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Minnesota Motor Vehicle FACTS

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NNESOTA DEPARTMENT OF PUBLIC SAFETY

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MINNESOTA LEGISLATIVE REFERENCE LIBRARY STATE OFFICE BUILDING MOTOR VEHICLE ST. PAUL, MN 55155 **CRASH FACTS** 1997

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

> Produced by: Office of Traffic Safety Minnesota Department of Public Safety 444 Cedar Street, Suite 150 St. Paul, MN 55101-5150 Phone (612) 296-9489 or (612) 282-6558 [TTY (612) 282-6555] < http://www.dps.state.mn.us/trafsafe >

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MINNESOTA DEPARTMENT OF PUBLIC SAFETY



Office of the Commissioner

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June, 1998

Alcohol & Gambling Enforcement

Bureau of Criminal Apprehension

Capitol Security

Driver & Vehicle Services

Emergency Management / Emergency Response Commission

State Fire Marshal / Pipeline Safety

State Patrol

Traffic Safety

Last year Minnesota achieved two traffic safety milestones. First, alcohol-related deaths declined to 30%, or 178, of the total 600 traffic deaths in the state. Last year's figure of 178 is the lowest that number has been over the period of time we have records for -- back to 1984. But it is probably the lowest number over a much longer time period than that. National studies during the 1960s and 1970s uniformly concluded that alcohol played a part in over 50% of traffic deaths. And during those decades, such deaths in Minnesota ranged between 692 and 1,060 per year. Except for during the World War II years, total deaths in the state exceeded 500 every year since 1932. Alcohol-related deaths probably reached a fifty-year low in 1997.

Second, since the early 1960s, total traffic injuries averaged approximately 45,000 per year. But in the last decade, the severe-injury portion of that total steadily decreased. In 1997, severe injuries to motor vehicle occupants declined below 3,000. We know this is the lowest number since 1984, and it is probably the lowest in decades. Severe injuries include things like dismemberment and permanent brain damage. Substantially reducing these injuries is a tremendous achievement for the state.

There is a lesson in passing these milestones: pressing social problems can be identified and attacked and lessened through intentional effort. Societal values and government action reinforce one another. The Legislature responded to the anti-drunk-driving social movement and passed new legislation toughening drunk driving laws and saving hundreds of lives over the years. Legislation in the mid 1980s greatly increased seat belt use, helping reduce deaths and severe injuries.

This year, Tom Boerner, a leader in the traffic safety field, is retiring. Tom began his career in 1968 and became Director of the Traffic Safety Division of Public Safety in 1975. He came to know everyone in the traffic safety field in the state, and most everyone in the country. Tom worked for 30 years to improve traffic safety -- both within Minnesota and across the country. He represented Minnesota on national boards and review teams, bringing to them solutions which had worked in Minnesota and bringing back ideas for projects to try within the state. Tom brought exuberance, humor, and respect for others to everything he did. At the end of the most stressful day, he still had time and energy for a laugh. We will miss Tom more than we can say -- and we wish him all the best. He will be held in high regard for his commitment and contributions to traffic safety.

Sincerely,

I much Dum

Donald E. Davis Commissioner

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DEFINITIONS

Accident -- See motor vehicle crash.

Alcohol Concentration -- The level of alcohol in a person's body as measured by blood, breath, or urine.

Alcohol-Related Fatal Crash -- A crash that results in one or more deaths and in which the investigating officer suspected alcohol involvement or in which the results of an alcohol concentration test were positive for any driver, pedestrian, or bicyclist involved in the crash.

Alcohol-Related Fatality -- A death resulting from an alcohol-related crash.

Alcohol-Related Injury -- A non-fatal injury resulting from an alcohol-related crash.

Alcohol-Related Injury Crash -- A non-fatal crash in which one or more persons are injured and in which the investigating officer suspected alcohol involvement for any driver, pedestrian, or bicyclist involved in the crash. (Since only the officer's perception is used in this definition, alcohol-related injury crashes and injuries are probably underestimated.)

Alcohol-Related Property Damage Crash -- A crash in which no one is killed or injured and the investigating officer suspected alcohol involvement for any driver, pedestrian, or bicyclist involved in the crash.

Bicycle Crash -- A motor vehicle crash involving one or more bicycles.

Child Safety Seats -- Safety devices designed to fit in motor vehicles that keep children securely in place. The seats are required by law for children under four years of age.

Crash -- See motor vehicle crash.

Driver -- The occupant of a motor vehicle who is in actual physical control of the vehicle in transit or, for an out-of-control vehicle, the occupant who was in control before control was lost.

Economic Loss -- An approximation of the costs associated with crashes, based upon current National Safety Council estimates of the loss to society for each fatality, injury, and property damage crash.

Fatal Crash -- A motor vehicle crash on a public traffic-way in which at least one person dies unintentionally as a result of the crash. The death must occur within 30 days of the crash.

First Harmful Event -- The first event during a crash that caused injury or property damage.

Injury Severity

Fatal Injury -- An injury that results in an unintentional death within 30 days of the crash.

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

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

Minor or Possible Injury -- An injury (other than fatal, severe, or moderate) that is reported by a person involved in the crash. Includes complaint of physical pain when no cause is evident, momentary unconsciousness, limping, nausea, hysteria, etc. Motorcycle -- A two-wheeled or three-wheeled motor vehicle having one or more riding saddles and having an engine of more than 50 cc. If it has a 50 cc or smaller engine, it is classified as a motorized bicycle or motorscooter/motorbike.

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

Motor Vehicle -- A self-propelled vehicle, including attached trailers and semitrailers designed for use with such vehicles.

Motor Vehicle Crash -- A crash that involves a motor vehicle in transport on a public traffic-way in Minnesota and results in injury, death, or at least \$500.00 in property damage. (On August 1st, 1994 the reporting threshold for property damage crashes rose to \$1,000.)

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

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

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

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

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

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

Rural -- Having a population of under 5,000.

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

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

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

Truck Crash -- A motor vehicle crash involving one or more vehicles of the following types: (1) 2-axle, 6-tire single unit truck or stepvan, (2) 3or-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 1997 calendar year, 3,487,770 people held Minnesota driver licenses and 3,769,845 motor vehicles were registered in the state. Vehicles traveled over 46.9 billion miles on public roadways in the state. There were 98,625 traffic crashes; 600 people died and 46,064 people were injured in those crashes. This report provides a statistical summary of those crashes.

The purpose of *Crash Facts* is to provide summary statistical information about the crashes reported to the state each year. The term "crash" is used in preference to "accident." The latter term suggests there is a random, unavoidable quality about the events in question. In fact, though, the experience of the last two decades strongly demonstrates that advances in engineering and technology, coupled with changes in public policy and individual human behavior, can dramatically reduce the number and severity of traffic crashes.

Cost of Traffic Crashes

The necessity of getting from one place to another and the efficiency of motor vehicles for this purpose result in significant costs to society. The National Safety Council reports that accidents (from all causes) are the leading cause of death among persons aged 1 to 34 and the fifth leading cause of death among all persons (Accident Facts, 1997 Edition, p. 10).

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 1996 data. Based on those, the total economic loss from 1997 traffic crashes in Minnesota was \$1,456,752,500, a figure which is calculated as follows:

Cost of Motor Vehicle Crashes in 1997

600	deaths	@\$790,000	=\$474,000,000
3,673	severe injuries	@\$41,2000	=\$151,327,600
15,948	moderate injuries	ā \$13,900	=\$221,677,200
26,443	minor injuries		=\$208,899,700
66,808	property damage	-	
	crashes	@ \$6,000	= <u>\$400,848,000</u>
		Total =	\$1,456,762,500

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 equipment will reduce severity. safety Motorcyclists and bicyclists should wear helmets. Vehicle occupants should use safety belts. Infants and toddlers should always be placed in child safety seats.

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

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

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

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

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

Historical Perspective

In 1966, there were 53,041 traffic fatalities in the country, or 5.7 for every hundred million miles of travel. In Minnesota in 1968, there were 1,060 traffic fatalities, or 5.3 per hundred million miles of travel. Those were the worst years. Since then, both the rate and the number of fatalities have declined in a fairly steady pattern. Last year, there were 42,000 traffic fatalities throughout the country and 600 in Minnesota. The respective rates per hundred million miles of travel were 1.7 and 1.3. A dramatic benefit has been achieved.

The benefit is in large part the result of conscious decision-making on traffic safety issues. The National Highway Traffic Safety Administration (originally called the National Safety Bureau) was established in the US Department of Transportation in 1967. Since then it has promoted, and Congress has passed, legislation mandating the manufacture of safer cars. At the same time, the federal interstate highway system has expanded, contributing to a safer roadway environment.

Simultaneously there has been an effort to change human behavior factors. Minnesota has been a leader among the states in the development of innovative drunk driving countermeasures. The Legislature made significant amendments to the DWI law in 1971, 1976, 1978, and in almost every year of the 1980s. It also passed the child passenger protection law in 1981, and the mandatory seat belt law in 1986. It subsequently amended those laws, closing loopholes, broadening their scope, and strengthening penalties.

Department of Public Safety, Office of Traffic Safety

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 169.10, 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 on 8-1-77, and then to \$500 on 8-1-81. The current minimum of \$1,000 was just put into effect August 1, 1994.

Crash Facts is divided into nine sections. The first presents information on the aggregate of all crashes reported to the state during the preceding calendar year. The remaining eight sections focus on specific areas of interest to policy makers and the public. Section II deals with alcohol-related crashes. Section III is about the use of safety equipment by occupants of vehicles required to be equipped with passenger protection systems, including child safety seats and safety belts. The following five sections focus on crashes that involved motorcycles (section IV), trucks (section V), pedestrians (section VI), bicycles (section VII), and school buses (section VIII). The final section (IX) summarizes information on collisions between motor vehicles and trains.



page 3

General characteristics of traffic crashes

Large numbers don't change very much or very abruptly in the absence of a corresponding change in causal factors. For almost two decades (since 1980), the total number of reported traffic crashes in Minnesota has hovered around 100,000. There are about 1.85 motor vehicles per crash, or about 185,000 total vehicles in crashes each year. Beginning in 1991 everyone involved in a crash was tabulated on the police accident report, rather than only those injured. Since 1991, therefore, we know there are about 1.45 persons per vehicle in a crash. That's 2.7 persons per crash, or about 270,000 persons in crashes each year. About 575 people die each year, and about 45,000 are injured. These numbers include about 1,400 pedestrians, about 50 of whom die, and about 1,300 bicyclists, about 10 of whom die. About two-thirds of crashes involve more than one (usually just two) moving vehicles colliding with one another. The remaining third involve a single moving vehicle hitting a fixed object such as a utility pole or guard rail (about 10% of the time), or a parked vehicle (about 6% of the time), or a deer (about 5%) or a pedestrian (1%) or bicyclist (1%), or they involve the single vehicle not hitting anything, but overturning instead (about 7%).

Specific characteristics of 1997 crashes

Statistics for a given year are mostly small variations on these patterns. Last year, there were 98,625 traffic crashes involving 180,078 motor vehicles (1.83 per crash) and 268,932 persons (2.73 per crash), including 1,492 pedestrians (58 of whom died) and 1,355 bicyclists (7 of whom died). There were 600 total fatalities and 46,064 persons injured. Last year, 65,248 crashes (66%) involved two or more moving vehicles colliding with one another. The remaining 33,377 were single-vehicle crashes, including 9,697 collisions with fixed objects, 6,345 collisions with parked vehicles, 4,891 car-deer crashes, and 6,986 overturn crashes.

Thus 1997 is similar to recent years. There were no abrupt changes in causal factors. But some causal factors have been changing gradually and 1997 saw a continuation of two desirable trends. First, there has been sustained effort for two decades to reduce drinking and driving and last year there were fewer alcohol-related deaths than there have been in perhaps five decades. Section II contains a discussion of this topic. Second, since the mid 1980s, legislation and government programs have sought to increase safety restraint use. Last year, for the first time in decades, the number of vehicle occupants who suffered severe injuries (including things like dismemberment and severe, permanent brain damage) dropped below 3,000. Section III contains a discussion of this topic. The paragraphs below mainly discuss ways 1997 is typical of recent years.

WHO was involved

Male drivers

Males in Minnesota in 1997 were involved as drivers in fatal crashes 2.7 times more often than females and in non-fatal crashes 1.5 times more often than females. However national studies suggest that this is due to miles traveled by males and females respectively. When volume of travel is controlled for, males and females are almost identical for crash involvement. As victims, males significantly outnumbered females in traffic deaths (362 to 238), and females slightly outnumbered males in traffic injuries (23,425 to 21,904).

Young drivers

With respect to age, teenagers are in the most crashes per 1,000 drivers. Last year 1 in 11 licensed teenage drivers was a driver in a reported crash, compared to 1 in 29 for 50-to-54 year-olds, and 1 in 49 for persons aged 85 or older. National studies controlling for volume of driving show that middleaged drivers have the fewest crashes; teenagers in general have five times as many crashes as average; 16-year-olds in particular have ten times as many, and drivers over age 85 have two and a half times as many crashes as average. Once they are in a crash, the elderly, due to frailty, are much more likely to suffer death or injury. Last year in Minnesota, persons 75 and older made up 16%, or 96, of the 600 traffic deaths. National studies show that this group accounts for only about 2% of the travel volume.

The types of vehicles in crashes are mostly passenger cars and pickups and trucks. Among "cars" (including vans and sport utility vehicles), 1 in 23 licensed in the state was in a reported crash; for pickups the number was likewise 1 in 23; for trucks, 1 in 31, and for motorcycles, 1 in 115.

WHY they occurred: the contributing factors

A multitude of factors could underlie even the simplest crash. For example, stress in a workplace may lead to a strong drink after work, and then to preoccupation and aggressive driving on the commute home which, together with distraction from use of a cell phone in the car, leads to a lapse in concentration in heavy traffic that results in a crash. Reporting officers are asked to indicate up to two factors for each vehicle in a crash but in practice they

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will frequently identify one factor for one vehicle that seems the most important factor in the crash. Thus the scenario described above may well be summed up under the heading of the single factor "driver inattention or distraction."

Driver inattention, failing to yield, and speed

In the two-thirds of crashes involving two (or occasionally more) vehicles, "driver inattention or distraction" is cited most often, about 25% of the time. Failure to yield right of way is cited next most often, about 20% of the time. In the remaining third of crashes involving just a single moving vehicle, "illegal or unsafe speed" is cited most -- about 22% of the time. Driver inattention or distraction is cited next most often -- about 20% of the time. Speed is cited more for younger drivers -- through about age 35, while inattention/distraction is cited more for older drivers -- over age 65.

<u>WHERE</u> they occurred

Rural deaths, urban crashes

There is a strong relationship between crash severity and location in Minnesota. Fatal crashes generally require high speed and occur in rural areas where there is abundant opportunity for high speed. The congested traffic and the slow speeds of urbanized areas lend themselves to more numerous but less severe crashes. Last year, 378 (63%) of the 600 total deaths occurred on trunk and "county state aid" highways in rural Minnesota, even though these roads account for 29% of the miles of roadway in the state and carried 35% of the vehicle miles traveled in These typically are two-lane-two-way 1997. highways carrying opposing traffic with speeds limit of 55 miles per hour. The genius, in terms of safety, of the interstate system is that it divides traffic flow. Interstates in Minnesota (urban and rural combined), make up less than 1% of the roadway miles in the state yet last year accounted for 10.7 billion miles of travel (23% of the total) but only 38 (6%) of the traffic deaths.

Fatal crashes make up only one half of one percent of all crashes. Most crashes are minor and they mostly occur in the urban areas. Trunk and county state aid highways in town and cities of 5,000 or more population make up less than two percent of the roadway miles in the state yet carried 25% of the miles traveled and accounted for 32% of all crashes last year. Local streets in urban areas (9% of the roadway miles, carrying 12% of the travel volume) accounted for another 27,000 (28%) of the total crashes. Most of the rest of the total crashes occurred on urban interstates (7% of all crashes), or on rural trunk and county state aid highways (21% of all). Rural township roads make up the biggest single system of roadways in the state, with 56,000 miles of roadway -- 42% of the total. However, these roads accounted for 2% of the travel volume, 2% of the traffic deaths, and 2% of the total crashes.

Although bad or "dangerous" driving conditions may account for a disproportionate number of fatal as well as non-fatal crashes, most of the fatal crashes occur in ostensibly good conditions. Last year 70% of the fatal crashes occurred on dry (as opposed to wet or snowy or icy) roads; 54% occurred in broad daylight.

WHEN they occurred

Fatal crashes usually peak in the summer and decline toward winter. Last year, though, there was little decline after summer. There were 339 deaths in the second half of the year, compared with 261 in the first half. Non-fatal crashes followed their normal trend of being higher in the inclement weather months -- with January, then November, then March, then February being highest.

Fatal and non-fatal crashes peak at "rush hour"

A gradual but, even so, remarkably dramatic and laudable change has occurred since 1980 in the way fatal crashes occur across the hours of the day. Twenty years ago, fatal crashes climbed throughout the day to a clear, high, sharp peak between 1:00 AM and 2:00 AM. Non-fatal crashes clearly peaked in the afternoon rush hours around 4:00 PM to 6:00 PM, following a very different pattern. This is no longer true. Fatal and non-fatal crashes now follow the same curves: they both peak in the late afternoon. This is consistent with information from section II showing that alcohol-related deaths are the lowest they have been in decades.

Safer holidays in 1997

The holiday weekends in 1997 were much safer than usual. On average over the last five years, there was one traffic death every 14.9 hours. Weekends have more deaths than weekdays. Over the last five years, the periods starting on Friday at 6:00 PM through Sunday midnight averaged 1 death every 12.2 hours. Holiday weekends, probably due primarily to increased travel volume, normally have still more deaths. The holiday periods for 1992 through 1996 averaged 1 death every 9.6 hours. In 1997 however, there was one death every 14.2 hours during the holidays.

Minnesota Motor Vehicle Crash Facts, 1996

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CRASH, FATALITY, AND INJURY SUMMARY, 1988 - 1997

	1988	1989	1990	1991	1992	1993	1994	1995	1996	1997
Traffic Crashes	102,094	105,996	99,236	101,419	96,808	100,907	99,701	96,022	105,332	98,625
Persons Killed	615	605	568	531	581	538	644	597	576	600
Persons Injured	44,415	45,404	44,634	42,748	43,249	44,987	46,403	47,161	48,963	46,064
Registered Motor Vehicles (Millions of Vehicles)	3.39	3.46	3.52	3.51	3.55	3.48	3.67	3.68	3.70	3.77
Licensed Drivers ¹ (Millions of Drivers)	3.13	3.16	3.18	3.22	3.27	3.28	3.34	3.39	3.46	3.49
Vehicular Miles Traveled (Billions of Miles)	36.4	37.6	38.8	39.3	41.3	42.3	43.4	44.1	45.9	46.9
Fatality Rate Per Hundred Million Vehicle Miles Traveled	1.69	1.61	1.47	1.35	1.41	1.27	1.48	1.35	1.26	1.28
Fatality Rate Per 100,000 Registered Motor Vehicles	18.1	17.5	16.1	15.1	16.4	15.5	17.6	16.2	15.6	12.6
Fatality Rate Per 100,000 Population	14.3	13.9	13.0	12.0	13.0	11.9	14.1	13.0	12.4	12.8
Crash Rate Per Hundred Million Vehicle Miles Traveled	280	282	256	258	235	239	230	218	230	210
Crash Rate Per 100,000 Registered Vehicles	3,012	3,060	2,817	2,890	2,730	2,899	2,720	2,606	2,845	2,065
Crash Rate Per 100,000 Population	2,371	2,435	2,268	2,288	2,161	2,234	2,183	2,083	2,261	2,105

¹ Permits included.

