3% of crashes occurred with the school bus stop arm deployed.

Driver inattention or distraction top factor
The contributing factors most often associated with school bus drivers were driver inattention or distraction and failure to yield the right of way. For other drivers in these crashes, the top contributing factors were driver inattention or distraction and illegal or unsafe speed. Of the 844 school bus drivers, 47% were found to have committed no improper driving. This was true of 35% of the other drivers in these crashes.

TABLE 8.01

SCHOOL BUS CRASH SUMMARY, 1985 - 1994

	1985	1986	1987	1988	1989	1990	1991	1992	1993	1994
Total Crashes	723	662	530	679	828	674	857	741	894	821
Fatal Crashes	4	3	6	3	4	5	4	1	3	2
Persons Killed	4	3	6	3	4	6	4	1	3	2
Injury Crashes	191	160	141	175	167	149	181	169	212	210
Persons Injured	366	265	244	359	281	329	383	425	432	401
Property Damage Crashes	528	499	383	501	657	520	672	571	679	609
School Buses Involved	729	667	534	684	834	680	867	756	909	844

TABLE 8.02

1994 SCHOOL BUS CRASHES BY TIME OF DAY

Time of Day	Fatal Crashes	Injury Crashes	Property Damage Crashes	Total Crashes	Killed	Injured
Midnight - 2:59 AM	0	0	5	5	0	0
3:00 - 5:59 AM	0	0	1	1	0	0
6:00 - 8:59 AM	1	75	186	262	1	138
9:00 - 11:59 AM	0	26	74	100	0	51
Noon - 2:59 PM	0	37	108	145	0	56
3:00 - 5:59 PM	1	67	202	270	1	149
6:00 - 8:59 PM	0	0	14	14	0	0
9:00 - 11:59 PM	0	3	3	6	0	3
Unknown	0	2	16	18	0	4
Total	2	210	609	821	2	401

TABLE 8.03

1994 SCHOOL BUS CRASHES BY MONTH

Month	Fatal Crashes	Injury Crashes	Property Damage Crashes	Total Crashes	Killed	Injured
January	0	33	128	161	0	44
February	0	26	121	147	0	53
March	1	16	66	83	1	31
April	0	16	44	60	0	27
May	0	14	44	58	0	43
June	0	8	23	31	0	9
July	0	3	5	8	0	4
August	0	1	5	6	0	13
September	0	21	35	56	0	50
October	0	22	37	59	0	34
November	0	17	35	52	0	29
December	1	33	66	100	1	64
Total	2	210	609	821	2	401

TABLE 8.04

AGE AND GENDER OF PERSONS INJURED IN 1994 SCHOOL BUS CRASHES

Age Group	Total*	In Bus	Pedestrian	In Other Vehicle	Male	Female
0 - 4	5	1	0	4	1	4
5 - 9	43	32	2	9	19	22
10 - 14	47	39	1	7	20	25
15 - 19	76	19	2	55	36	40
20 - 24	19	3	1	15	10	9
25 - 29	17	2	0	15	9	8
30 - 34	38	5	0	33	14	24
35 - 39	26	7	1	18	11	15
40 - 44	25	5	1	19	16	9
45 - 54	32	6	2	24	14	18
55 - 64	14	3	0	11	9	5
65 & Older	20	4	0	16	11	9
Unknown	39	33	2	4	3	14
Total	401	159	12	230	173	202

* There were 26 cases where the gender of the person was not stated.

TABLE 8.05

PERSONS KILLED OR INJURED IN 1994 SCHOOL BUS CRASHES BY POPULATION OF AREA

Population of City or Township	Killed	Injured			
		Severe	Moderate	Minor	Total
100,000 and Over	1	2	26	74	102
50,000 - 99,999	0	1	6	22	29
25,000 - 49,999	0	4	14	24	42
10,000 - 24,999	0	2	15	39	56
5,000 - 9,999	0	4	3	6	13
2,500 - 4,999	0	0	4	6	10
1,000 - 2,499	0	3	4	4	11
Under 1,000	1	12	48	78	138
Total	2	28	120	253	401

TABLE 8.06

1994 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	1	180	514	695	1	341
Parked Motor Vehicle	0	5	77	82	0	5
Bicycle	0	3	0	3	0	3
Pedestrian	1	10	0	11	1	10
Deer	0	0	1	1	0	0
Fixed Object	0	7	11	18	0	33
Other Object	0	0	1	1	0	0
Non-collision:						
Overturn	0	2	1	3	0	4
Other/Unknown	0	3	4	7	0	5
Total	2	210	609	821	2	401