TRAFFIC CRASH TRENDS 1992 - 1997

						1991-		%change		
						1995		from 5 Yr		
	1992	1993	1994	1995	1996	Average	1997	Average	Record	High
Total Crashes	96,808	100,907	99,701	96,022	105,332	99,754	98,626	-1.3	123,106	(1975)
Fatal Crashes	494	477	550	515	503	508	528	+3.9	878	(1973)
Injury Crashes	29,117	30,257	31,307	31,611	33,283	31,115	31,290	+0.6	33,686	(1978)
Severe	3,387	3,206	3,172	2,967	2,960	3,138	2,855	-9.0	5,109	(1984)
Moderate	10,204	10,503	11,057	11,294	11,745	10,961	11,277	+2.9	12,326	(1985)
Minor	15,526	16,548	17,078	17,350	18,578	17,016	17,208	+1.1	18,578	(1996) ¹
Property Damage										
Crashes	67,197	70,173	67,844	63,896	71,546	68,131	66,808	-1.9	94,810	(1975)
Total Injuries	43,249	44,987	46,403	47,161	48,963	46,153	46,064	-0.2	50,332	(1978)
Severe	4,391	4,139	4,105	3,826	3,813	4,055	3,673	-9.4	6,573	(1984)
Moderate	14,554	14,902	15,618	16,053	16,519	15,529	15,948	+2.7	17,670	(1985)
Minor	24,304	25,946	26,680	27,282	28,631	25,659	26,443	-0.5	28,631	(1996)
Total Fatalities	581	538	644	597	576	587	600	+2.2	1,060	(1968)
Pedestrian	46	47	53	49	46	48	58	+20.8	157	(1971)
Motor Vehicle/Train ²	9	15	17	16	8	13	6	-53.8	62	(1932)
Bicycle	11	9	16	5	6	9	7	-22.2	24	(1977)
Motorcycle	28	34	43	35	42	36	24	-33.3	121	(1980)
All Terrain Vehicle	1	1	0	2	1	· 1	6	+500.0	9	(1986)
Snowmobile	4	4	3	. 7	5	5	5	0.0	9	(1984)
Motor Vehicle Occupants	484	439	519	495	462	480	488	+1.7	519	(1994) ¹
Fatality Rate	1.41	1.27	1.48	1.35	1.26	1.36	1.28	-5.9	23.6	(1934)
U.S. Fatality Rate ³	1.8	1.7	1.7	1.7	1.7	1.7	1.7	0.0	18.0	(1925)
Minnesota Economic										
Loss (millions)	\$965.8	\$1,397.8	\$1,656.6	\$1,611.8	1,578.1	1,442.0	\$1,456.8	+1.0	\$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 on 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.

Minnesota Motor Vehicle Crash Facts, 1997

	Position						Age				
Type of	in									70 &	
Vehicle	Vehicle	Gender	0-9	10-19	20-29	30-39	40-49	50-59	<u>60-69</u>	<u>Older</u>	<u>Total</u>
Car or	Driver	Male	0	23	37	47	33	17	17	56	230
Truck		Female	0	22	18	15	14	15	6	24	114
	Passenger	Male	2	7	14	8	5	2	2	4	44
		Female	7	17	7	8	3	6	12	23	83
	Unknown	Male	0	0		2	1	0	0	0	8
		Female	1	1	5	0	0	0	0	2	9
Motorcycle	Operator	Male	0	1	4	4	5	5	0	2	22
		Female	0	0	0	1	0	0	0	0	1
	Passenger	Male	0	1	0	0	0	0	0	0	1
		Female	0	0	0	0	0	1	0	0	1
Motorscooter	Driver	Male	0	1	0	0	0	0	0	0	1
or Moped		Female	0	0	0	0	0	0	0	0	0
	Passenger	Male	0	0	0	0	0	0	0	0	0
		Female	0	0	0	0	0	0	0	0	0
All Terrain	Driver	Male	0	2	0	2	0	0	1	1	6
Vehicle		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	1	1	0	1	0	0	4
		Female	0	0	0	0	1	0	0	0	1
	Passenger	Male	0	0	0	0	0	0	0	0	0
		Female	0	0	0	0	0	0	0	0	0
Other	Driver	Male	0	1	1	0	1	0	1	2	6
Motor		Female	0	0	0	0	0	0	0	0	0
Vehicle	Passenger	Male	0	0	0	0	0	0	0	0	0
	_	Female	0	0	0	0	1	0	0	0	1
	Unknown	Male	2	0	0	0	0	0	0	0	2
		Female	1	0	0	0	0	0	0	1	2
Bicyclist		Male	· 2	3	1	0	1	0	0	0	7
•		Female	0	0	0	0	0	0	0	0	0
Pedestrian		Male	7	3	4	5	2	4	2	5	32
		Female	4	5	1	3	3	1	3	6	26
Total		Male	13	43	67	69	48	29	23	70	362
Fatalities		Female	13	45	31	27	22	23	21	56	238
		Total	26	88	98	96	70	52	44	126	600

1997 FATALITIES BY TRAFFIC ROLE, GENDER, AND AGE

Note: The 11 fatalities shown to have occurred in an "other motor vehicle" were as follows: two nine-year-old male school bus passengers, one nine-year-old female school bus passenger, and one 67 year-old male school bus driver; one 94 year-old female occupant of a bus other than a school bus; an 86 year-old male farm equipment operator and a 71 year-old male farm equipment operator; a 46 year-old male driver, a 19 year-old male driver, a 29 year-old male driver, and a 43 year-old female passenger of motor vehicles whose type was classified as "other."

	P	ersons Kille	ed	Persons Injured				
Age Group	Male	Female	Total	Male	Female	Total*		
0-4	5	8	13	371	375	752		
5 - 9	8	5	13	723	645	1,379		
10 - 14	9	8	17	955	916	1,898		
15 - 19	34	37	71	3,783	4,342	8,156		
20 - 24	34	20	54	2,887	2,832	5,725		
25 - 29	33	11	44	2,327	2,313	4,651		
30 - 34	37	16	53	2,010	2,002	4,023		
35 - 39	32	11	43	1,895	2,015	3,914		
40 - 44	29	9	38	1,554	1,792	3,352		
45 - 49	19	13	32	1,251	1,392	2,646		
50 - 54	19	12	31	874	1,013	1,890		
55 - 59	10	11	21	622	718	1,342		
60 - 64	9	9	18	512	522	1,035		
65 - 69	14	12	26	465	460	925		
70 - 74	21	9	30	379	431	812		
75 - 79	17	26	43	307	417	724		
80 - 84	19	9	28	232	294	527		
85 & Older	13	12	25	126	157	283		
Not Stated	0	0	0	631	789	2,030		
Total	362	238	600	21,904	23,425	46,064		

AGE AND GENDER OF PERSONS KILLED OR INJURED IN 1997 CRASHES

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



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	Drivers in Fotol	Drivers	Drivers in Property	Drivers
Physical Condition	Crashes	Crashes	Damages Crashes	Crashes
Normal	482	45,209	77,350	123,041
Under the Influence	55	1,941	1,619	3,615
Had Been Drinking	34	1,196	971	2,201
Had Been Using Drugs	1	60	26	87
Asleep	9	338	296	643
Fatigued	2	139	139	280
111	7	163	56	226
Other	16	259	221	496
Unknown	240	6,546	35,200	41,986
Total	846	55,851	115,878	172,575

DRIVERS IN 1997 CRASHES BY PHYSICAL CONDITION*

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

TABLE 1.06

DRIVERS IN 1997 CRASHES BY AGE AND FIRST HARMFUL EVENT IN CRASH

	Drivers						
First Harmful Event	15-19	20-24	25-29	30-34	35-64	65-79	80 & Older
Collision With:							
Other Motor Vehicle	78.0	78.4	81.1	81.5	82.3	85.8	85.5
Parked Motor Vehicle	3.1	2.9	2.4	2.5	2.1	2.6	3.8
Railroad Train	0.1	0.1	0.1	0.1	0.1	0.0	0.2
Bicycle	0.5	0.7	0.8	0.6	0.8	0.9	1.1
Pedestrian	0.6	0.8	0.7	0.7	0.7	0.9	0.8
Deer	1.6	2.5	2.5	3.2	4.0	,2.5	1.0
Other Animal	0.2	0.2	0.3	0.2	0.3	0.2	0.0
Fixed Object	7.9	7.3	6.1	5.6	4.5	3.8	5.1
Other Object	0.1	0.2	0.2	0.2	0.2	0.1	0.1
Non-Collision:							
Overturn	6.5	5.6	4.4	3.9	3.5	1.7	1.1
Other Non-Collision	0.3	0.2	0.2	0.2	0.2	0.2	0.1
Other or Unknown	1.2	1.2	1.3	1.3	1.3	1.4	1.1
Total Percent	100.0%	100.0%	100.0%	100.0%	100.0%	100.0%	100.0%
Total Drivers	25,611	21,852	19,778	18,425	65,389	9,544	2,564

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.

	Dri	vers in F	<u>atal Cra</u>	<u>shes</u>	Drivers in All Crashes					
			Not		Not					
Age Group	Male	Female	Stated	Total	Male	Female	Stated	<u>Total</u>		
14 & Younger	2	0	0	2	124	48	4	176		
15 - 19	56	31	0	87	14,929	10,551	131	25,611		
20 - 24	64	28	0	92	12,825	8,861	166	21,852		
25 - 29	56	19	0	75	11,823	7,806	149	19,778		
30 - 34	66	23	0	89	10,983	7,317	125	18,425		
35 - 39	73	16	0	89	10,756	7,327	121	18,204		
40 - 44	53	20	0	73	9,037	6,267	95	15,399		
45 - 49	46	17	0	63	7,418	4,820	80	12,318		
50 - 54	41	13	0	54	5,350	3,469	54	8,873		
55 - 59	27	14	0	41	3,854	2,292	43	6,189		
60 - 64	27	4	0	31	2,795	1,576	35	4,406		
65 - 69	19	5	0	24	2,357	1,293	23	3,673		
70 - 74	29	6	0	35	2,003	1,244	19	3,266		
75 - 79	23	18	0	41	1,514	1,078	13	2,605		
80 - 84	17	8	0	25	978	700	8	1,686		
85 & Older	14	3	0	17	543	332	3	878		
Not Stated	2	0	6	8	1,275	562	7,399	9,236		
Total	615	225	6	846	98,564	65,543	8,468	172,575		

AGE AND GENDER OF DRIVERS IN 1997 CRASHES

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.)

		Percentage of Drivers in						
	Percentage of All	Fatal	Injury	Property	All			
Age Group	Licensed Drivers**	Crashes	Crashes	Damage Crashes	<u>Crashes</u>			
14 & Younger	0.0	0.2	0.1	0.1	0.1			
15 - 19	7.8	10.3	15.8	14.4	14.8			
20 - 24	8.3	10.9	13.4	12.3	12.7			
25 - 29	9.3	8.9	11.9	11.3	11.5			
30 - 34	10.2	10.6	10.9	10.6	10.7			
35 - 39	11.7	10.6	10.7	10.5	10.5			
40 - 44	10.9	8.6	9.1	8.8	8.9			
45 - 49	9.5	7.5	7.3	7.1	7.1			
50 - 54	7.5	6.4	5.1	5.2	5.1			
55 - 59	5.8	4.9	3.6	3.6	3.6			
60 - 64	4.6	3.7	2.5	2.6	2.6			
65 - 69	4.2	2.8	2.2	2.1	2.1			
70 - 74	3.8	4.1	1.9	1.9	1.9			
75 - 79	3.1	4.9	1.5	1.5	1.5			
80 - 84	2.0	3.0	1.1	1.0	1.0			
85 & Older	1.2	2.0	0.6	0.5	0.5			
Not Stated	0.0	1.0	2.5	6.8	5.4			
Total Percent*	100.0%	100.0%	100.0%	100.0%	100.0%			
Total Number**	3,487,770	846	55,851	115,878 1	72,575			

LICENSED VS. CRASH-INVOLVED DRIVERS BY AGE, 1997

* Percents may not sum to 100% due to rounding.

** Includes drivers with instruction permits.



SINGLE-VEHICLE CRASHES:

CONTRIBUTING FACTORS, BY PERCENT, WITHIN DRIVER AGE GROUPS, 1997

	Drivers	Drivers	Drivers	Drivers	Drivers	Drivers	Drivers
Contributing Factors	<u> 15-19 </u>	20-24	25-29	30-34	35-64	65-79	80 & Older
Human Factors							
Illegal/Unsafe Speed	23.4	25.4	24.4	20.6	18.8	10.8	4.7
Driver Inattention/Distraction	18.0	17.7	16.9	18.0	18.7	25.3	27.2
Physical Impairment	5.3	12.2	12.4	12.5	10.2	10.8	9.7
Driver Inexperience	18.0	4.1	2.3	2.1	1.7	0.7	1.7
Improper/Unsafe Lane Use	2.4	3.4	3.7	3.8	3.3	4.0	6.4
Failure to Yield Right of Way	1.6	1.8	2.8	2.8	3.0	5.1	5.0
Unsafe Backing	1.4	1.2	1.1	1.7	1.6	2.4	4.4
Vision Obscured	1.1	1.7	1.5	2.0	2.2	3.1	5.3
Driving Left of CenterNot Passing	0.9	1.3	0.8	0.7	1.0	1.0	1.1
Improper Turn	0.9	1.1	1.4	1.2	1.3	1.1	1.4
Improper Parking/Starting/Stopping	0.4	0.6	0.6	0.7	0.5	1.6	1.9
Disregard for Traffic Control Device	0.7	0.6	0.7	0.7	0.7	1.1	3.1
Improper Passing/Overtaking	0.6	0.4	0.5	0.8	0.5	0.7	0.8
Following Too Closely	0.3	0.5	0.4	0.3	0.4	0.2	0.0
Failure to Use Lights	0.1	0.1	0.0	0.0	0.1	0.0	0.0
Driver on CB Radio or Cell Phone	0.1	0.0	0.1	0.0	0.1	0.0	0.0
Impeding Traffic	0.0	0.0	0.1	0.0	0.1	0.0	0.0
Other Human Factors	2.0	2.6	2.2	2.7	2.4	4.8	7.2
Vehicular Factors							
Skidding	8.4	8.1	8.9	8.9	9.9	8.2	5.6
Defective Equipment	1.1	1.2	1.4	1.4	1.4	1.7	2.0
Other Vehicular Factor	1.1	1.4	0.9	1.6	1.8	1.3	1.9
Miscellaneous Factors							
Weather	8.4	10.6	12.4	12.1	15.6	11.4	5.3
Other	3.8	4.0	4.5	5.1	4.7	4.8	5.0
Total Percent	100.0%	100.0%	100.0%	100.0%	100.0%	100.0%	100.0%
Total Contributing Factors Cited	6,900	5,004	3,569	3,055	8,930	1,050	360
Drivers for Whom There Was							
"No Clear Contributing Factor"	753	827	753	765	3,067	315	58
Total Number of Drivers	5,331	4,367	3,371	3,062	10,432	1,224	340

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.

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.

MULTIPLE-VEHICLE CRASHES:

CONTRIBUTING FACTORS, BY PERCENT, WITHIN DRIVER AGE GROUPS, 1997

	Drivers						
Contributing Factors	15-19	20-24	25-29	30-34	35-64	65-79	80 & Older
Human Factors		~ * ~					~~ ~
Driver Inattention or Distraction	23.1	24.9	24.0	24.1	23.7	23.8	23.7
Failure to Yield Right of Way	20.0	17.6	16.8	16.9	19.0	31.9	37.4
Following Too Closely	1.9	9.6	10.2	10.1	8.7	4.9	3.4
Illegal or Unsafe Speed	9.6	11.1	10.5	9.9	8.0	3.9	2.3
Disregard of Traffic Control Device	3.7	5.1	5.1	4.5	4.5	5.7	5.7
Improper or Unsafe Lane Use	3.4	4.2	4.3	4.5	4.4	4.7	4.4
Vision Obscured	4.5	3.9	3.8	3.9	4.5	4.4	4.5
Improper Turn	2.4	2.3	2.2	2.0	2.7	4.4	4.6
Driver Inexperience	7.4	1.7	0.7	0.6	0.4	0.1	0.1
Physical Impairment	0.7	1.5	2.3	2.2	2.1	1.5	1.9
Improper Passing or Overtaking	1.7	1.7	2.1	1:7	1.6	1.4	1.0
Improper Parking, Starting, or Stopping	1.2	1.1	1.2	1.3	1.5	1.6	1.5
Unsafe Backing	0.9	1.0	1.1	1.2	1.5	0.8	1.1
Driving Left of Center (Not Passing)	1.1	1.0	1.2	1.0	1.1	0.8	1.1
Improper or No Signal	0.4	0.3	0.3	0.4	0.5	0.5	0.4
Impeding Traffic	0.2	0.2	0.3	0.3	0.3	0.3	0.2
Failure to Use Lights	0.2	0.1	0.1	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	0.5	0.6	0.6	0.6	0.7	0.8	1.2
Vehicular Factors							
Skidding	4.0	4.0	3.9	4.6	4.3	2.3	1.3
Defective Equipment	0.8	0.8	0.8	0.8	0.8	0.3	0.2
Other Vehicular Factor	0.3	0.4	0.4	0.5	0.5	0.2	0.1
Miscellaneous Factors							
Weather	4.3	4.6	5.5	5.9	6.1	3.5	1.4
Other	1.7	2.3	2.5	2.9	2.8	2.1	2.3
Total Darcont	100.00/	100.09/	100.00/	100.00/	100.00/	100.00/	100.00/
Total Percent	100.0%	100.0%	10.150	0.070	20.044	5 5 6 9	2 070
Total Contributing Factors Cited	18,030	12,203	10,150	8,972	29,944	3,308	2,079
Drivers for Whom There Was							
"No Clear Contributing Factor"	6,071	6,420	6,748	6,609	24,930	3,129	528
Total Number of Drivers	20,218	17,408	16,315	15,299	54,672	8,924	2,221

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.

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.

			Injured				
Vehicle Type	Killed	Severe	Moderate	Minor	Total		
Automobile	365	2,243	10,601	18,672	31,516		
Pickup Truck	93	429	1,961	3,018	5,408		
Van	21	238	1,157	2,338	3,733		
Motorhome/Camper	0	0	7	8	15		
Taxicab	0	7	22	71	100		
Police Vehicle	0	11	35	87	133		
Fire Department Vehicle	0	0	1	0	1		
School Bus	4	8	38	151	197		
Other Bus	1	8	24	60	92		
Ambulance	0	4	1	15	20		
Military Vehicle	0	1	5	4	10		
Snowmobile	5	19	"37	25	81		
All Terrain Vehicle	6	8	14	7	29		
Farm Tractor or Equipment	2	4	3	11	18		
Motorcycle*	24	216	481	219	916		
Motorscooter/Motorbike*	1	9	15	6	30		
Motorized Bicycle (Moped)*	0	4	4	4	12		
Hit and Run Vehicle	0	13	92	124	229		
Road Maintenance Vehicle	0	4	4	6	14		
Single Truck (2-axle, 6-tire)	1	5	42	77	124		
Single Truck (3 or more axles)	1	9	28	31	68		
Single Truck with Trailer	2	2	12	17	31		
Truck Tractor with No Trailer	1	0	7	3	10		
Truck Tractor with Semi Trailer	4	11	69	114	194		
Truck Tractor with Double Trailers	0	0	0	1	1		
Other or Unknown Truck Type	0	0	3	2	5		
Other or Unknown Motor Vehicle	4	30	121	144	295		
Bicycle	7	134	649	565	1,348		
Pedestrian	58	256	515	663	1,434		
Total	600	3,673	15,948	26,443	46,064		

PEOPLE KILLED OR INJURED IN VARIOUS VEHICLE TYPES, 1997

* 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.