TABLE 8.07

1994 SCHOOL BUS CRASHES BY TRAFFIC CONTROL DEVICE

Traffic Control Device	Fatal Crashes	Injury Crashes	Property Damage Crashes	Total Crashes	Killed	Injured
Not Applicable	1	86	262	349	1	183
Traffic Signal	1	31	104	136	1	47
Overhead Flashers	0	1	6	7	0	1
Stop Sign--All Approaches	0	7	19	26	0	9
Other Stop Sign	0	55	118	173	0	100
Yield Sign	0	6	8	14	0	10
Officer/Flagperson/ School Patrol	0	1	0	1	0	3
School Bus Stop Arm	0	12	14	26	0	23
School Sign Zone	0	0	1	1	0	0
No Passing Zone	0	3	2	5	0	15
Railroad Crossing Device	0	2	5	7	0	3
Other	0	4	19	23	0	5
Unknown	0	2	51	53	0	2
Total	2	210	609	821	2	401

TABLE 8.08

CONTRIBUTING FACTORS IN 1994 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	100	22.6%	149	21.6%
Failure to Yield Right of Way	84	19.0	57	8.3
Improper Turn	37	8.4	8	1.2
Unsafe Backing	28	6.3	7	1.0
Following Too Closely	20	4.5	59	8.6
Improper or Unsafe Lane Use	20	4.5	17	2.5
Vision Obscured	19	4.3	16	2.3
Illegal or Unsafe Speed	13	2.9	99	14.3
Driver Inexperience	8	1.8	30	4.3
Improper Parking/Starting/ Stopping	7	1.6	15	2.2
Improper Passing/Overtaking	6	1.4	13	1.9
Disregard for Traffic Control Device	5	1.1	16	2.3
Driving Left of Roadway Center--Not Passing	5	1.1	8	1.2
Improper or No Signal	3	0.7	0	0.0
Physical Impairment	3	0.7	2	0.3
Impeding Traffic	1	0.2	2	0.3
Failure to Use Lights	0	0.0	1	0.1
Pedestrian Violation	0	0.0	6	0.9
Driver Using Phone/CB Radio	0	0.0	2	0.3
Other Human Factors	0	0.0	5	0.7
Vehicular Factors				
Skidding	27	6.1	74	10.7
Defective Equipment	1	0.2	5	0.7
Other Vehicular Factors	2	0.5	1	0.1
Miscellaneous Factors				
Weather Conditions	38	8.6	77	11.2
Other	16	3.6	21	3.0
Total	443	100.0%	690	100.0%
No Improper Driving	395		298	
Total Number of Drivers	844		857	

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

Crashes reported in this section involve 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 are more likely to be fatal; about one-half of 1% of all crashes statewide were fatal, but 10% of motor vehicle/train crashes were fatal in 1994.

Another increase in crashes
There were 144 crashes that involved a motor vehicle collision with a train in 1994. This is 16 more crashes than last year, and represents a 12% increase over the average of the prior five years. There were 2 more fatalities than last year for a total of 17 people killed. There were 75 people injured in these crashes.

Winter months more crash involved
January had the highest number of crashes (24) and people killed (4). December had the most people injured (13) and the second highest number of crashes and fatalities. April had the fewest crashes (5); May had the fewest people injured (1).

Late nights, few crashes
The hours between Midnight and 6:00 AM had only 8% of the crashes, while Noon to 6:00 PM had 36% of the crashes. Of the days of the week, Tuesday had the most crashes (28) -- twice as many as Sunday, which had the least.

Crossbuck most common at crashes
One-third of the injuries and 35% of the fatalities occurred where there was a rail road crossbuck sign at the crossing. This accounted for 30% of the crashes.

Injuries more severe
Nine percent of all crash injuries statewide were severe while 31% of injuries sustained in motor vehicle/train crashes were severe. Another 31% of the injuries were minor; this compares with 57% of all motor vehicle injuries for the state.

Ages 15 to 29 injured most often
People aged 15 to 19 made up about a quarter of the injuries and fatalities. Over half (57%) of the injuries and 41% of the fatalities involved people aged 15 to 29.

Rural areas hit hardest
Areas of under 1,000 population accounted for 58% of the crashes, 88% of the fatalities, and 63% of the injuries.

Drivers not yielding to trains
The top two contributing factors in motor vehicle/train crashes were failure to yield the right of way and driver inattention or distraction. Only 7% of motor vehicle drivers in these crashes were shown to have committed no improper driving.