Age	1988	1989	1990	1991	1992	1993	1994	1995	1996	1997
15 16	13,387 42,178	14,072 41,544	12,832 42,885	15,075 43,708	16,626 45,744	18,047 47,600	16,031 48,754	20,660 52,205	24,783 54,657	27,514 55,564
17	53,900	49,458	48,496	51,161	50,796	51,688	54,960	57,426	60,864	61,052
18	62,772	56,250	52,070	51,293	54,442	53,894	55,472	58,307	61,788	63,/11
19	62,637	63,653	58,230	53,876	53,307	55,417	55,793	57,139	61,058	63,460
20	61,076	62,770	63,375	57,902	54,591	53645	56,765	56,902	58,964	61,875
Under 21	295,950	287,747	277,888	273,015	275,506	280,291	287,775	302,639	322,114	333,176
15 - 19	234.874	224.977	214.513	215.113	220.915	226.646	231.010	245 737	263 150	271.301
20 - 24	326.738	319.048	316,504	312,463	307,139	297,918	290,752	283.027	284.532	291,004
25 - 29	396.744	386,440	372.178	357,464	345,255	336.007	330.676	331.259	330.844	325.020
30 - 34	385,508	393,168	398,645	402,273	404,717	401,155	393,253	381,403	368,340	356,278
35 - 39	344,613	355,869	364,385	371,856	383,109	386,805	396,206	402,366	407,794	407,334
40 - 44	280,236	298,889	316,265	324,986	335,328	342,988	355,845	364,629	373,405	381,214
45 - 49	221,666	229,993	234,494	252,944	266,872	276,715	296,176	313,384	323,114	330,259
50 - 54	179,129	184,310	189,266	197,122	210,453	216,632	225,468	230,114	248,979	260,406
55 - 59	164,032	163,520	164,023	165,779	169,769	173,423	178,920	183,763	191,853	201,963
60 - 64	161,449	160,260	159,799	158,552	157,248	156,044	156,192	156,652	158,537	160,789
65 - 69	144,830	147,857	148,161	148,934	149,867	149,118	148,961	149,004	148,228	146,590
70 - 74	120,753	121,638	122,965	126,115	128,653	128,828	132,442	132,842	134,127	133,750
75 - 79	86,901	89,355	92,378	96,235	98,605	98,970	101,494	103,558	107,144	107,838
80 - 84	51,922	52,667	55,000	58,863	60,829	60,181	65,022	68,506	71,501	71,267
85 & Older	27,634	27,179	29,915	34,455	35,198	32,723	38,158	42,107	44,957	42,757
Total	3,127,029	3,155,170	3,178,491	3,223,154	3,273,957	3,284,153	3,340,575	3,388,351	3,456,505	3,487,770

DRIVER LICENSE^{*} SUMMARY BY AGE, 1988 - 1997

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

MOTOR VEHICLE REGISTRATIONS, 1988 - 1997

Type of Vehicle*	1988	1989	1990	1991	1992	1993	1994	1995	1996	1997
Darrow core	2 519 604	2 202 002	2 642 022	1 610 571	D 670 005	2 615 602	<u>ว 7</u> 70 ೧८2	3 700 08C	2 707169	2 724 520
	2,516,004	2,303,902	2,042,022	2,038,372	2,070,885	2,013,002	2,726,903	2,709,960	2,707108	2,124,529
Pickups	515,968	526,212	528,342	520,339	525,205	511,677	384,044	015,008	640,308	074,547
Irucks	135,918	137,690	140,874	139,263	141,144	144,367	145,413	121,188	126,211	159,939
Recreational Vehicles	34,226	34,805	35,328	35,515	36,290	36,826	37,049	37,775	37,683	37,731
Motorcycles	128,956	123,308	120,081	117,492	116,124	114,548	113,337	113,981	112,551	113,443
Motorized Bicycles	10,529	9,987	9,306	8,703	7,947	7,304	6,752	6,441	6,088	5,784
School Buses	5,115	5,026	5,037	5,109	5,058	5,052	5,168	5,319	5,474	5,788
Buses	3,879	4,217	3,780	3,822	3,804	4.039	4,103	4,282	4,145	4,260
Van Pool	253	248	259	264	256	319	300	295	289	291
Tax Exempt Vehicles	35,969	38,106	37,739	39,727	38,829	40,773	40,263	40,511	31,648	43,533
Motor Vehicle Subtotal	3,389,417	3,463,581	3,522,768	3,508,806	3,545,542	3,480,507	3,665,392	3,684,846	3,701,865	3,769,845
			<u>u</u>				1		******	
Trailers Collectors' Vehicles	726,054 61,280	708,693 66,860	780,484 72,031	754,942 76,947	830,527 82,116	807,187 87,405	894,909 92,775	849,482 97,839	956,629 103,030	897,794 108,254
Total Registrations	4,176,751	4,239,134	4,375,283	4,340,695	4,458,185	4,375,099	4,653,076	4,632,167	4,761,524	4,775,893

* 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.

		Vel	nicles in	
			Property	
	Fatal	Injury	Damage	All
Motor Vehicle Type*	Crashes	Crashes	Crashes	Crashes
Automobile	474	38,418	78,355	117,247
Pickup Truck	176	8,450	20,319	28,945
Van	53	4,694	10,024	14,771
Motorhome/Camper	0	33	94	127
Taxicab	1	145	320	466
Police Vehicle	3	179	306	488
Fire Department Vehicle	0	6	49	55
School Bus	4	216	759	979
Other Bus	2	100	307	409
Ambulance	0	21	30	51
Military Vehicle	0	16	. 28	44
Snowmobile	6	77	36	119
All Terrain Vehicle	7	26	9	42
Farm Tractor or Equipment	3	67	96	166
Motorcycle*	23	831	130	984
Motorscooter/Motorbike*	1	29	3	33
Motorized Bicycle (Moped)*	0	11	0	11
Hit and Run Vehicle	8	1,348	6,284	7,640
Road Maintenance Vehicle	1	54	155	210
Single Truck (2-axle, 6-tire)	12	368	803	1,183
Single Truck (3 or more axles)	6	171	338	515
Single Truck with Trailer	. 6	118	299	423
Truck Tractor with No Trailer	1	29	89	119
Truck Tractor with Semi Trailer	66	712	1,910	2,688
Truck Tractor with Double Trailers	1	6	34	• 41
Other or Unknown Truck Type	0	39	178	217
Other or Unknown Motor Vehicle	13	541	1,551	2,105
Total**	867	56,705	122,506	180,078

TYPES OF MOTOR VEHICLES IN 1997 CRASHES

* 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.

Eirst Harmful Event	Fatal Crashes	Personal Injury Crashes	Property Damage Crashes	Total Crashes	Killed	Injured	Fatality Rate Per 1,000 Crashes
Collision With	CIAMICS	CLASHES				mjurcu	Crashes
Another Motor Vehicle	284	20,608	44,356	65,248	339	32,679	5.2
Parked Motor Vehicle	4	610	5,731	6,345	4	774	0.6
Railroad Train	6	36	65	107	6	46	56.1
Bicycle	7	1,297	52	1,356	7	1,339	5.2
Pedestrian	53	1,293	0	1,346	55	1,375	40.9
Deer	3	309	4,579	4,891	3	350	0.6
Other Animal	2	100	296	398	2	126	5.0
Fixed Object	63	3,265	6,369	9,697	69	4,265	7.1
Other Object	0	40	149	189	0	55	0.0
Non-Collision:							
Overturn	92	3,201	3,693	6,986	97	4,379	13.9
Fire/Explosion	1	6	279	286	1	11	3.5
Submersion	6	10	43	59	10	12	169.5
Other or Unknown	7	515	1,196	1,718	7	653	4.1
Total	528.	31,290	66,808	98,626	600	46,064	6.1

1997 CRASHES AND INJURIES BY FIRST HARMFUL EVENT

TABLE 1.16

1997 "HIT-AND-RUN" CRASHES AND INJURIES BY FIRST HARMFUL EVENT

	Fatal	Personal	Property	Tetal		
First Harmful Event	r atai Crashes	Crashes	Damage Crashes	Crashes	Killed	Injured
Collision With:			,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,	1	an a	
Other Motor Vehicle	1	810	2,516	3,327	1	1,127
Parked Motor Vehicle	0	66	2,783	2,849	0	82
Railroad Train	0	0	3	3	0	0
Bicycle	0	150	13	163	0	154
Pedestrian	7	203	0	210	7	215
Deer	0	0	1	1	0	0
Other Animal	0	1	5	6	0	1
Fixed Object	0	79	771	850	0	88
Other Object	0	0	11	11	0	0
Non-Collision:						
Overturn	0	16	54	70	0	25
Fire/Explosion	0	0	2	2	0	0
Other or Unknown	0	11	76	87	0	13
Total	8	1336	6,235	7,579	8	1,705

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		Personal	Property			
	Fatal	Injury	Damage	Total		
Traffic Control Device	Crashes	Crashes	Crashes	Crashes	Killed	Injured
Not Applicable	346	16,896	35,175	52,417	396	24,342
Traffic Signal	40	7,058	11,634	18,732	44	10,521
Overhead Flashers	2	96	209	307	2	147
Stop Sign-All Approaches	4	552	1,182	1,738	4	786
Other Stop Sign	90	4,550	8,172	12,812	103	7,186
Yield Sign	10	516	994	1,520	12	821
Flagman, Officer, or School Patrol	0	45	66	111	0	68
School Bus Stop Arm	1	24	60	85	1	50
School Zone Sign	1	10	21	32	1	13
No Passing Zone	17	275	399	691	20	452
RR Crossing Gate	2	7	42	51	2	14
RR Flashing Lights	0	16	45	61	0	18
RR Crossing Stop Sign	1	11	11	23	1	13
RR Other	0	32	52	84	0	45
Other	3	392	2,156	2,551	3	529
Unknown	11	810	6,590	7,411	11	1,059
Total	528	31,290	66,808	98,626	600	46,064

1997 CRASHES BY TRAFFIC CONTROL DEVICE

TABLE 1.18

1997 CRASHES BY WEATHER CONDITION

	Fatal	Personal Injury	Property Damage	Total		
Weather Condition	Crashes	Crashes	Crashes	Crashes	Killed	Injured
Clear	295	16,076	32,983	49,354	339	23,596
Cloudy	138	8,943	17,809	26,890	149	13,313
Rain	19	2,235	4,189	6,443	26	3,365
Snow	25	2,243	6,308	8,576	27	3,203
Sleet/Hail/Freezing Rain	10	358	882	1,250	11	514
Fog/Smog/Smoke	10	259	491	760	10	403
Blowing Sand/Dust	14	624	1,371	2,009	21	954
Severe Crosswinds	0	47	85	132	0	65
Other	2	57	193	252	2	90
Not Stated/Unknown	15	448	2,497	2,960	15	561
Total	528	31,290	66,808	98,626	600	46,064

CONTRIBUTING FACTORS IN 1997 CRASHES

	Percent of Factors Cited in			Num				
	Crashes	by Severity	<u>' of Crash</u>	<u>which t</u>	<u>he Factor w</u>	as Cited		
			Property			Property	Num	ber of
	Fatal	Injury	Damage	Fatal	Injury	Damage	People	Affected
Contributing Factors	Crashes	Crashes	Crashes	Crashes	Crashes	Crashes	Killed	Injured
Human Factors								
Driver Inattention/Distraction	14.6	23.1	21.3	122	10,419	15,308	140	15,753
Failure to Yield Right of Way	14.4	16.1	14.6	124	7,445	10,824	142	11,823
Illegal/Unsafe Speed	13.6	12.1	11.8	119	5,504	8,604	143	8,391
Following Too Closely	0.6	5.9	6.7	5	2,509	4,663	8	3,609
Improper/Unsafe Lane Use	3.7	3.2	5.4	32	1,504	4,026	35	2.198
Disregard Traf Contr Device	5.5	5.0	2.9	49	2,365	2,163	60	3,989
Physical Impairment	10.1	5.3	2.5	89	2,488	1,877	101	3,670
Driver Inexperience	3.2	3.2	3.0	27	1,504	2,218	31	2,425
Vision Obscured	2.8	3.2	3.6	13	1,379	2,345	13	2,030
Improper Turn	1.1	1.8	2.6	10	837	1,991	10	1,304
Improper Passing/Overtaking	1.0	1.0	1.8	9	461	1,378	9	716
Unsafe Backing	0.0	0.4	2.0	0	197	1,512	0	241
Improper Parking/Starting/								
Stopping	1.1	1.1	1.5	9	518	1,113	10	745
Driving Left of Center								
(Not Passing)	5.3	1.3	1.0	46	591	720	56	1,059
Pedestrian Violation or Error	2.7	1.0	0.0	24	456	0	25	479
Improper or No Signal	0.0	0.2	0.4	0	111	271	0	159
Impeding Traffic	0.3	0.2	0.2	2	99	165	2	155
Failure to Use Lights	0.5	0.2	0.1	4	88	79	5	140
Driver on CB radio /								
Cellular phone	0.0	0.1	0.1	0	43	68	0	56
Other Human Factor	1.7	1.3	1.0	15	619	699	20	872
Vehicular Factors								
Skidding	5.7	4.2	5.4	48	1,890	3,818	50	2,680
Defective Equipment	0.9	0.8	0.9	5	392	700	5	583
Other Vehicular Factor	0.5	0.5	0.8	4	213	563	7	300
Miscellaneous Factors								
Weather	6.8	5.6	7.0	40	2,172	4,448	50	3,157
Other	5.3	3.1	3.6	42	1,191	2,244	44	1,737
Total Percent	100.0%	100.0%	100.0%					
Total Contributing Factors	884	47,603	76,179					
Vehicles Where There Was "No								
Clear Contributing Factor"	319	23,044	43,933					
Total Number of Vehicles	939	59,478	122,557					

Zero, one, or two contributing factors may be associated with each vehicle. This causes the number of factors cited to be different from the number of vehicles, the number of crashes, and the number of people affected by the factors. Percentages are based on all factors cited; they do 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.

1997 CRASHES BY LIGHT CONDITION

Light Condition	Fatal Crashes	Personal Injury Crashes	Property Damage Crashes	Total Crashes	Killed	Injured
Daylight	286	20,745	41,310	62,341	320	30,547
Dawn/Dusk	36	1,956	4,945	6,937	42	2,876
Dark/Street Lights On	56	5,024	10,802	15,882	60	7,368
Dark/No Street Lights	134	3,099	6,808	10,041	162	4,661
Other/Unknown	16	466	2,943	3,425	16	612
Total	528	31,290	66,808	98,626	600	46,064

TABLE 1.21

1997 CRASHES BY ROAD SURFACE CONDITION

		Personal	Property			
Road	Fatal	Injury	Damage	Total		
Surface Condition	Crashes	Crashes	<u>Crashes</u>	Crashes	Killed	Injured
Dry	371	19,898	37,424	57,693	419	29,646
Wet	60	4,747	9,205	14,012	72	7,126
Snow/Slush	20	1,613	4,516	6,149	25	2,256
Ice or Packed Snow	56	4,427	13,022	17,505	63	6,228
Other	8	329	624	961	8	464
Not Stated/Unknown	13	276	2,017	2,306	13	344
Total	528	31,290	66,808	98,626	600	46,064

TABLE 1.22

1997 CRASHES BY ROAD DESIGN

		Personal	Property			
	Fatal	Injury	Damage	Total		
Road Design	Crashes	Crashes	Crashes	Crashes	Killed	Injured
Freeway (Including Ramps)	41	3,115	7,742	10,898	44	4,351
Other Divided Highway	88	4,462	6,596	11,146	102	7,010
One-Way Street	5	974	1,303	2,282	5	1,411
4-6 Lanes Undivided	32	5,767	8,287	14,086	34	8,429
3 Lanes	4	308	551	863	5	493
2-Lane2-Way	345	14,003	26,033	40,381	397	20,879
Alley/Driveway	1	200	562	763	1	224
Other	4	510	1,008	1,522	4	733
Not Stated/Unknown	8	1,951	14,726	16,685	8	2,534
Total	528	31,290	66,808	98,626	600	46,064

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1997 CRASHES BY DIAGRAM

		Personal	Property			
	Fatal	Injury	Damage	Total		
Diagram	Crashes	Crashes	Crashes	Crashes	Killed	Injured
Rear End	22	7,459	11,908	19,389	25	11,198
Sideswipe Passing	6	793	5,177	5,976	6	1,037
Left Turn Oncoming Traffic	17	1,839	2,667	4,523	19	2,899
Ran Off Road - Left	70	2,347	3,063	5,480	76	3,175
Right Angle	162	7,913	11,423	19,498	188	12,561
Right Turn Cross Street Traffic	66	157	352	575	70	210
Ran Off Road - Right	85	2,870	4,387	7,342	105	3,827
Head On	8	1,283	1,392	2,683	8	2,317
Sideswipe Opposing	92	481	1,234	1,807	103	743
Other / Unknown / Incomplete	0	6,148	25,205	31,353	0	8,097
				57		Contraction of Contraction Contraction
Total	528	31,290	66,808	98,626	600	46,064

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

TABLE 1.24

1997 CRASHES BY POPULATION OF AREA

		Personal	Property			
Population of	Fatal	Injury	Damage	Total		
<u>City or Township</u>	<u>Crashes</u>	Crashes	Crashes	<u>Crashes</u>	Killed	Injured
100,000 & Over	36	6,746	15,802	22,584	37	9,384
50,000 - 99,999	22	3,106	5,839	8,967	23	4,592
25,000 - 49,999	33	4,519	9,722	14,274	39	6,402
10,000 - 24,999	41	4,689	10,109	14,839	41	6,926
5,000 - 9,999	25	2,117	4,674	6,816	30	3,134
2,500 - 4,999	15	916	1,998	2,929	18	1,380
1,000 - 2,499	10	578	1,471	2,059	11	861
Under 1,000	346	8,619	17,193	26,158	401	13,385
Total	528	31,290	66,808	98,626	600	46,064

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1997 CRASHES BY TYPE OF ROADWAY

		Personal	Property			
	Fatal	Injury	Damage	Total		
Type of Roadway	Crashes	Crashes	Crashes	Crashes	Killed	<u>Injured</u>
Urban						
Interstate	23	1,911	5,269	7,203	25	2,613
Trunk Highway	51	5,040	9,773	14,864	55	7,520
County State Aid Highway	45	6,064	10,766	16,875	48	8,923
County Road	3	259	440	702	3	418
Local Street	35	7,903	19,898	27,836	39	10,964
Total	157	21,177	46,146	67,480	170	30,438
Rural						
Interstate	12	778	2,114	2,904	13	1,155
Trunk Highway	187	4,351	8,416	12,954	224	7,175
County State Aid Highway	135	2,971	5,120	8,226	154	4,448
County Road	14	462	721	1197	15	652
Township Road	11	745	1,184	1,940	11	1,118
Local Street	7	613	2,203	2,823	8	833
Other Road	5	193	904	1,102	5	245
Total	371	10,113	20,662	31,146	430	15,626
All Roadways						
Interstate	35	2,689	7,383	10,107	38	3,768
Trunk Highway	238	9,391	18,189	27,818	279	14,695
County State Aid Highway	180	9,035	15,886	25,101	202	13,371
County Road	17	721	1,161	1,899	18	1,070
Township Road	11	745	1,184	1,940	11	1,118
Local Street	42	8,516	22,101	30,659	47	11,797
Other Road	5	193	904	1,102	5	245
Total	528	31,290	66,808	98,626	600	46,064

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

1997 COUNTY CRASH REPORT

		1997	Crashes						
County	Fatal Crashes	Personal Injury Crashes	Property Damage Crashes	Total Crashes	Average Crashes	Number Killed	Average Killed	Number Injured	Average Injured
County	Clashes	Clashes		Clasics	1772-1770	1997	1774-1770	1997	1992-1990
Aitkin	5	105	193	303	275	5	5	172	126
Anoka	16	1,806	3.024	4.846	4.905	18	21	2 769	2 606
Becker	11	144	249	404	430	13	9	234	2,000
Beltrami	8	222	550	780	761	8	7	379	302
Benton	5	231	401	637	742	6	8	376	398
Big Stone	0	22	80	102	102	0	1	34	34
Blue Earth	5	358	997	1,360	1,518	6	9	521	644
Brown	4	148	307	459	485	6	4	216	233
Carlton	5	137	270	412	444	5	6	200	241
Carver	12	357	716	1,085	1,113	15	10	552	560
Cass	11	163	280	454	415	11	9	259	250
Chippewa	4	76	141	221	221	5	5	118	126
Chisago	4	230	523	757	691	5	8	331	323
Clay	6	298	1,006	1,310	1,138	7	6	428	447
Clearwater	2	37	54	93	105	2	4	57	56
Cook	2	34	99	135	158	2	1	53	68
Cottonwood	3	59	99	161	170	4	3	99	95
Crow Wing	9	374	846	1,229	1,144	9	10	595	594
Dakota	24	1,727	3,380	5,131	5,192	24	20	2,548	2,504
Dodge	3	87	182	272	256	3	5	134	124
Douglas	4	232	684	920	892	4	7	363	358
Faribault	0	78	120	198	209	0	4	125	99
Fillmore	2	90	215	307	344	3	4	129	168
Freeborn	3	227	528	758	730	3	6	350	302
Goodhue	9	328	713	1,050	1,127	10	8	479	504
Grant	0	46	71	117	99	0	1	56	44
Hennepin	55	8,927	19,447	28,429	28,380	57	58	12,596	12,834
Houston	2	106	213	321	333	2	4	146	143
Hubbard	4	105	145	254	255	4	4	163	163
Isanti	9	213	393	615	529	10	6	334	278

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TABLE 1.26 CONTINUED

1997 COUNTY CRASH REPORT

		<u> </u>	Crashes						
Country	Fatal	Personal Injury	Property Damage	Total	Average Crashes	Number Killed	Average Killed	Number Injured	Average Injured
County	Crasnes		Crasiles	Crasnes	1992-1990	1997	1994-1990	1997	1772-1970
Ifacca	7	241	184	737	710	11	7	378	374
Tackson	2	241 70	154	732	219	2	4	122	100
Kanabec	3	77	131	211	232	3	3	114	137
Kandivohi	4	313	582	899	865	4	15	489	482
Kittson	2	25	61	88	86	2	1	33	30
Koochiching	2	83	147	232	245	3	4	122	133
Lac Qui Parle	2	33	68	103	99	2	2	53	51
Lake	2	62	149	213	231	2	2	82	94
Lake of The Woods	3	11	36	50	64	4	2	23	31
Le Sueur	1	144	365	510	490	1	6	215	212
Lincoln	0	26	52	78	106	0	2	33	39
Lyon	2	127	342	471	511	4	7	199	220
Mcleod	5	216	480	701	670	6	9	317	329
Mahnomen	1	32	33	66	77	1	4	54	71
Marshall	2	25	72	99	127	2	2	40	71
Martin	5	119	275	399	406	5	4	188	174
Meeker	3	130	201	334	335	3	4	210	176
Mille Lacs	5	131	261	397	410	7	5	217	259
Morrison	9	170	316	495	529	9	8	270	277
Mower	4	196	485	685	725	4	5	289	287
Murray	3	32	88	123	121	3	2	55	57
Nicollet	4	128	317	449	485	4	5	187	193
Nobles	3	137	317	457	434	4	2	217	164
Norman	l	33	94	128	112		3	43	64
Olmsted	13	751	1,550	2,314	2,418	16	11	1,087	1,113
Otter Tail	11	328	65/	996	937	11	11	491	447
Pennington	0	111	144	255	268	0	3	160	155
Pine	2	171	398	5/1	501	2	1	245	287
ripestone	2	39	105	146	140		2	57	64
POIK	3	192	308	559	543	3	0	212	261

TABLE 1.26 CONTINUED

1997 COUNTY CRASH REPORT

		<u>1997</u>	<u>Crashes</u>						
	Fatal	Personal Injury	Property Damage	Total	Average Crashes	Number Killed	Average Killed	Number Injured	Average Injured
County	Crashes	Crashes	Crashes	Crashes	1992-1996	1997	1992-1996	1997	1992-1996
				110			-		<i>c</i> o
Pope	4	30	102	142	145	4	د ۵4	5 5 1 A	02 5 709
Ramsey	30	3,935	9,714	13,679	14,043	32	24	5,514	5,708
Red Lake	1	26	46	13	64	1	2	41	20
Redwood	2	99	134	235	263	2	4	150	143
Renville	3	19	1/9	261	262	3	2	120	138
Rice	S	364	750	1,119	1,038		8	540	4/8
Rock	0	64	185	249	239	0	I	98	90
Roseau	3	48	125	176	219	5	4	80	95
St. Louis	28	1,064	1,939	3,031	3,328	30	25	1,593	1,637
Scott	16	457	869	1,342	1,414	21	12	/66	669
Sherburne	11	321	621	953	832	12	10	4/3	433
Sibley	4	70	132	206	260	5	4	94	109
Stearns	10	984	1,524	2,518	2,960	10	20	1,462	1,461
Steele	6	224	633	863	757	11	5	325	295
Stevens	1	49	117	167	125	1	1	71	56
Swift	3	47	106	156	133	4	3	72	72
Todd	3	139	285	427	397	3	4	204	173
Traverse	1	17	29	47	45	1	1	29	27
Wabasha	6	98	228	332	367	7	4	171	174
Wadena	3	82	161	246	264	3	3	124	123
Waseca	5	97	190	292	317	8	.3	153	123
Washington	12	832	2,026	2,870	2,952	13	12	1,264	1,327
Watonwan	4	53	95	152	179	4	3	93	80
Wilkin	3	62	126	191	196	3	2	90	99
Winona	8	342	810	1,160	1,132	13	7	493	447
Wright	20	537	930	1,487	1,318	25	15	842	731
Yellow Medicine	3	48	94	145	148	3	1	67	82
Total	528	31,290	66,808	98,626	99,754	600	587	46,064	46,153
1997 CRASHES IN CITIES OF 2,500 OR MORE POPULATION