TABLE 9.01

MOTOR VEHICLE / TRAIN CRASH SUMMARY, 1985 - 1994

	1985	1986	1987	1988	1989	1990	1991	1992	1993	1994
Total Crashes	134	116	119	168	142	116	147	111	128	144
Fatal Crashes	8	5	4	9	11	13	10	7	11	14
Persons Killed	13	12	4	12	15	17	10	9	15	17
Injury Crashes	63	53	55	56	48	35	49	39	45	51
Persons Injured	87	66	74	70	75	67	70	54	63	75
Property Damage Crashes	63	58	60	103	83	68	88	65	72	79

TABLE 9.02

1994 MOTOR VEHICLE / TRAIN CRASHES BY MONTH

Month	Fatal Crashes	Injury Crashes	Property Damage Crashes	Total Crashes	Killed	Injured
January	2	6	16	24	4	11
February	1	5	12	18	1	7
March	3	3	0	6	3	5
April	0	2	3	5	0	2
May	0	1	8	9	0	1
June	1	4	4	9	1	4
July	2	3	7	12	2	7
August	1	5	5	11	1	8
September	0	2	5	7	0	3
October	1	6	2	9	1	10
November	1	4	9	14	1	4
December	2	10	8	20	3	13
Total	14	51	79	144	17	75

TABLE 9.03

1994 MOTOR VEHICLE / TRAIN CRASHES BY TIME AND DAY

Time of Day	Total	Sunday	Monday	Tuesday	Wednesday	Thursday	Friday	Saturday
Midnight - 2:59 AM	6	0	1	1	0	0	2	2
3:00 - 5:59 AM	6	0	1	1	1	0	1	2
6:00 - 8:59 AM	12	1	0	1	2	4	3	1
9:00 - 11:59 AM	24	2	4	6	3	3	2	4
Noon - 2:59 PM	26	5	3	3	3	3	5	4
3:00 - 5:59 PM	26	1	5	7	5	4	4	0
6:00 - 8:59 PM	21	1	1	6	2	8	1	2
9:00 - 11:59 PM	20	4	3	3	3	1	5	1
Unknown	3	0	0	0	1	1	1	0
Total	144	14	18	28	20	24	24	16

TABLE 9.04

1994 MOTOR VEHICLE / TRAIN CRASHES BY TRAFFIC CONTROL DEVICE

Traffic Control Device	Fatal Crashes	Injury Crashes	Property Damage Crashes	Total Crashes	Killed	Injured
RR Crossbuck	4	19	20	43	6	25
RR Crossing Stop Sign	3	8	12	23	4	13
RR Flashing Lights	1	6	19	26	1	9
RR Overhead Flashers Plus Gate	1	2	3	6	1	7
RR Overhead Flashers	0	1	1	2	0	3
RR Crossing Gate	0	3	3	6	0	4
Stop Sign	2	3	9	14	2	3
Other	1	2	4	7	1	2
Unknown	0	3	7	10	0	3
Not Applicable	2	4	1	7	2	6
Total	14	51	79	144	17	75

TABLE 9.05

AGE OF PERSONS KILLED OR INJURED IN 1994 MOTOR VEHICLE / TRAIN CRASHES

		Injured			
Age Group	Killed	Severe	Moderate	Minor	Total
0-4	3	0	1	0	1
5-9	0	1	0	0	1
10-14	0	0	0	1	1
15-19	4	8	7	5	20
20-24	0	5	6	1	12
25-29	3	2	6	3	11
30-34	3	2	3	1	6
35-39	0	2	1	1	4
40-44	3	3	0	1	4
45-49	0	0	0	1	1
50-54	0	0	1	4	5
55-59	0	0	3	0	3
60-69	1	0	0	2	2
70-79	0	0	0	0	0
80 & Older	0	0	0	0	0
Not Stated	0	0	1	3	4
Total	17	23	29	23	75

TABLE 9.06

1994 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	6	9	15	0	7
50,000 - 99,999	0	1	5	6	0	1
25,000 - 49,999	1	3	7	11	1	6
10,000 - 24,999	1	3	9	13	1	5
5,000 - 9,999	0	2	3	5	0	5
2,500 - 4,999	0	0	1	1	0	0
1,000 - 2,499	0	4	5	9	0	4
Under 1,000	12	32	40	84	15	47
Total	14	51	79	144	17	75

TABLE 9.07

CONTRIBUTING FACTORS IN 1994 MOTOR VEHICLE / TRAIN CRASHES

Contributing Factor	Number	Percent
Human Factors		
Failure to Yield Right of Way	55	26.8%
Driver Inattention/Distraction	48	23.4
Disregard for Traffic Control Device	30	14.6
Vision Obscured	15	7.3
Illegal or Unsafe Speed	14	6.8
Physical Impairment	5	2.4
Improper Parking/Starting/Stopping	3	1.5
Driver Inexperience	2	1.0
Improper Lane Use	2	1.0
Improper Passing/Overtaking	1	0.5
Improper/No Signal	1	0.5
Other Human Factor	3	1.5
Vehicular Factors		
Skidding	9	4.4
Defective Equipment	1	0.5
Other Vehicular Factor	3	1.5
Miscellaneous Factors		
Weather Conditions	10	4.9
Other	3	1.5
Total	205	100.0%
No Improper Driving	10	
Number of Drivers	150	

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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