FatalJajuryDamageTotalCityCrashesCrashesCrashesKilledhjuredAlbert Lea11232553791186Albert Lea11232553791186Albert Lea11232553790152Andovar0921472390152Anoka01583334910231Aple Valley11832794631264Arden Hilh4642503351117Auron03151806Jautin01022903920145Bayport03151806Balle Plaine1164764235Benniji0193254446193Biomington57511,6642,42051,098Blue Earth0123648023Brooklyn Park34135079233646Burdalo068139207098Brimistill17843120114Biomington57511,6642,42051,098Blue Earth0123648023348Brooklyn Park34135079233<			Personal	Property			
City Crashes Crashes Crashes Crashes Clashes Light of 18 Albort Las 1 123 255 279 1 186 Andovar 0 94 336 430 0 136 Andovar 0 92 147 239 0 152 Anoka 0 158 333 491 0 231 Apple Valley 1 183 279 463 1 264 Autore 0 3 13 16 0 6 1 264 Autore 0 3 15 18 0 6 6 Bayport 0 3 15 18 0 6 10 133 16 1 14 14 14 14 13 14 14 14 14 14 14 14 14 14 14 14 14 14 14 14		Fatal	Injury	Damage	Total		
Aftor0161935018Albert Loc11222553791186Alexaodria0943364300152Anoka01583334910231Apple Valley11832794631264Arken Hills11842503551117Auron0313166066Arken Hills116427939201455Baxter043104147078Bayport03151806Belle Plaine1164764235Benson111422554440193Benson1114237501147Blaine12851284023Blaine1285260144147Blaine1285260144Brooklyn Park34135079233646Brooklyn Park34135079233646Brooklyn Park34135079233646Brooklyn Park34135079233646Contaria0102030014Camon Falls0726133 <td< th=""><th><u>City</u></th><th>Crashes</th><th>Crashes</th><th>Crashes</th><th>Crashes</th><th>Killed</th><th><u>Injured</u></th></td<>	<u>City</u>	Crashes	Crashes	Crashes	Crashes	Killed	<u>Injured</u>
Albert Lea11232553794186Nicxandria0943364300156Andover0921472390231Ancka01583334910231Apple Valley118327946311244Arten Hills11442303351117Aurora031316147078Bayport03151806Belle Plaine1164764235Benidy01192254440033Benidy01192254440144Bilane12885128011447Blane12285128011447Bloonington57511,6642,42051,098Blue Earth0123648023Brooklyn Center32484547053348Brooklyn Center32484547053348Brooklyn Park34135079233366Burfalo068139207098Canon Falls0195271038Chrisolin178131210125Chabassen296244<	Afton	0	16	19	35	0	18
Alexandria0943364300136Andover0921472390152Anoka01583334910231Apple Valley11832794631264Artien Hills11842503351117Aurona031518066Austin01022903920195Bayport03151806Belle Plaine1164764235Benndji01193254440193Beason111423750115Blaine12885128011447Bloomington57511,6642,42051,098Blue Earth0123648023Brooklyn Center32484547053348Brooklyn Center32484547053348Brooklyn Center32484547053348Brooklyn Center32484547053348Brooklyn Center32484547053348Brooklyn Center32484547053348Brooklyn Center32484547053348Cambridgo	Albert Lea	1	123	255	379	1	186
Anoka0921472390152Anoka01583334910231Apple Valley11832794631264Arden Filla18425033811117Aurona031516066Austin01022903920145Baxter043104147078Bayport03151806Belle Plaine1164764235Benidji01193254440193Benson1114254114Big Lake2123750115Blaine12285128011447Bloemidji0123648023Brainerd01236448033Brockyn Catter32484547051348Brockyn Catter324845470533646Burfalo06819207098Burnsville23396499907011Catedomia010203364638Burdalo08917011Catedomia01952170058 <td< td=""><td>Alexandria</td><td>0</td><td>94</td><td>336</td><td>430</td><td>0</td><td>136</td></td<>	Alexandria	0	94	336	430	0	136
Ancka01583334910231Apple Valley11832794631264Arden Hills1842503351117Aurona03131606Austin01022903920145Baxter043104147078Bayport03151806Belle Plaine1164764235Benidji0192254440193Benson111423750115Blane12885128011447Blornington57511,6642,42051,008Blue Earth0123648023Brenokyn Center32484547053348Brooklyn Center32484547053348Brooklyn Center32489917011Cambridge04512570088Chanyn08917014Cambridge0195271030Chanylas0195271030Chanylas0195271030Chanylas01952710 <td< td=""><td>Andover</td><td>0</td><td>92</td><td>147</td><td>239</td><td>0</td><td>152</td></td<>	Andover	0	92	147	239	0	152
Apple Valley11832794631264Arden Hills1642503351117Aurora03131606Austin01022903920145Baxter043104147078Bayport03151806Belle Plaine1164764235Benidji01192524440193Benson1114254114Big Lake7123750115Blaine12885128011447Bloemidji0123648023Brained01283985260184Brocklyn Center32484547053348Brooklyn Park34135079233649Burfalo0681907098Burnsville23396499902514Byron01831101125Chaber0741346500Caledonia0195270058Canbridge0741346410125Chaber074134641324Cha	Anoka	0	158	333	491	0	231
Arisen Hills1642503351117Aurora03131606Austin01022003920145Baxter043104147078Bayport03151806Belle Plane1164764235Bemidi01193254440193Benson1114254114Big Lake1123750115Blane12885128011447Bloc Earth0123648023Brainerd01283985260184Brockoridge1224770133Broklyn Center32484547053348Broklyn Park34135079902514Byron08917011Caledonia0102030014Cannon Falls0195271030Chankasen296243422138Chaska074139213089Chaskolmi1183554124Conder Fals1204365026Chaskolmi	Apple Valley	1	183	279	463	1	264
Aurora03131606Austin01022903920145Baxter03104147078Bayport03151806Belle Plaine1164764235Bernidji01193254440193Benson1114254114Big Lake1123750115Blane12885128011447Bloomington57511,6642,42051,098Blue Earth01283985260184Brooklyn Center32484547053348Brooklyn Park34135079233646Burfalo0681907098Bursville23396499902514Byron08917011Calectonia0102030014Camon Falls0195271030Champlin1781312101125Chanhasen2962443422138Chishohn1183554124Coldska07413914081 <t< td=""><td>Arden Hills</td><td>1</td><td>84</td><td>250</td><td>335</td><td>1</td><td>117</td></t<>	Arden Hills	1	84	250	335	1	117
Austin01022903920145Baxter043104147078Bayport03151806Belle Plaine1164764235Bemidji01193254440193Berson1114254114Big Lake11237501147Blornington57511,6642,42051,098Blue Earth0123648023Brankerd01283985260184Brocklyn Center32484547053348Brocklyn Park34135079233646Byron0681392070 -98Burnsville23396499902514Byron0102030014Cambridge045125170058Cannon Falls0195271030Chaska074139213089Chidshoim1183554124Chaska074139213089Chaska07336413120167Condapids34577311,1913	Aurora	0	3	13	16	0	6
Baxter 0 43 104 147 0 78 Bayport 0 3 15 18 0 6 Belle Plaine 1 16 47 64 2 35 Bernidji 0 119 325 444 0 193 Berson 1 11 42 54 1 14 Big Lake 1 288 512 801 1 447 Bloe Earth 0 12 36 48 0 23 Brained 0 128 398 526 0 184 Brocklyn Center 3 248 454 705 3 348 Brooklyn Center 3 413 507 923 3 646 Buffalo 0 68 139 207 0 98 Burnsville 2 339 649 990 2 514 Byron 0<	Austin	0	102	290	392	0	145
Bayport03151806Belle Plaine1164764235Bernidji01193254440193Benson1114254114Big Lake1123750115Blaine12885128011447Hoomington57511,6642,42051,098Blue Earth0123648023Brainerd01283985260184Brooklyn Center32484547053348Brooklyn Park34135079233646Burraville233964999002514Byron08917011Caldonia0102030014Cambridge045125170058Cannon Falls0195271030Chankasen2962443422138Chankak074139215089Chisholm1183554124Chankak074139215039Chankak074139215089Chankak074139215024 </td <td>Baxter</td> <td>0</td> <td>43</td> <td>104</td> <td>147</td> <td>0</td> <td>78</td>	Baxter	0	43	104	147	0	78
Belle Plaine1164764235Bernidji01193254440193Benson1114254114Big Lake1123750115Blaine12885128011447Bloomington57511,6642,42051,098Braired0123648023Braired01283985260184Brocklyn Center32484547053348Brooklyn Park34135079233646Buffalo068139207098Burnsville23396499902514Byron08917011Caledonia0102030014Cambridge045125170058Cannon Falls0195271030Chanplin1781312101125Chanpasen2'962443422138Chaska074139213089Chisholm1183554124Crockson03490124045Coroan1201672881177 <td>Bayport</td> <td>0</td> <td>3</td> <td>15</td> <td>18</td> <td>0</td> <td>6</td>	Bayport	0	3	15	18	0	6
Bernidji01193254440193Benson1114254114Big Lake1123750115Blaine12885128011447Bloomington57511,6642,42051,098Birainerd01283985260184Breckenridge1224770133Broklyn Center32484547053348Brocklyn Park34135079233646Byron0681392070.98Burnsville23396499902514Byron08917011Caledonia0102030014Cambridge045125170058Cannon Falls0195271030Chanhassen2962443422138Chaska0772633099Columbia Heights11201672881177Coora Rapids344573111913681Chaska07713364131Cold Spring072633099Columbia Heights11201672	Belle Plaine	1	16	47	64	2	35
Denson1114254114Big Lake1123750115Blaine12885128011447Bloomington57511,6642,42051,098Blue Earth0123648023Brainerd01283985260184Brockington32484547053348Brooklyn Center32484547053348Brooklyn Park34135079233664Burfalo068139207098Burnsville23396499902514Byron08917011Calconia0102030014Cannon Falls0195271030Chanhassen2962443422138Chaska072633099Columbia Heights11201672881177Coon Rapids34457311,1913681Cortoran1204364131Cortoge Grove0842463300124Coronan1204364131Cortoran1204364<	Bemidii	Ō	119	325	444	0	193
Big Lake111111Blaine12885128011447Bloomington57511,6642,42051,098Blue Earth0123648023Brainerd01283985260184Brooklyn Center32484547053348Brooklyn Center34135079233646Burnaville23396499902514Byron08917011Calconia0102030014Cambridge045125170058Cannon Falls0195271030Chanhassen2962443422138Chaska074139213089Chicholm1183554124Circle Pines0224365026Coloquet0842463300124Cold Spring07263309Columbia Heights11201672881177Cororan1204364131Cortage Grove0842463300124Corotan120167288 <td< td=""><td>Benson</td><td>1</td><td>11</td><td>42</td><td>54</td><td>1</td><td>14</td></td<>	Benson	1	11	42	54	1	14
Depart Blaine1285128011447Bloomington57511,6642,42051,098Blue Earth0123648023Brainerd01283985260184Breckenridge1224770133Brooklyn Center32484547053348Brooklyn Park34135079233646Burfalo068139207098Burnsville23396499902514Byron08917011Caledonia0102030014Cambridge045125170058Channo Falls0195271030Chankak074139213089Chaka074139213089Chaka07263309Colquet05883141081Cold Spring07263309Corotan11201672881177Coon Rapids34577311,1913681Corotan1204364131Corotan12043641 <t< td=""><td>Big Lake</td><td>1</td><td>12</td><td>37</td><td>50</td><td>1</td><td>15</td></t<>	Big Lake	1	12	37	50	1	15
Drime12003123041111Bloomington57511,6642,42051,098Bue Earth0123648023Brainerd01283985260184Breckenridge1224770133Brooklyn Center32484547053348Brooklyn Park34135079233646Buffalo068139207098Burnsville23396499902514Byron08917011Caledonia0102030014Cambridge045125170058Cannon Falls0195271030Chankasen2962443422138Chaska074139213089Chisholm1183554124Colquet05883141081Coldyring07263309Colquet05883141081Coldyring072283307Coldyring01291793080124Corotan12043641	Blaine	1	288	512	801	1	447
Dromingon 5 77 1,000 2,430 1,000 Brainerd 0 12 36 48 0 23 Brainerd 0 12 36 48 0 23 Brainerd 0 12 36 48 0 23 Brainerd 1 22 47 70 1 33 Brooklyn Center 3 248 454 705 3 348 Brooklyn Park 3 413 507 923 3 646 Buffalo 0 68 139 207 0 .98 Burnsville 2 339 649 990 2 514 Byron 0 8 9 17 0 11 Caledonia 0 10 20 30 0 14 Cannon Falls 0 19 52 71 0 30 Champlin 1 78 131 210 1 125 Champlin 1 18	Bloomington	5	200 751	1 664	2 420	5	1 098
Drive Datul 0 12 30 40 0 22 Brainerd 0 128 398 526 0 184 Breckenridge 1 22 47 70 1 33 Brooklyn Center 3 248 454 705 3 348 Brooklyn Park 3 413 507 923 3 646 Buffalo 0 68 139 207 0 98 Burnsville 2 339 649 990 2 514 Byron 0 8 9 17 0 11 Caledonia 0 10 20 30 0 14 Cambridge 0 45 125 170 0 30 30 Chanbassen 2 96 244 342 2 138 33 54 1 24 138 Chanbassen 2 26 3	Blue Forth	0	12	36	18	0	1,020
Diameter01283943200164Breckenridge1224770133Brooklyn Center32484547053348Brooklyn Park34135079233646Buffalo068139207098Burnsville23396499902514Byron08917011Caledonia0102030014Cambridge045125170058Cannon Falls0195271030Chanhassen2962443422138Chaska074139213089Chisholm1183554124Cicle Pines0224365026Cloquet05883141081Cold Spring07263309Columbia Heights11201672881177Coor Rapids34577311,1913681Corcoran1204364131Cortage Grove0842463300124Corkston03490124045Dephaven0528330 </td <td>Diuc Latur</td> <td>0</td> <td>12</td> <td>20 200</td> <td>70</td> <td>0</td> <td>194</td>	Diuc Latur	0	12	20 200	70	0	194
Breckennage1 22 47 70 1 33 Brooklyn Center3 248 454 705 3 348 Brooklyn Park3 413 507 923 3 646 Buffalo0 68 139 207 0_{-} 98 Burnsville2 339 649 990 2 514 Byron0 8 9 17 0 11 Caledonia0 10 20 30 0 14 Cambridge0 45 125 170 0 58 Cannon Falls0 19 52 71 0 30 Chanplin1 78 131 210 1 125 Chankasen2 96 244 342 2 138 Chaska0 74 139 213 0 89 Chisholm1 18 35 54 1 24 Circle Pines0 22 43 65 0 26 Cloquet0 58 83 141 0 81 Cold Spring0 7 26 33 0 9 Columbia Heights1 120 167 288 1 177 Coo Rapids3 457 731 $1,91$ 3 681 Circle Pines0 34 90 124 0 45 Codoston0 34 90 124 <td< td=""><td>Brainera D. 1. 11-</td><td>0</td><td>128</td><td>598</td><td>520</td><td>0</td><td>104</td></td<>	Brainera D. 1. 11-	0	128	598	520	0	104
Brooklyn Center32484347053348Brooklyn Park34135079233646Burfalo068139207098Burnsville23396499902514Byron08917011Caledonia0102030014Cambridge045125170058Cannon Falls0195271030Champlin1781312101125Chanhassen2962443422138Chaska074139213089Chishoim1183554124Circle Pines0224365026Cloquet05883141081Cold Spring07263309Coundia Heights11201672881177Coon Rapids34577311,1913681Crookston03490124045Crystal01291793080188Dayton2233560243Dephaven05283307Delano0183351023	Breckennage	1	24	41	70	1	33 249
Brookyn Park3413 507 923 3 646 Buffalo068139 207 0. 98 Burnsville2339 649 990 2 514 Byron08917011Caledonia0102030014Cambridge045125170030Chanplin1781312101125Chanhassen2962443422138Chaska074139213089Chisholm1183554124Circle Pines0224365026Cloquet05883141081Cold Spring07263309Columbia Heights11201672881177Con Rapids34577311,1913681Corcoran1204364131Corkston03490124045Dayton2233560243Detroit Lakes04586131068Dilworth061723012Delano0183351023Delano0183351062 <td>Brooklyn Center</td> <td>3</td> <td>248</td> <td>454</td> <td>705</td> <td>3</td> <td>348</td>	Brooklyn Center	3	248	454	705	3	348
Burnsville 0 68 139 207 0 $ 98$ Burnsville 2 339 649 990 2 514 Byron 0 8 9 17 0 11 Caledonia 0 10 20 30 0 14 Cambridge 0 45 125 170 0 58 Canon Falls 0 19 52 71 0 30 Chanhassen 2 96 244 342 2 138 Chaska 0 74 139 213 0 89 Chisholm 1 18 35 54 1 24 Cicle Pines 0 22 433 65 0 26 Cloquet 0 58 83 141 0 81 Cold Spring 0 7 26 33 0 9 Columbia Heights 1 120 167 288 1 177 Coon Rapids 3 457 731 $1,191$ 3 681 Corcoran 1 20 43 64 1 31 Cotage Grove 0 84 246 330 0 124 Crookson 0 34 90 124 0 45 Crystal 0 129 179 308 0 188 Dayton 2 23 35 60 2 43 Delano 0	Brooklyn Park	3	413	507	923	3	646
Burnsville23396499902514Byron08917011Caledonia0102030014Cambridge045125170058Cannon Falls0195271030Champlin1781312101125Chanhassen2962443422138Chaska074139213089Chisholm1183554124Circle Pines0224365026Cloquet05883141081Cold Spring07263309Columbia Heights11201672881177Coon Rapids34577311,1913681Corcoran1204364131Cotage Grove0842463300124Crookston03490124045Dephaven05283307Detano0183351023Detroit Lakes04586131068Dilworth061723012Duth34266299074400	Buffalo	U	68	139	207	U - ~	98
Byron08917011Caledonia0102030014Cambridge045125170058Cannon Falls0195271030Champlin1781312101125Chanhassen2962443422138Chaska074139213089Chisholm1183554124Circle Pines0224365026Cloquet05883141081Cold Spring07263309Columbia Heights11201672881177Coon Rapids34577311,1913681Corcoran1204364131Cotage Grove0842463300124Crookston03490124045Crystal01291793080188Dayton2233560243Deephaven05283307Delano0183351023Detroit Lakes04586131068Dilworth061723012	Burnsville	2	339	649	990	2	514
Caledonia0102030014Cambridge045125170058Cannon Falls0195271030Champlin1781312101125Chanhassen2962443422138Chaska074139213089Chisholm1183554124Circle Pines0224365026Cloquet05883141081Cold Spring07263309Columbia Heights11201672881177Coon Rapids34577311,1913681Corcoran1204364131Cottage Grove0842463300124Crystal01291793080188Dayton2233560243Deephaven05283307Delano0183351023Detroit Lakes04586131068Dilworth061723012Dulth342662910583622Eagan42746299074400<	Byron	0	8	9	17	0	11
Cambridge045125170058Cannon Falls0195271030Champlin1781312101125Chanhassen2962443422138Chaska074139213089Chisholm1183554124Circle Pines0224365026Cloquet05883141081Cold Spring07263309Columbia Heights11201672881177Coon Rapids34577311,1913681Corcoran1204364131Cottage Grove0842463300124Crystal01291793080188Dayton2233560243Deephaven05283307Delano0183351023Detroit Lakes04586131068Dilworth061723012Duluth34266291,0583622Eagan42746299074400	Caledonia	0	10	20	30	0	14
Cannon Falls0195271030Champlin1781312101125Chanhassen2962443422138Chaska074139213089Chisholm1183554124Circle Pines0224365026Cloquet05883141081Cold Spring07263309Columbia Heights11201672881177Coon Rapids34577311,1913681Corcoran1204364131Cotage Grove0842463300124Crookston03490124045Crystal01291793080188Dayton2233560243Deephaven05283307Delano0183351023Detroit Lakes04586131068Dilworth061723012Duluth34266291,0583622Eagan42746299074400	Cambridge	0	45	125	170	0	58
Champlin 1 78 131 210 1 125 Chanhassen 2 96 244 342 2 138 Chaska 0 74 139 213 0 89 Chisholm 1 18 35 54 1 24 Circle Pines 0 22 43 65 0 26 Cloquet 0 58 83 141 0 81 Cold Spring 0 7 26 33 0 9 Columbia Heights 1 120 167 288 1 177 Coon Rapids 3 457 731 1,191 3 681 Corcoran 1 20 43 64 1 31 Cottage Grove 0 84 246 330 0 124 Crosokston 0 34 90 124 0 45 Dayton 2 23 35 60 2 43 Deephaven 0	Cannon Falls	0	19	52	71	0	30
Chanhassen2962443422138Chaska074139213089Chisholm1183554124Circle Pines0224365026Cloquet05883141081Cold Spring07263309Columbia Heights11201672881177Coon Rapids34577311,1913681Corcoran1204364131Cottage Grove0842463300124Crokston03490124045Crystal01291793080188Dayton2233560243Deephaven05283307Delano0183351023Detroit Lakes04586131068Dilworth061723012Duluth34266299074400East Bethel34065108468	Champlin	1	78	131	210	1	125
Chaska074139213089Chisholm1183554124Circle Pines0224365026Cloquet05883141081Cold Spring07263309Columbia Heights11201672881177Coon Rapids34577311,1913681Corcoran1204364131Cottage Grove0842463300124Cookston03490124045Crystal01291793080188Dayton2233560243Deephaven05283307Delano0183351023Dilworth061723012Duluth34266291,0583622Eagan42746299074400	Chanhassen	2	· 96	244	342	2	138
Chisholm1183554124Circle Pines0224365026Cloquet05883141081Cold Spring07263309Columbia Heights11201672881177Coon Rapids34577311,1913681Corcoran1204364131Cottage Grove0842463300124Crookston03490124045Crystal0,1291793080188Dayton2233560243Deephaven05283307Delano0183351023Detroit Lakes04586131068Dilworth061723012Duluth34266291,0583622Eagan42746299074400	Chaska	0	74	139	213	0	89
Circle Pines0224365026Cloquet05883141081Cold Spring07263309Columbia Heights11201672881177Coon Rapids34577311,1913681Corcoran1204364131Cottage Grove0842463300124Crookston03490124045Crystal0,1291793080188Dayton2233560243Deephaven05283307Delano0183351023Detroit Lakes04586131068Dilworth061723012Duluth34266291,0583622Eagan42746299074400	Chisholm	1	18	35	54	1	24
Cloquet05883141081Cold Spring07263309Columbia Heights11201672881177Coon Rapids34577311,1913681Corcoran1204364131Cottage Grove0842463300124Crookston03490124045Crystal01291793080188Dayton2233560243Deephaven05283307Delano0183351023Detroit Lakes04586131068Dilworth061723012Duluth34266291,0583622Eagan42746299074400	Circle Pines	0	22	43	65	0	26
Cold Spring07263309Columbia Heights11201672881177Coon Rapids34577311,1913681Corcoran1204364131Cottage Grove0842463300124Crookston03490124045Crystal01291793080188Dayton2233560243Deephaven05283307Delano0183351023Detroit Lakes04586131068Dilworth061723012Duluth34266291,0583622Eagan42746299074400East Bethel34065108468	Cloquet	0	58	83	141	0	81
Columbia Heights11201672881177Coon Rapids34577311,1913681Corcoran1204364131Cottage Grove0842463300124Crookston03490124045Crystal01291793080188Dayton2233560243Deephaven05283307Delano0183351023Detroit Lakes04586131068Dilworth061723012Duluth34266291,0583622Eagan42746299074400East Bethel34065108468	Cold Spring	0	7	26	33	0	9
Coon Rapids3 457 731 $1,191$ 3 681 Corcoran1 20 43 64 1 31 Cottage Grove0 84 246 330 0 124 Crookston0 34 90 124 0 45 Crystal0 129 179 308 0 188 Dayton2 23 35 60 2 43 Deephaven05 28 33 0 7 Delano0 18 33 51 0 23 Detroit Lakes0 45 86 131 0 68 Dilworth06 17 23 0 12 Duluth3 426 629 $1,058$ 3 622 Eagan4 274 629 907 4 400 East Bethel3 40 65 108 4 68	Columbia Heights	1	120	167	288	1	177
Corcoran1204364131Cottage Grove0842463300124Crookston03490124045Crystal01291793080188Dayton2233560243Deephaven05283307Delano0183351023Detroit Lakes04586131068Dilworth061723012Duluth34266291,0583622Eagan42746299074400East Bethel34065108468	Coon Rapids	3	457	731	1,191	3	681
Cottage Grove0842463300124Crookston03490124045Crystal01291793080188Dayton2233560243Deephaven05283307Delano0183351023Detroit Lakes04586131068Dilworth061723012Duluth34266291,0583622Eagan42746299074400East Bethel34065108468	Corcoran	1	20	43	64	1	31
Crookston03490124045Crystal01291793080188Dayton2233560243Deephaven05283307Delano0183351023Detroit Lakes04586131068Dilworth061723012Duluth34266291,0583622Eagan42746299074400East Bethel34065108468	Cottage Grove	0	84	246	330	0	124
Crystal01291793080188Dayton2233560243Deephaven05283307Delano0183351023Detroit Lakes04586131068Dilworth061723012Duluth34266291,0583622Eagan42746299074400East Bethel34065108468	Crookston	0	34	90	124	0	45
Dayton2233560243Deephaven05283307Delano0183351023Detroit Lakes04586131068Dilworth061723012Duluth34266291,0583622Eagan42746299074400East Bethel34065108468	Crystal	0,	129	179	308	0	188
Deephaven 0 5 28 33 0 7 Delano 0 18 33 51 0 23 Detroit Lakes 0 45 86 131 0 68 Dilworth 0 6 17 23 0 12 Duluth 3 426 629 1,058 3 622 Eagan 4 274 629 907 4 400 East Bethel 3 40 65 108 4 68	Dayton	2	23	35	60	2	43
Delano 0 18 33 51 0 23 Detroit Lakes 0 45 86 131 0 68 Dilworth 0 6 17 23 0 12 Duluth 3 426 629 1,058 3 622 Eagan 4 274 629 907 4 400 East Bethel 3 40 65 108 4 68	Deephaven	0	5	28	33	0	7
Detroit Lakes 0 45 86 131 0 68 Dilworth 0 6 17 23 0 12 Duluth 3 426 629 1,058 3 622 Eagan 4 274 629 907 4 400 East Bethel 3 40 65 108 4 68	Delano	0	18	33	51	0	23
Dilworth 0 6 17 23 0 12 Duluth 3 426 629 1,058 3 622 Eagan 4 274 629 907 4 400 East Bethel 3 40 65 108 4 68	Detroit Lakes	0	45	86	131	0	68
Duluth 3 426 629 1,058 3 622 Eagan 4 274 629 907 4 400 East Bethel 3 40 65 108 4 68	Dilworth	0	6	17	23	0	12
Eagan 4 274 629 907 4 400 East Bethel 3 40 65 108 4 68	Duluth	3	426	629	1.058	3	622
East Bethel 3 40 65 108 4 68	– Fagan	4	274	629	907	ž	400
	East Bethel	3	40	65	108	4	68

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TABLE 1.27 CONTINUED

1997 CRASHES IN CITIES OF 2,500 OR MORE POPULATION

PartageTotalCityCrashesCrashesCrashesKilledJouredDast Grand Forks141116138150Dear Forme129975719971901Datt Grand Forks12556509361301Elk River21151722892175Ely04475107Eveleth01432466016Fairmont361144206196Fairmont361144206196Fairmont11252884141190Farinouli11252884141960Farinouli1125288601350Gibert01012273280135Forest Lake1641512161252Cilcoc0316899039Olewood092938011Godaview0102232015Grante Zals0116546022Grante Zals0115346023Ham Lake2711061793144Haw1151214330151144Grante Z			Personal	Property			
$\begin{array}{c c c c c c c c c c c c c c c c c c c $		Fatal	Injury	Damage	lotal		
Last Grand Porks 1 44 116 158 1 305 Eden Printre 1 239 757 997 1 305 Edna 1 285 650 936 1 386 Elk River 2 115 172 289 2 175 Ely 0 21 61 82 0 27 Excelstor 0 14 32 46 0 16 Fairmott 1 61 144 206 1 90 Faicon Heights 1 41 54 96 1 60 Farbault 1 125 288 414 1 190 Farbault 1 239 363 605 1 320 Freigus Falls 0 101 227 328 0 380 Cilenco 0 31 68 99 0 39 Cindid Rights	<u>City</u>	<u>Crashes</u>	<u>Crashes</u>	<u>Crashes</u>	<u>Crashes</u>	<u>Killed</u>	<u>Injured</u>
Eden124975795714133Edina12855309561386Elk River21151722892175Ely04475107Evelth0216182027Excelsion0143246016Fairmont161144206190Fairbault11252854141190Parbault11252854141190Pargus Falls01012273280135Forest Lake1641512161325Fridey12393636031350Cillbert06166031265Gonovod092938011Golden Valley11884126011265Gordview01002232015Grand Rapids11562143301151Harn Lake2711061265Grand Rapids11522443301151Harn Lake271106123144Harn Lake271106124Grand Rapids1152243301151Harnoke <t< td=""><td>East Grand Forks</td><td>1</td><td>41</td><td>116</td><td>158</td><td>1</td><td>56</td></t<>	East Grand Forks	1	41	116	158	1	56
Edna1285092138Elk River21151722892175Ely04475107Excelator0142246016Farmont161144206190Falcon Heights1415496160Farbault11252884141190Farmington02971100048Fergus Falls01012273280135Forest Lake164151216182Fridley1239363613150Glencoe0316899039Glenwood092938011Golden Valley11884126011255Goodview0102232015Gondview0113546023Harn Lake271106193144Harngs11152143301151Hermantown15476131183Hobing11212713931174Hopkins01012143301151Hermantown15476131184<	Eden Prairie	1	239	757	997	1	303
Elk River 2 115 172 289 2 175 Ely 0 4 47 51 0 77 Excelstor 0 14 32 46 0 166 Faurnont 1 61 144 206 1 900 Farbault 1 125 288 414 1 190 Farmington 0 29 71 100 0 48 Pergus Falls 0 101 227 328 0 135 Forest Lake 1 64 151 1216 1282 71 Fridley 1 239 363 603 1 350 Gibert 0 5 16 22 0 38 Glence 0 31 68 99 0 39 Godrow 0 10 22 32 0 15 Grand Rapids 1 66 226 293 1 94 Grand Rapids 1 15<	Edina	1	285	650	936	1	386
Ely04475107Eveleth0216182077Davelsor0143246916Parmont161144206190Falcon Hinghts11152884141190Farmington02971100048Pergus Palls01012273280135Forest Lake164151216182Frailey12393636031300Cilbect06162208Cilbert06162201Godoview0102232015Granda Rapids166226293194Granda Rapids116152143001Ham Lake2711061793134Hastings11152143001151Hermatown15476131183Hobing11212713931174Hopkins01012143150141Hastings11157631183Hibbing11212713931174Hopkins01002437022<	Elk River	2	115	172	289	2	175
Eveleth 0 21 61 82 0 27 Dixcelsion 0 14 32 46 0 16 Pairmont 1 41 54 96 1 90 Farbault 1 125 288 414 1 190 Farmington 0 29 71 100 0 48 Fergus Falls 0 101 227 328 0 135 Forest Lake 1 64 151 216 1 82 Fordey 1 239 363 603 1 350 Gileoro 0 31 68 99 0 39 Glenovod 0 9 29 38 0 11 Goden Valley 1 188 412 601 1 255 Godoview 0 101 22 32 0 15 Grand Rapids 1 15 346 0 23 Ham Lake 2 71 1	Ely	0	4	47	51	0	7
Excelsior 0 14 32 46 0 15 Farmont 1 61 144 206 1 90 Falcon Heights 1 41 54 96 1 60 Farmington 0 29 71 100 0 48 Pergus Falls 0 101 227 328 0 135 Forest Lake 1 64 151 216 1 82 Glencoc 0 3 68 99 0 39 Glenwood 0 9 29 38 0 11 Golden Valley 1 188 412 601 1 255 Grand Rapids 1 66 226 293 1 94 Grand rapids 1 115 214 300 1 151 Hart Lake 2 71 106 179 3 134 Hastings	Eveleth	0	21	61	82	0	27
Fairmont161144206199Falson Heights1115496160Farnbault11252884141190Farmington02971100048Fregus Falls01012273280135Forest Lake1641512161322Fridley12393636031350Glencoc0316899039Glencoc0316899031Goleovalley11884126011265Codview0106226233134Goleovalley11884126011265Codview0102232015Goleovalley1158460231Grand Rapids115143301151Harm Lake2711061793124Hobing11212713931174Hopkins01012143150141Hopkins0101214315024Huthinson066166232026Independence2274778254Independence227380 <td>Excelsior</td> <td>0</td> <td>14</td> <td>32</td> <td>46</td> <td>0</td> <td>16</td>	Excelsior	0	14	32	46	0	16
Falcon Heights1415496160Faribault11252884141190Farmington02971100048Fergus Falks01012273280135Forest Lake1641512161822Fridley12393636031350Gilbert06162208Glencoe0316899039Glenwood092938011Golden Valley11884126011265Ciodview0102232015Grante Falls0113546023Ham Lake2711061793134Hastings11152143301151Hermantown15476131183Hubing11212713931174Hoykins0101214315041Hoykinson06666232096Independence2274978254Juver Grove Heights612125938666182Jackson0716380027Lakeshile11592924521	Fairmont	1	61	144	206	1	90
Faribault11252884141190Farmington02971100048Fergus Falls01012273280135Forset Lake164151216182Fridey12393636031350Gilbert06162208Glencoe0316899039Glencood092938011Golden Valley11884126011265Goodview0102232015Grand Rapids166226293194Grante Falls0113546023Ham Lake2711061793134Hermantown15476131183Hibbing11212713931174Hopkins01012431502Hugo1145873122Hugo114593866182Jake City0122593866182Jakes0203757038Jiver Grove Heights6122593866182Jakes017638002714k <td>Falcon Heights</td> <td>1</td> <td>41</td> <td>54</td> <td>96</td> <td>1</td> <td>60</td>	Falcon Heights	1	41	54	96	1	60
Farmington02971100048Fergus Falls01012273280135Forest Lake164151216182Fridley12393636031350Gilbert06162208Glencoe0316899039Glenwood092938011Colden Valley11884126011265Goodview010022232015Grand Rapids166226293194Grante Falls0113546023Ham Lake2711061793154Hermatown15476131183Hibbing11212713931174Hopkins010121431502Hugo1145873122Hugo1145873122Hugo1145873122Hugo1145873122Hugo1145873122Hugo11450141174Hopkins012128013Jordan014203	Faribault	1	125	288	414	1	190
Fergus Falls01012273280135Forest Lake164151216182Fridley12393636031350Gilbert06162208Glencoe0316899039Glenwood092938011Golden Valley11884126011265Goodview0102232015Grand Rapids166226293194Grante Falls0113546023Ham Lake2711061793134Hastings1152143301151Hermantown15476131183Hibbing11212713931174Hopkins01012143150141Hopkins0101214315022Hutchinson066166232096Independence2274978254International Falls0176380027Lake City017638002723Lutchinson0661662320380Jordan01420	Farmington	0	29	71	100	0	48
Forest Lake164151216182Fridley12393636031350Gilbert06162208Gencoe0316899039Glenwood092938011Golden Valley11884126011265Goodvrew0102232015Grand Rapids166226293194Granite Falls0113546023Ham Lake2711061793134Hastings11152143301151Hermantown15476131183Hibbing11212713931174Hoytins01021431502Hugo1145873122Hugo1145873122Hugo1145873122Hugo1145873122Lidegendence2274978254Independence2274978254Independence2274976038Jordan0176380027Lackson0 <td>Fergus Falls</td> <td>0</td> <td>101</td> <td>227</td> <td>328</td> <td>0</td> <td>135</td>	Fergus Falls	0	101	227	328	0	135
$\begin{array}{c c c c c c c c c c c c c c c c c c c $	Forest Lake	1	64	151	216	1	82
Gilbert06162208Glencoc0316899039Glenwood092938011Golden Valley11884126011265Goodview0102232015Grand Rapids166226293194Grante Falls0113546023Ham Lake2711061793134Hastings11152143301151Harnatown15476131183Hibbing11212713931174Hopkins010121431502Hugo1145873122Hutchinson066166222096Independence2274978254International Falls0346397050Inver Grove Heights61212593866182Jackson072128013La Crescent0185068025Lake City0176380027Lake Elmo04493137072Lake Elmo0163450019	Fridley	1	239	363	603	1	350
Glencoe0316899039Glenwood092938011Golden Valley11884126011265Goodview0102232015Grand Rapids166226293194Granite Falls0113546023Ham Lake2711061793134Hastings11152143301151Hermantown15476131183Hibbing11212713931174Hopkins01012143150141Hoyt Lakes02131502Hugo1145873122Hugo1145873122Hugo1145873122Hugo1145873122Jordan0142034020Jordan0142034020Jordan0176380027Lake City0176380027Lake City0163450019Lacket Elmo04493137072Lake City016<	Gilbert	0	6	16	22	0	8
Glenwood092938011Golden Valley11884126011265Goodview0102232015Grand Rapids166226293194Grante Falls0113546023Ham Lake2711061793134Hastings1152143301151Hermatown15476131183Hibbing11212713931174Hopkins010121431502Hugo1145873122Hugo1145873122Hugo1145873122Hugo1145873122Hugo1145873122Hugo1145873122Jackson0203757038Jordan01420346182Jordan0176380027Lake City0176380027Lake City0163450019Le Sueur0194564028Lindstrom0933	Glencoe	0	31	68	99	0	39
Golden Valley 1 188 412 601 1 265 Goodview 0 10 22 32 0 15 Grand Rapids 1 66 226 293 1 94 Grante Falls 0 11 35 46 0 23 Ham Lake 2 71 106 179 3 134 Hastings 1 115 214 330 1 171 Hermatown 1 54 76 131 1 83 Hibbing 1 121 271 393 1 174 Hoyt Lakes 0 101 214 315 0 121 Hutchinson 0 66 166 232 0 96 International Falls 0 34 63 97 0 38 Jordan 0 14 20 34 0 20 Inver Grove Heigh	Glenwood	0	9	29	38	0	11
$\begin{array}{c c c c c c c c c c c c c c c c c c c $	Golden Valley	1	188	412	601	1	265
Grand Rapids166226293194Granite Falls0113546023Ham Lake2711061793134Hastings11152143301151Hermantown15476131183Hibbing11212713931174Hopkins01012143150411Hoyt Lakes02131502Hugo1145873122Hutchinson066166232096International Falls0346397050Inver Grove Heights61212593866182Jackson072128013La Crescent0185068025Lake City0176380027Lake Elmo04493137072Lake Rimo0163450019Lauderdale016344028Lindstrom093342010Lind Lakes262130194391Litchfield04262104061Litchfield05594149085 </td <td>Goodview</td> <td>0</td> <td>10</td> <td>22</td> <td>32</td> <td>Ō</td> <td>15</td>	Goodview	0	10	22	32	Ō	15
Grante Falls0113546023Ham Lake2711061793134Hastings11152143301151Hermantown15476131183Hibbing11212713931174Hopkins01012143150441Hoyt Lakes02131502Hugo1145873122Hutchinson066166232096Independence2274978254Inremational Falls0346397050Inver Grove Heights61212593866182Jackson0203757038Jordan0142034020Kasson072128013La Crescent0185068027Lake Elmo04493137072Lake Ville11592924521253Lauderdale0163450019Les veur0194564028Lindstrom093342010Lindstrom093342010<	Grand Rapids	1	66	226	293	1	94
Ham Lake2711061793134Hastings11152143301151Hermantown15476131183Hibbing11212713931174Hopkins01012143150141Hoyt Lakes02131502Hugo1145873122Hugo1145873122Hugo1145873122Hugo1145873122Hugo1145873122Hugo1145873122Judence2274978254International Falls0346397050Inver Grove Heights61212593866182Jackson0203757038Jordan0142034020Kasson072280131370LakeCity0176380027Lake Elmo0163450019Le Sueur0194564028Lindstrom093342010Lino Lakes2	Granite Falls	0	11	35	46	Ô	23
Initiation11100117100117Hastings11152143301151Hermantown15476131183Hibbing11212713931174Hopkins01012143150141Hoyt Lakes02131502Hugo1145873122Hutchinson066166232096Independence2274978254International Falls0346397050Inver Grove Heights61212593866182Jackson0203757038Jordan0142034020Kasson072128013La Crescent0185068025Lake City0176380027Lake Elmo0163450019Le Sueur0194564028Lindstrom0933420100Lino Lakes262104391Lino Lakes262104061Litchfield04262104061Little Falls<	Ham Lake	2	71	106	179	3	134
Inisings111214301131Hermantown15476131183Hibbing11212713931174Hopkins0101214315021Hugo1145873122Hugo1145873122Hutchinson066166232096Independence2274978254International Falls0346397050Inver Grove Heights61212593866182Jackson0203757038Jordan0142034020Kasson072128013Lake City0176380027Lake City0163450019Lake City0163450019Lake City0163450019Lake City0163450019Lake City0163450010Lindstrom093342010Lindstrom093342010Lindstrefteld04262104061Lindstr	Hastings	1	115	214	330	1	151
Hibbing 1 12 13 13 14 16 17 18 10 17 13 13 13 13 13 13 13 13 13 13 13 13 13 13 13	Hermantown	. 1	54	76	131	1	83
Hopkins01012112113131174Hopkins0213150141Hoyt Lakes02131502Hugo1145873122Hutchinson066166232096International Falls0346397050Inver Grove Heights61212593866182Jackson0203757038Jordan0142034020Kasson072128013Lake City0176380027Lake City0176380027Lake City0163450019Les cuer0163450019Lakes262130194391Lindstrom093342010Lindstrom093342010Lindfield04262104061Lithfield05594149085Long Prairie0122537013Luverne0197695036Mahtomedi0153247020 <td>Libbing</td> <td>1 1</td> <td>54 101</td> <td>70</td> <td>202</td> <td>1</td> <td>174</td>	Libbing	1 1	54 101	70	202	1	174
Hoyt Lakes01012143130141Hoyt Lakes02131502Hugo1145873122Hutchinson066166232096Independence2274978254International Falls0346397050Inver Grove Heights61212593866182Jackson0203757038Jordan0142034020Kasson072128013La Crescent0185068025Lake City0176380027Lake Elmo04493137072Lakeville11592924521253Lauderdale0163450019Le Sueur093342010Lindstrom093342010Lind Little Canada1922483411141Little Falls05594149085Long Prairie0122537013Luverne0197695036Mahtomedi0153247020 <td>Hoong</td> <td>1</td> <td>121</td> <td>271</td> <td>215</td> <td>1</td> <td>1/4</td>	Hoong	1	121	271	215	1	1/4
Hugo 1 14 58 73 1 22 Hugo 1 14 58 73 1 22 Hutchinson 0 66 166 232 0 96 Independence 2 27 49 78 2 54 International Falls 0 34 63 97 0 50 Inver Grove Heights 6 121 259 386 6 182 Jackson 0 20 37 57 0 38 Jordan 0 14 20 34 0 20 Kasson 0 7 21 28 0 13 La Crescent 0 18 50 68 0 25 Lake City 0 17 63 80 0 27 Lake Ville 1 159 292 452 1 253 Lake Ville 1	riopkins Ut.I	0	101	214	515	0	141
Hugo1143873122Hutchinson066166232096Independence2274978254International Falls0346397050Inver Grove Heights61212593866182Jackson0203757038Jordan0142034020Kasson072128013La Crescent0185068025Lake City0176380027Lake Elmo04493137072Lakeville11592924521253Lauderdale0163450019Le Sueur0194564028Lindstrom093342010Lito Lakes262130194391Litchfield04262104061Little Canada1922483411141Little Falls05594149085Long Prairie0122537013Luverne0197695036Mahtomedi0153247020<	noyt Lakes	1	4	13	15	1	
Hutchinson066166232096Independence2274978254International Falls0346397050Inver Grove Heights61212593866182Jackson0203757038Jordan0142034020Kasson072128013La Crescent0185068025Lake City0176380027Lake Elmo04493137072Lakeville11592924521253Lauderdale0163450019Le Sueur0194564028Lindstrom093342010Lino Lakes262104061Little Canada1922483411141Little Falls05594149085Long Prairie0122537013Luverne0197695036	Hugo	1	14	28	73	1	22
Independence2274978254International Falls0346397050Inver Grove Heights61212593866182Jackson0203757038Jordan0142034020Kasson072128013La Crescent0185068025Lake City0176380027Lake Elmo04493137072Lake ville11592924521253Lauderdale0163450019Le Sueur0194564028Lindstrom093342010Lino Lakes262130194391Litchfield05594149085Long Prairie0122537013Luverne0197695036Mahomedi0153247020	Hutchinson	0	66	166	232	0	96
International Falls0346397050Inver Grove Heights61212593866182Jackson0203757038Jordan0142034020Kasson072128013La Crescent0185068025Lake City0176380027Lake Elmo04493137072Lakeville11592924521253Lauderdale0163450019Le Sueur0194564028Lindstrom093342010Lindstrom0922483411141Little Canada1922483411141Little Falls05594149085Long Prairie0122537013Luverne0197695036Mahomedi0153247020	Independence	2	21	49	78	2	54
Inver Grove Heights61212593866182Jackson0203757038Jordan0142034020Kasson072128013La Crescent0185068025Lake City0176380027Lake Elmo04493137072Lake Ville11592924521253Lauderdale0163450019Le Sueur0194564028Lindstrom093342010Lindstrom0922483411141Little Canada1922483411141Little Falls05594149085Long Prairie0122537013Luverne0197695036Mahomedi0153247020	International Falls	0	34	63	97	0	50
Jackson0203757038Jordan0142034020Kasson072128013La Crescent0185068025Lake City0176380027Lake Elmo04493137072Lake ville11592924521253Lauderdale0163450019Le Sueur0194564028Lindstrom093342010Lino Lakes262130194391Litchfield04262104061Little Canada1922483411141Little Falls05594149085Long Prairie0122537013Luverne0197695036Mahtomedi0153247020	Inver Grove Heights	6	121	259	386	6	182
Jordan0142034020Kasson072128013La Crescent0185068025Lake City0176380027Lake Elmo04493137072Lake ville11592924521253Lauderdale0163450019Le Sueur0194564028Lindstrom093342010Lino Lakes262130194391Litchfield04262104061Little Falls05594149085Long Prairie0122537013Luverne0197695036Mahtomedi0153247020	Jackson	0	20	37	57	0	38
Kasson072128013La Crescent0185068025Lake City0176380027Lake Elmo04493137072Lakeville11592924521253Lauderdale0163450019Le Sueur0194564028Lindstrom093342010Lino Lakes262130194391Litchfield04262104061Little Falls05594149085Long Prairie0122537013Luverne0197695036Mahtomedi0153247020	Jordan	0	14	20	34	0	20
La Crescent0185068025Lake City0176380027Lake Elmo04493137072Lake ville11592924521253Lauderdale0163450019Le Sueur0194564028Lindstrom093342010Lino Lakes262130194391Litchfield04262104061Little Canada1922483411141Little Falls05594149085Long Prairie0122537013Luverne0197695036Mahtomedi0153247020	Kasson	0	7	21	28	0	13
Lake City0176380027Lake Elmo04493137072Lakeville11592924521253Lauderdale0163450019Le Sueur0194564028Lindstrom093342010Lino Lakes262130194391Litchfield04262104061Little Canada1922483411141Little Falls05594149085Long Prairie0122537013Luverne0197695036Mahtomedi0153247020	La Crescent	0	18	50	68	0	25
Lake Elmo04493137072Lakeville11592924521253Lauderdale0163450019Le Sueur0194564028Lindstrom093342010Lino Lakes262130194391Litchfield04262104061Little Canada1922483411141Little Falls05594149085Long Prairie0122537013Luverne0197695036Mahtomedi0153247020	Lake City	0	17	63	80	0	27
Lakeville11592924521253Lauderdale0163450019Le Sueur0194564028Lindstrom093342010Lino Lakes262130194391Litchfield04262104061Little Canada1922483411141Little Falls05594149085Long Prairie0122537013Luverne0197695036Mahtomedi0153247020	Lake Elmo	0	44	93	137	0	72
Lauderdale0163450019Le Sueur0194564028Lindstrom093342010Lino Lakes262130194391Litchfield04262104061Little Canada1922483411141Little Falls05594149085Long Prairie0122537013Luverne0197695036Mahtomedi0153247020	Lakeville	1	159	292	452	1	253
Le Sueur0194564028Lindstrom093342010Lino Lakes262130194391Litchfield04262104061Little Canada1922483411141Little Falls05594149085Long Prairie0122537013Luverne0197695036Mahtomedi0153247020	Lauderdale	0	16	34	50	0	19
Lindstrom093342010Lino Lakes262130194391Litchfield04262104061Little Canada1922483411141Little Falls05594149085Long Prairie0122537013Luverne0197695036Mahtomedi0153247020	Le Sueur	0	19	45	64	0	28
Lino Lakes262130194391Litchfield04262104061Little Canada1922483411141Little Falls05594149085Long Prairie0122537013Luverne0197695036Mahtomedi0153247020	Lindstrom	0	9	33	42	0	10
Litchfield04262104061Little Canada1922483411141Little Falls05594149085Long Prairie0122537013Luverne0197695036Mahtomedi0153247020	Lino Lakes	2	62	130	194	3	91
Little Canada1922483411141Little Falls05594149085Long Prairie0122537013Luverne0197695036Mahtomedi0153247020	Litchfield	0	42	62	104	0	61
Little Falls05594149085Long Prairie0122537013Luverne0197695036Mahtomedi0153247020	Little Canada	1	92	248	341	1	141
Long Prairie0122537013Luverne0197695036Mahtomedi0153247020	Little Falls	0	55	94	149	0	85
Luverne0197695036Mahtomedi0153247020	Long Prairie	0	12	25	37	0	13
Mahtomedi 0 15 32 47 0 20	Luverne	0	19	76	95	0	36
•	Mahtomedi	0	15	32	47	0	20

TABLE 1.27 CONTINUED

1997 CRASHES IN CITIES OF 2,500 OR MORE POPULATION

		Personal	Property			
	Fatal	Injury	Damage	Total		
City	Crashes	Crashes	Crashes	Crashes	Killed	Injured
Mankato	0	218	633	851	0	308
Maple Grove	4	177	406	587	4	265
Maplewood	2	341	607	950	2	497
Marshall	0	62	180	242	0	94
Medina	Ő	31	74	105	Ő	40
Melrose	0 0	7	21	28	0	8
Mendota Heights	1	90	160	251	1	134
Minneapolis	19	4 405	9 844	14 268	19	6 099
Minnetonka	1	292	622	915	1	393
Minnetrista	-	41	79	121	1	62
Montevideo	1	31	79	111	1	44
Monticello	1	61	110	172	1	94
Moorhead	ว	171	686	850	.	237
Mora	2	171	20	56	2	207
Marria	0	17	33 71	05	0	20
Mound	0	23	12	95	0	34 20
Mounda View	0	22	112	190	0	30
Mountain Iron	0	00	112	71	0	97
Mountain non	v	10	33 35(/1 267	v a	22 101
New Brighton	2	99	200	357	2	131
New Hope	1	/5	147	223	1	105
Newport	U	4/	127	1/4	U	52
New Prague	0	19	34	53	0	30
New Ulm	0	83	174	257	0	120
North Branch	2	36	89	127	3	53
Northfield	0	49	127	176	0	81
North Mankato	0	23	92	115	0	35
North Oaks	0	6	32	38	0	6
North St. Paul	0	62	149	211	0	96
Oakdale	0	77	196	273	0	120
Oak Park Heights	1	22	48	71	1	35
Olivia	0	2	21	23	0	2
Orono	1	68	153	222	2	116
Ortonville	0	2	35	37	0	3
Osseo	0	35	59	94	0	45
Otsego	1	26	40	67	1	47
Owatonna	1	97	337	435	1	143
Park Rapids	0	13	31	44	0	16
Pine City	0	18	46	64	0	24
Pipestone	1	7	45	53	1	11
Plainview	0	9	20	29	0	17
Plymouth	2	272	678	952	2	391
Princeton	0	29	58	87	0	46
Prior Lake	3	83	63	149	3	147
Proctor	0	8	20	28	0	8
Ramsey	2	82	142	226	2	136
Red Wing	1	112	272	385	1	159
Redwood Falls	ĥ	24	52	76	Ô	32
Richfield	ž	319	713	1.035	4	468
Robbinsdale	Ő	95	189	284	0	146
Rochester	4	502	1,096	1,602	5	714

TABLE 1.27 CONTINUED

1997 CRASHES IN CITIES OF 2,500 OR MORE POPULATION

		Personal	Property			
	Fatal	Injury	Damage	Total		
City	<u>Crashes</u>	<u>Crashes</u>	<u>Crashes</u>	<u>Crashes</u>	Killed	<u> </u>
Rockford	0	12	20	32	0	14
Roseau	0	9	28	37	0	13
Rosemount	1	56	105	162	1	79
Roseville	1	315	765	1,081	1	416
St. Anthony	0	22	73	95	0	30
St. Charles	0	8	16	24	0	15
St. Cloud	6	532	757	1,295	7	785
St. Francis	0	19	22	41	0	31
St. James	0	15	31	46	0	17
St. Joseph	0	19	21	40	0	23
St. Louis Park	0	286	629	915	0	383
St. Michael	1	13	44	58	1	16
St. Paul	17	2,418	6.314	8,749	18	3.377
St. Paul Park	0	11	32	43	0	18
St Peter	0	32	64	96	0	46
Sartell	0	16	39	55	0	29
Sauk Centre	Ő	25	62	87	ů	38
Sauk Ranids	- Õ	42	109	151	ů	58
Cavane	v 1	70	184	255	Ĭ	07
Savago	3	70 05	104	235	1 う	97 160
Sharewiew	2	90	227	252	2	102
Sherewood	4	90 40	233	120	4	129
Shorewood	0	40	12	120	0	/1
Sliver Bay	0	0	12		0	0
Sleepy Eye	U	14	22	09	U	20
South St. Paul	0	104	257	361	0	131
Spring Lake Park	0	43	83	126	0	63
Spring Valley	0	9	34	43	0	10
Staples	0	11	35	46	0	15
Stewartville	0	14	37	51	0	19
Stillwater	1	53	232	286	1	76
Thief River Falls	0	74	99	173	0	104
Two Harbors	2	19	41	62	2	23
Vadnais Heights	0	103	233	336	0	150
Victoria	0	19	51	70	0	33
Virginia	1	78	144	223	1	96
Waconia	1	27	34	62	3	43
Wadena	0	35	81	116	0	48
Waite Park	0	47	127	174	0	69
Waseca	0	26	97	123	0	34
Wayzata	0	44	125	169	0	58
Wells	0	10	12	22	0	14
West St. Paul	1	117	178	296	1	168
White Bear Lake	2	173	347	522	2	249
Willmar	2	147	357	506	2	223
Windom	0	20	38	58	ō	32
Winona	1	174	- <u>-</u>	646	۲	278
Woodbury	2	170	294	466	2	258
Worthington	- 1	67	196	264	2	107

Hour Total Fatal **Monday Tuesday** <u>Friday</u> Sunday Wednesday **Thursday Saturday** Fatal Fatal Fatal Crashes All All Beginning Crashes All All All Fatal Fatal All Fatal All Fatal 1,407 Midnight 12F 1:00 1,959 ΰ 2:00 1.083 3:00 4:00 5:00 1. 2,382 6:00 1,064 7:00 5,144 1,003 8:00 4,600 9:00 3,802 10:00 3,869 11:00 4,688 5,399 Noon 1:00 5,123 2:00 5,985 1.042 3:00 7,720 1,207 1,086 1,224 1,506 1.233 1,212 1,131 1,264 4:00 7,856 1,192 1,501 8,129 1,245 1,311 1,283 1,309 5:00 4 -1,480 5,673 6:00 7:00 4.206 8:00 3,340 3,350 9:00 10:00 2,860 11:00 2,285 Unknown 5,483 98,626 Total 10,803 13,989 14,721 13,863 14,982 17,046 13,222

1997 CRASHES BY TIME AND DAY



1997 CRASHES, FATALITIES, AND INJURIES BY MONTH

			Property			
	Fatal	Injury	Damage	Total		
Month	Crashes	Crashes	Crashes	Crashes	Killed	Injured
January	33	3,397	9,916	13,346	35	4,712
February	31	2,397	5,842	8,270	41	3,502
March	23	2,379	5,993	8,395	29	3,395
April	44	2,047	3,803	5,894	50	3,066
May	44	2,539	4,511	7,094	51	3,797
June	50	2,729	4,698	7,477	55	4,129
July	42	2,761	4,729	7,532	49	4,096
August	61	2,792	4,631	7,484	66	4,296
September	48	2,562	4,645	7,255	53	3,755
October	54	2,594	5,316	7,964	60	3,863
November	55	2,797	7,372	10,224	56	4,070
December	43	2,296	5,352	7,691	55	3,383
Total	528	31,290	66,808	98,626	600	46,064

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HOLIDAY CRASH SUMMARY, 1993 - 1997

	-			Personal	Property			
			Fatal	Injury	Damage	Total		
<u>Holiday Period</u>	Year	Hours*	Crashes	Crashes	Crashes	Crashes	Killed	Injured
19.47 V D TD	1000			. 40	4.60	500		
Memorial Day	1993	78	6	249	468	723	8	415
(For 1997, the holiday	1994	78	7	258	398	663	8	431
period was 6 PM Fri.,	1995	78	7	312	470	789	9	507
May 23 - midnight	1996	78	9	208	330	547	13	346
Monday, May 26.)	1997	78	4	223	353	580	4	357
July 4th	1993	78	11	261	509	781	12	487
(For 1997, the holiday	1994	78	5	283	444	732	6	468
period was 6 PM Thu,	1995	102	13	365	532	910	20	588
July 3 - midnight	1996	102	13	389	- 554	956	17	649
Sunday, July 6.)	1997	78	3	228	390	621	3	358
Labor Day	1993	78	4	254	390	648	5	430
(For 1997, the holiday	1994	78	6	267	441	714	6	435
period was 6 PM Fri.,	1995	78	4	248	343	595	5	413
Aug. 29 - midnight	1996	78	10	243	365	618	12	395
Monday, Sep. 1.)	1997	78	6	264	364	634	6	455
Thanksgiving	1993	102	7	375	1,391	1,773	7	581
(For 1997, the holiday	1994	102	12	383	1,018	1,413	18	584
period was 6 PM Wed.,	1995	102	8	360	896	1,264	9	579
Nov. 26 - midnight	1996	102	7	345	998	1,350	8	537
Sunday, Nov. 30.)	1997	102	7	307	652	966	<u>،</u> 7	474
Christmas	1993	78	2	171	476	649	2	256
(For 1997, the holiday	1994	78	6	164	357	527	6	255
period was 6 PM Wed,	1995	78	5	166	364	535	6	260
Dec 24 - midnight	1996	30	1	80	281	362	1	123
Sunday, Dec. 28.)	1997	102	4	293	625	922	7	455
New Year's	1993/94	78	6	297	766	1,069	6	485
(For 1997-98, the	1994/95	78	3	193	476	672	4	286
holiday period was	1995/96	78	13	392	1,017	1,422	18	646
6 PM Wed., Dec. 31	1996/97	30	1	95	220	316	1	141
- midnight Sunday.	1997/98	102	10	362	872	1,244	1 11	528
Jan 4, 1998.)	-					,		

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

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

1. A crash is classified as alcohol-related or not.

Though individual drivers and victims come first to mind, it is the event of the motor vehicle crash that is classified as alcohol-related or not. Once a crash is so classified, then anyone who died or was injured in the crash is classified as an alcohol-related death or injury. Thus, for example, the number of alcoholrelated fatalities always exceeds the number of alcohol-related fatal crashes.

2. Data on alcohol tests performed is only available for some drivers in fatal crashes.

For the approximately 800 to 900 drivers involved in fatal crashes in Minnesota each year, much effort is made to obtain results for any alcohol tests that were performed. Thus, for fatal crashes, the crash is classified as alcohol-related or not on the basis of chemical test data, when available, or on the basis of the investigating officer's reported perception, when the test results are not available. The figures that result can tell us how many fatal crashes were known or perceived to be alcohol-related. But every year there will be some crashes that were alcohol-related but no test was performed and the officer made no report of suspected alcohol involvement.

The National Highway Traffic Safety Administration (NHTSA) developed a statistical technique to estimate alcohol involvement for fatal crashes where data are missing. Their estimates (shown in Tables 2.01 and 2.05) of alcohol-related fatalities for Minnesota have consistently ranged from two to four percentage points higher than the estimates based on known information.

For non-fatal crashes, only the investigating officer's reported perception of possible alcohol involvement is used as a basis to classify the crash as alcoholrelated or not. Evidence from fatal crashes suggests that using only officers' perceptions will produce quite conservative estimates of the extent of alcohol involvement.

3. Alcohol-related crashes are usually, but not always, due to impaired driving.

Again, while it comes first to mind, intoxicated driving is not always involved in alcohol-related crashes, though it usually is. If a drinking pedestrian or bicyclist is involved in a crash, the crash will be classified as alcohol related. In 1997, 11 pedestrians and one bicyclist killed were positive for alcohol. Also it may be the case that in a collision between a sober and a drinking driver, the sober driver was at fault in causing the crash. Though this occurs, experts believe it is almost always the drinking driver who is at fault in crashes classified as alcohol-related. Lastly, sometimes a crash is classified as alcoholrelated even though the drinking driver (or pedestrian or bicyclist) had a low alcohol concentration. Again, this occurs, but is infrequent. In 1997, 119 of the 345 drivers killed and tested were positive for alcohol. Eleven had alcohol concentrations between .01% and .04%. Eight had concentrations from .05% to .09%, and the remaining 100 were over .10%.

1997 alcohol-related deaths lowest on record

In all, there were 600 traffic deaths in 1997. Thirty percent of those, or 178, were classified as alcoholrelated. This is the lowest percentage and the lowest number of alcohol-related deaths over the time period for which records are available (back to 1984). It is likely the lowest over a much longer period of time, considering that studies conducted during the 1960s and 1970s uniformly estimated that alcohol was involved in 50% or more of traffic deaths.

Tremendous improvement has been made since those decades. However, two cautions are required in interpreting last year's low figure. First, as noted previously, knowledge about crashes is imperfect. Consequently, some crashes that are alcohol-related are not classified as such. Second, the aggregate number of fatal crashes each year is a complex product of many interacting factors, including even weather conditions and economic cycles. Erratic fluctuations will occur in the total number and in the portion that are alcohol-related. For example, in 1995, 41% of deaths were classified as alcoholrelated, an increase of six percentage points over the prior year. Given these precautions, it is still the case that the techniques used are consistent over years, and it is believed that last year Minnesota had the lowest number and percentage of alcohol-related deaths that it has had in many decades.

TABLE 2.01

	1988	1989	1990	1991	1992	1993	1994	1995	1996	1997
Drunken Driving Arrests	32,827	34,562	37,261	33,574	27,511	27,712	27,635	27,339	28,962	30,168
% Male	84%	84%	83%	84%	82%	82%	82%	82%	82%	81%
% Female	16%	16%	17%	16%	18%	18%	18%	18%	18%	19%
Drivers Killed	361	368	334	327	344	355	377	383	359	384
Tested	87%	85%	78%	74%	85%	80%	80%	90%	87%	90%
Alcohol Concentration										
(.00)	52%	50%	50%	56%	58%	61%	60%	58%	67%	66%
(.0109)	10%	8%	9%	9%	5%	7%	8%	8%	7%	6%
(.10 or higher)	38%	41%	42%	35%	37%	32%	32%	34%	26%	29%
Total Fatalities Alcohol-Related Fatalities*	615	605	568	531	581	538	644	597	576	600
Known (Number)	277	275	235	212	229	196	226	246	205	178
(Percent)	45%	45%	41%	40%	39%	36%	35%	41%	36%	30%
Estimated (Number)	289	291	254	231	237	212	244	265	218	**
(Percent)	47%	48%	45%	43%	41%	39%	38%	44%	38%	**

DRINKING DRIVER SUMMARY, 1988 - 1997

Information on Drunk Driving Arrests provided by the Bureau of Criminal Apprehension.

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

** Estimated alcohol-related fatalities are higher than known alcohol-related fatalities because not all drivers in fatal crashes are tested for alcohol. The estimation procedure relies on a discriminant function analysis that classifies drivers and non-occupants with unknown alcohol concentration levels into one of three alcohol groups: negative, .01 to .09, or .10 or higher alcohol concentration. Classifying a person into the second or third groups causes the crash to be classified as alcohol-related fatalities. The procedure was developed by Terry Klein, currently Director of the Mathematical Analysis section of the Center for Statistics and Analysis of the National Highway Traffic Safety Administration. Estimates for 1997 are not yet available.

TABLE 2.02

Age	1988	1989	1990	1991	1992	1993	1994	1995	1996	1997
					-					
14 & Younger	6	8	7	3	2	5	5	6	1	11
15	15	25	12	14	5	9	15	19	13	32
16	160	175	158	126	117	85	96	91	134	153
17	503	458	431	299	236	209	219	203	313	417
18	1,038	1,072	959	740	518	472	504	496	605	814
19	1,229	1,284	1,318	1,063	752	679	602	657	776	943
20	1,291	1,426	1,472	1,315	937	783	725	737	762	1,027
Total Under 21	4,242	4,448	4,357	3,562	2567	2242	2166	2209	2610	3,397
		~	·							
14 & Younger	6	8		5	2	5	5	6	1	11
15 - 19	2,945	3,014	2,878	2,242	1,628	1,454	1,436	1,466	1,841	2,359
20 - 24	7,933	8,071	8,357	7,470	6,246	5,871	5,406	5,334	5,435	5,623
25 - 29	7,920	8,293	8,744	7,332	5,624	5,477	5,198	4,970	5,270	5,322
30 - 34	5,146	5,554	6,509	6,312	5,192	5,331	5,348	5,205	5,081	4,812
35 - 39	3,265	3,577	4,111	4,100	3,499	3,971	3,968	4,061	4,467	4,578
40 - 44	2,101	2,418	2,689	2,680	2,182	2,368	2,654	2,742	2,937	3,145
45 - 49	1,360	1,407	1,531	1,340	1,322	1,386	1,641	1,577	1,804	1,983
50 - 54	786	892	985	845	752	807	824	879	943	1,086
55 - 59	556	568	590	489	461	474	519	497	530	588
60 - 64	406	389	417	369	316	264	319	297	306	311
65 & Older	403	371	441	390	287	304	317	305	341	350
Total	32,827	34,562	37,261*	33,574	27,511	27,712	27,635	27,339	28,962	30,168

DWI ARRESTS BY AGE, 1986 - 1997

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

Information provided by the Bureau of Criminal Apprehension.

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"ALCOHOL - RELATED"

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

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

TABLE 2.03

		Killed		Injured
Age	All	Alcohol-Related ¹	All	Alchol-Related ²
0 - 4	13	0	752	41
5 - 9	13	0	1,379	68
10 - 14	17	1	1,898	, 76
15 - 19	71	18	8,156	737
20 - 24	54	28	5,725	948
25 - 29	44	27	4,651	710
30 - 34	53	. 30	4,023	529
35 - 39	43	24	3,914	468
40 - 44	38	11	3,352	375
45 - 49	32	11	2,646	254
50 - 54	31	13	1,890	155
55 - 59	21	3	1,342	87
60 - 64	18	3	1,035	60
65 - 69	26	2	925	55
70 - 74	30	1	812	44
75 - 79	43	2	724	22
80 - 84	28	3	527	20
85 & Older	25	1	283	5
Not Stated	0	0	2,030	210
Total *	600	178	46.064	4,864

AGE OF PERSONS KILLED AND INJURED IN ALL CRASHES AND IN ALCOHOL - RELATED CRASHES, 1997

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

² Based only on officer's perception of alcohol as noted on accident report.

* 11 of the 178 alcohol-related fatalities were pedestrians who had been drinking. (In 2 of these cases, the motor vehicle driver had also been drinking.) Also, one of the fatalities was a bicyclist who had been drinking.

TABLE 2.04

1997 ALCOHOL - RELATED FATALITIES' LEVEL OF ALCOHOL CONCENTRATION BY TRAFFIC ROLE

				Alcohol Conce	entration
Traffic Role	Killed	Tested	(.00)	(.0109)	(.10 or more)
Car or Truck Driver	111	110	10	13	87
Car or Truck Passenger	32	23	3	7	13
Motorcycle Driver	13	13	1	3	9
Motorcycle Passenger	0	0	0	0	0
Snowmobile Driver	3	3	0	1	2
Pedestrian	13	11	0	2	9
Other/Unknown	6	6	1	2	3
Total	178	166	15	28	123

TABLE 2.05

PERCENT OF DEATHS, INJURIES, AND PROPERTY DAMAGE CRASHES DETERMINED TO BE ALCOHOL - RELATED, 1988 - 1997

	1988	1989	1990	1991	1992	1993	1994	1995	1996	1997
Deaths* (Known)	45%	45%	41%	40%	39%	36%	35%	41%	36%	30%
(Estimated)	47%	48%	45%	43%	41%	39%	38%	44%	38%	NA
Injuries**	15%	15%	15%	13%	13%	12%	11%	11%	11%	11%
Property Damage										
Crashes**	5%	5%	6%	5%	5%	4%	4%	4%	4%	4%

* Based on alcohol test information plus officer's perception of alcohol noted on accident report. See note above Table 2.03 regarding known and estimated alcohol-related fatalities. Estimated deaths are not available for 1997.

** Based only police officer's perception of alcohol noted on accident report.

TABLE 2.06

FIRST HARMFUL EVENT IN ALCOHOL-RELATED FATAL CRASHES AND ALL FATAL CRASHES, 1997

	Alcoho	I-Related	A	.11
	<u>Fatal (</u>	<u>Crashes*</u>	<u>Fatal</u>	<u>Crashes</u>
First Harmful Event	Number	Percent	Number	Percent
Collision with:				
Another Motor Vehicle	47	28.9	284	53.8
Parked Motor Vehicle	0	0.0	4	0.8
Railroad Train	2	1.2	6	1.1
Bicycle	1	0.6	7	1.3
Pedestrian	13	8.0	53	10.0
Deer	2	1.2	3	0.6
Other Animal	0	0.0	2	0.4
Fixed Object	29	17.8	63	11.9
Non-Collision:				
Overturn	64	39.3	92	17.4
Fire/Explosion	0	0.0	1	0.2
Submersion	3	1.8	6	1.1
Other/Unknown	2	1.2	7	1.3
Total	163	100.0	528	100.0

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

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			A	Alcohol Concentr	ation*
Year	Killed	Tested	(.00)	(.0109)	<u>(.10 or more)</u>
1988	361	313	163 (52%)	32 (10%)	118 (38%)
1989	368	313	158 (50%)	26 (8%)	129 (41%)
1990	334	260	129 (50%)	23 (9%)	108 (42%)
1991	327	242	135 (56%)	22 (9%0	85 (35%)
1992	344	237	135 (57%)	13 (5%)	89 (38%)
1993	355	283	174 (61%)	19 (7%)	90 (32%)
1994	377	303	183 (60%)	23 (8%)	97 (32%)
1995	383	343	198 (58%)	30 (9%)	115 (34%)
1996	359	314	209 (67%)	22 (7%)	83 (26%)
1997	384	345	226 (66%)	19 (5%)	100 (29%)

TEST RESULTS OF DRIVERS KILLED, 1988 - 1997

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

TABLE 2.08

DRIVERS KILLED WHO TESTED .01 OR HIGHER, 1988 - 1997 ("Any Alcohol")

						Occurre	d Between	Ur	nder
Year	Total	₽	<u>fale</u>	F	emale	Midnig	<u>ht - 3 AM</u>	Leg	gal Age
1988	150	131	(87%)	19	(13%)	32	(21%)	34	(23%)
1989	155	138	(89%)	17	(11%)	47	(30%)	26	(17%)
1990	131	110	(84%)	21	(16%)	48	(37%)	28	(21%)
1991	107	98	(92%)	9	(8%)	37	(35%)	23	(21%)
1992	102	82	(80%)	20	(20%)	39	(38%)	13	(13%)
1993	109	92	(84%)	17	(16%)	35	(32%)	11	(10%)
1994	120	100	(83%)	20	(17%)	24	(20%)	15	(13%)
1995	145	121	(83%)	24	(17%)	43	(30%)	12	(8%)
1996	105	81	(77%)	24	(23%)	31	(30%)	16	(15%)
1997	119	102	(86%)	17	(14%)	32	(27%)	13	(11%)

TABLE 2.09

DRIVERS KILLED WHO TESTED .10 OR HIGHER, 1988 - 1997 ("Over Limit")

					Occurre	a between	U	naer
Year	Total	Male	F	<u>emale</u>	Midnig	<u>ght - 3 AM</u>	Leg	al Age
1988	118	100 (8	5%) 18	(15%)	27	(23%)	22	(19%)
1989	129	117 (9	1%) 12	(9%)	42	(33%)	19	(15%)
1990	108	92 (8:	5%) 16	(15%)	42	(39%)	22	(20%)
1991	85	79 (93	3%) 6	(7%)	30	(35%)	13	(15%)
1992	89	77 (8	7%) 12	(13%)	36	(40%)	12	(13%)
1993	90	75 (8.	3%) 15	(17%)	32	(36%)	7	(8%)
1994	97	83 (80	5%) 14	(14%)	20	(21%)	8	(8%)
1995	115	97 (84	4%) 18	(16%)	38	(33%)	6	(5%)
1996	83	65 (78	8%) 18	(22%)	25	(30%)	13	(16%)
1997	100	89 (89	9%) 11	(11%)	32	(32%)	13	(13%)

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TABLE 2.10

1997 DRIVER FATALITIES' LEVEL OF ALCOHOL CONCENTRATION BY AGE

										Alcohol Concentration						
	Alcohol Concentration*										.01-	.05-	.10-	.15-	.20-	.25 &
Age	Killed	Tested	((.00)	(.01	09)	(.10	<u>or more)</u>		.00	.04	.09	.14	.19	.24	Over
14 & Younger	2	1	1		0		0			1	0	0	0	0	0	0
15	1	1	1		0		0			1	0	0	0	0	0	0
16	9	9	7		0		2			7	0	0	0	1	1	0
17	11	9	9		0		0			9	0	0	0	0	0	0
18	16	16	9		0		7			9	0	0	1	5	1	0
19	12	10	7		0		3			7	0	0	1	0	2	0
20	6	5	4		0		1			4	0	0	1	0	0	0
Under 21	57	51	38		0		13			38	0	0	3	6	4	0
																100100
14 & Younger	2	1	1	(100%)	0	(0%)	0	(0%)		1	0	0	0	0	0	0
15 - 19	49	45	33	(73%)	0	(0%)	12	(27%)		33	0	0	2	6	4	0
20 - 24	32	29	14	(48%)	0	(0%)	15	(52%)		14	0	0	4	4	4	3
25 - 29	29	28	8	(29%)	3	(11%)	17	(61%)		8	0	3	3	2	7	5
30 - 34	37	35	18	(51%)	1	(3%)	16	(46%)		18	1	0	3	3	6	4
35 - 39	33	32	12	(38%)	7	(22%)	13	(41%)		12	4	3	2	4	4	3
40 - 44	29	25	16	(64%)	0	(0%)	9	(36%)		16	0	0	3	3	0	3
45 - 49	25	23	15	(65%)	2	(9%)	6	(26%)		15	1	1	0	3	2	1
50 - 54	21	20	13	(65%)	2	(10%)	5	(25%)		. 13	1	1	1	3	0	1
55 - 59	17	15	13	(87%)	2	(13%)	0	(0%)		13	2	0	0	0	0	0
60 - 64	10	9	6	(67%)	0	(0%)	3	(33%)		6	0	0	1	0	0	2
65 - 69	15	14	12	(86%)	0	(0%)	2	(14%)		12	0	0	0	1	1	0
70 - 74	24	19	18	(95%)	0	(0%)	1	(5%)		18	0	0	0	1	0	0
75 - 79	28	22	22	(100%)	0	(0%)	0	(0%)		22	0	0	0	0	0	0
80 - 84	18	15	13	(87%)	2	(13%)	0	(0%)		13	2	0	0	0	0	0
85 & Older	15	13	12	(92%)	0	(0%)	1	(8%)		12	0	0	1	0	0	0
Total	384	345	226	(66%)	19	(6%)	100	(29%)		226	11	8	20	30	28	22

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

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TABLE 2.11

			Property			
	Fatal	Injury	Damage	Total		
Month	Crashes	Crashes	Crashes	Crashes	Killed	Injured
January	8	231	292	531	8	331
February	9	207	221	437	9	317
March	8	217	222	447	9	311
April	9	258	178	445	9	393
May	21	287	185	493	25	442
June	23	296	182	501	24	460
July	14	285	206	505	16	452
August	18	333	221	572	22	554
September	14	247	188	449	15	363
October	12	289	183	484	12	441
November	14	264	239	517	14	396
December	13	275	232	520	15	404
	-			74		
Total	163	3,189	2,549	5,901	178	4,864

1997 ALCOHOL - RELATED CRASHES BY MONTH

TABLE 2.12

1997 ALCOHOL - RELATED CRASHES BY ROADWAY TYPE

			Property			
	Fatal	Injury	Damage	Total		
<u>Roadway Type</u>	Crashes	Crashes	Crashes	Crashes	Killed	Injured
Urban Interstate	6	199	241	446	6	288
Rural Interstate	4	44	44	92	4	69
Urban Trunk Hwy	12	408	337	757	13	622
Rural Trunk Hwy	51	560	359	970	58	907
County State Aid Hwy	64	980	609	1,653	70	1,574
County Road	8	114	60	182	9	165
Township Road	5	132	75	212	5	207
Local Street	11	736	788	1,535	11	1,057
Other	22	16	36	54	2	25
Total	163	3,189	2,549	5,901	178	4,914





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TABLE 2.13

1997 ALCOHOL - RELATED CRASHES BY TIME OF DAY AND DAY OF WEEK

Hour										
Beginning	Sunday	Monday	Tuesday	Wednesday	Thursday	Friday	Saturday	Total	Killed	Iniured
Midnight	97	36	21	40	59	62	138	453	17	318
1:00 AM	212	40	52	70	67	115	253	809	23	603
2:00 AM	135	20	18	27	29	45	114	388	10	279
3:00 AM	75	7	9	16	12	22	54	195	10	156
4:00 AM	46	5	6	15	11	15	38	136	6	99
5:00 AM	44	3	4	2	3	12	24	92	3	80
6:00 AM	17	5	2	9	2	8	17	60	2	60
7:00 AM	12	4	6	6	3	5	16	52	2	51
8:00 AM	10	5	3	4	2	7	16	47	0	28
9:00 AM	11	3	2	4	1	3	8	32	1	23
10:00 AM	9	1	5	5	4	3	12	39	0	26
11:00 AM	8	4	5	4	9	12	12	54	2	43
Noon	31	4	11	6	11	11	23	97	4	66
1:00 pm	13	11	5	10	8	14	16	77	5	64
2:00 pm	15	5	10	11	14	15	28	98	3	77
3:00 pm	19	15	15	20	21	36	30	156	5	153
4:00 pm	27	16	20	12	21	32	50	178	3	169
5:00 pm	40	30	30	32	31	47	57	267	9	248
6:00 pm	46	22	27	31	32	53	69	280	8	275
7:00 pm	36	37	47	31	44	72	- 68	335	10	307
8:00 PM	29	28	30	26	52	68	73	306	8	255
9:00 pm	43	40	36	45	62	90	105	421	13	382
10:00 pm	45	52	46	48	67	116	93	467	14	401
11:00 pm	37	39	49	55	77	145	132	534	13	453
Unknown	88	35	24	32	39	48	62	328	7	248
Total	1,145	467	483	561	681	1,056	1,508	5,901	178	4,864

III: SAFETY EQUIPMENT USE BY VEHICLE OCCUPANTS IN 1997 CRASHES

Types of safety equipment

The most common type of safety equipment is the safety belt -- a system that usually includes lap and shoulder belts that are operated either automatically or manually. All recent model cars come with driverside, and usually 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 aged four to eight.

Safety benefits and legislation

Studies estimate that using these safety devices reduces the risk of death and serious injury by 40% to 60%. In view of this, the Minnesota Legislature enacted laws mandating safety equipment use. The Child Passenger Protection Act took effect in 1982, and was amended in 1983 and 1987. It requires children under the age of four to be properly restrained in a federally approved child car seat. In 1993, the Legislature increased the fine for not using a child car seat from \$25 to \$50. The state's safety belt law went into effect in 1986 and was amended in 1988 and 1991. It requires all front seat occupants (and children ages four through ten, regardless of seating position) to wear safety belts.

Tables in this section focus on the 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 that 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 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 safety belt use conducted yearly at random sites in the state provide strong evidence that legislation affects safety-belt wearing behavior -- thus saving lives and preventing injuries. In June, 1986, before the first safety belt law took effect, 20% of vehicle occupants used belts. The use rate jumped to 33% after the 1986 law took effect, to 47% after a \$10 fine was added in 1988, and to 51% after the fine was increased to \$25 in 1991. Educational and special traffic enforcement strategies may also have benefits. After the introduction of *Safe & Sober* (an intensive traffic safety enforcement and public information campaign), the use rate jumped from about 57% in 1994 to 65% in 1995. The *Safe* & *Sober* program continues, and the use rate remains at about the same level (65%) in 1997. Nevertheless, other states--especially those with primary seat belt laws--have still higher rates.

Fewest severe injuries ever

Last year, 488 people who were occupants of motor vehicles died in crashes. This is about the same as the average (480) for the prior five-year period. Likewise, the total number of vehicle occupants injured (41,383) was essentially the same as the average (41,384) for the prior five year period. But these figures conceal a very powerful, dramatic, and beneficial trend in evidence since the mid-1980s. Specifically, severe injuries have been "trading off" with moderate and minor injuries. They have steadily declined as the less severe injuries have increased in the decade since the seat belt legislation of the mid-1980s. In 1987, 4,176 motor vehicle occupants suffered severe injuries. Over the next ten years, the number steadily declined: 4,152 in 1988, then 3,963 -- 3,936 -- 3,438 -- 3,466 -- 3,328 --3,254 -- 3,067 -- 3,050, and now 2,964 for 1997. The 1997 figure is the lowest over the period of time (since 1984) for which records are available. This is especially beneficial. By definition, minor (or "possible") and moderate (or "non-incapacitating") injuries do not produce long-term and severe suffering, while severe injuries may often have such impacts, including consequences such as severe and permanent brain damage, paralysis, dismemberment, or epilepsy.

Belt use varies with age, sex, population density and road type

According to the August 1997 observational survey, belt use among front-seat occupants averaged 65% across all of Minnesota. However, it varies with different people and with different environments. They survey showed that belt use was higher in the metro area (68%) than the non-metro area (59%) and on major roads, such as interstates and big state highways, than on minor roads such as county and township roads and local streets. Reports by police officers on belt use by vehicle occupants in traffic crashes are consistent with these survey findings. The police reports further show that females are much better at using safety restraints than males. For example, 50% of fatally injured females wore belts compared to 28% of the males. Also, there is variation by age, where younger people (children, teenagers, and people in their twenties and thirties) use restraints much less than older persons.

			Injured							
Age Group	Killed	Severe	Moderate	Minor	Total					
0 - 4	7	25	246	401	672					
5 - 9	3	50	342	571	963					
10 - 14	8	82	461	643	1186					
15 - 19	62	544	3,062	3,955	7,561					
20 - 24	47	406	1,897	2,960	5,263					
25 - 29	39	303	1,376	2,584	4,263					
30 - 34	46	266	1,182	2,201	3,649					
35 - 39	34	255	1,108	2,199	3,562					
40 - 44	32	209	955	1,885	3,049					
45 - 49	24	156	721	1,557	2,434					
50 - 54	22	134	490	1,137	1,761					
55 - 59	18	87	375	* 795	1,257					
60 - 64	15	82	312	572	966					
65 - 69	22	80	248	548	876					
70 - 74	25	76	263	432	771					
75 - 79	37	68	267	354	689					
80 - 84	25	52	204	248	504					
85 & Older	22	19	87	143	249					
Not Stated	0	70	359	1,279	1,708					
Total	488	2,964	13,955	24,464	41,383					

MOTOR VEHICLE OCCUPANTS KILLED OR INJURED, BY AGE AND SEVERITY OF INJURY, 1997

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SAFETY EQUIPMENT USE BY VEHICLE OCCUPANTS KILLED OR INJURED, BY AGE AND INJURY SEVERITY, 1997

				Injured								
Age	Restraint		<u>Killed</u>	Se	vere	Mo	derate	Minor		Total		
Group	Use	#	%	#	%	#	%	#_	%	#	%	
0 - 3	Used	2	28.6	6	35.3	65	38.5	145	53.9	216	47.5	
Years	Not Used	1	14.3	6	35.3	34	20.1	32	11.9	72	15.8	
	Unknown	4	<u>57.1</u>	<u>5</u>	<u>29.4</u>	<u>70</u>	<u>41.4</u>	<u>92</u>	<u>34.2</u>	<u>167</u>	<u>36.7</u>	
	Subtotal	7	100.0		100.0	169	100.0	269	100.0	455	100.0	
4 - 10	Used	3	100.0	32	48.5	258	52.8	516	64.0	806	59.2	
Years	Not Used	0	0.0	20	30.3	121	24.7	128	15.9	269	19.8	
	Unknown	<u>0</u>	<u>0.0</u>	<u>14</u>	<u>21.2</u>	<u>110</u>	<u>22.5</u>	<u>162</u>	<u>20.1</u>	<u>286</u>	21.0	
	Subtotal	3	100.0	66	100.0	489	100.0	806	100.0	1,361	100.0	
11 - 19	Used	23	32.9	218	35.3	1,645	47.6	2,775	61.7	4,638	54.1	
Years	Not Used	34	48.6	275	44.5	1,327	38.4	1,024	22.8	2,626	30.7	
	Unknown	<u>13</u>	<u>18.6</u>	<u>125</u>	<u>20.2</u>	<u>481</u>	<u>13.9</u>	<u>696</u>	<u>15.5</u>	<u>1,302</u>	<u>15.2</u>	
	Subtotal	70	100.0	618	100.0	3,453	100.0	4,495	100.0	8,566	100.0	
20 - 29	Used	22	25.6	282	39.8	1,890	57.8	3,838	69.2	6,010	63.1	
Years	Not Used	49	57.0	305	43.0	880	26.9	854	15.4	2,039	21.4	
	Unknown	<u>15</u>	<u>17.4</u>	<u>122</u>	<u>17.2</u>	<u>503</u>	<u>15.4</u>	<u>852</u>	<u>15.4</u>	1,477	<u>15.5</u>	
	Subtotal	86	100.0	709	100.0	3,273	100.0	5,544	100.0	9,526	100.0	
30 - 39	Used	18	22.5	237	45.5	1,497	65,4	3,287	74.7	5,021	69.6	
Years	Not Used	48	60.0	174	33.4	467	20.4	432	9.8	1,073	14.9	
	Unknown	<u>14</u>	<u>17.5</u>	<u>110</u>	<u>21.1</u>	<u>326</u>	<u>14.2</u>	<u>681</u>	<u>15,5</u>	<u>1.117</u>	<u>15.5</u>	
	Subtotal	80	100.0	521	100.0	2,290	100.0	4,400	100.0	7,211	100.0	
40 - 49	Used	17	30.4	195	53.4	1,141	68.1	2,646	76.9	3,982	72.6	
Years	Not Used	29	51.8	100	27.4	295	17.6	280	8.1	675	12.3	
	Unknown	<u>10</u>	<u>17.9</u>	<u>70</u>	<u>19.2</u>	<u>240</u>	<u>14.3</u>	<u>516</u>	<u>15.0</u>	<u>826</u>	<u>15.1</u>	
	Subtotal	56	100.0	365	100.0	1,676	100.0	3,442	100.0	5,483	100.0	
50 - 59	Used	21	52.5	120	54.3	591	68.3	1,515	78.4	2,226	73.8	
Years	Not Used	14	35.0	, 52	23.4	137	15.8	142	7.4	331	11.0	
	Unknown	<u>5</u>	<u>12.5</u>	. <u>49</u>	<u>22.2</u>	<u>137</u>	<u>15.8</u>	<u>275</u>	<u>14.2</u>	<u>461</u>	<u>15.3</u>	
	Subtotal	40	100.0	221	100.0	865	100.0	1,932	100,0	3,018	100.0	
60 - 69	Used	18	48.7	104	64.2	395	70.5	885	79.0	1,384	75.1	
Years	Not Used	12	32.4	31	19.1	97	17.3	88	7.9	216	11.7	
	Unknown	<u>7</u>	<u>18.9</u>	<u>27</u>	<u>16.7</u>	<u>68</u>	<u>12.1</u>	<u>147</u>	<u>13.1</u>	<u>242</u>	<u>13.1</u>	
	Subtotal	37	100.0	162	100.0	560	100.0	1,120	100.0	1,842	100.0	
70 &	Used	59	54.1	133	61.9	581	70.8	918	78.0	1,632	73.8	
Older	Not Used	37	33.9	51	23.7	139	16.9	89	7.6	279	12.6	
	Unknown	<u>13</u>	<u>11,9</u>	<u>31</u>	<u>14.4</u>	<u>101</u>	<u>12.3</u>	<u>170</u>	<u>14.4</u>	<u>302</u>	<u>13.7</u>	
	Subtotal	109	100.0	215	100.0	• 821	100.0	1,177	100.0	2,213	100.0	
Age	Used	0	0	19	27.1	165	46.0	481	37.6	665	38.9	
Not	Not Used	0	0	28	40.0	90	25.1	139	10.9	257	15.1	
Stated	Unknown	<u>0</u>	<u>0</u>	<u>23</u>	<u>32.9</u>	<u>104</u>	<u>29.0</u>	<u>659</u>	<u>51.5</u>	<u>786</u>	<u>46.0</u>	
	Subtotal	0	0	70	100.0	359	100.0	1,279	100.0	1,708	100.0	
All	Used	183	37.5	1,346	45.4	8,228	59.0	17,006	69.5	26,580	64.2	
Ages	Not Used	224	45.9	1,042	35.2	3,587	25.7	3,208	13.1	7,837	18.9	
¥	Unknown	<u>81</u>	<u>16.6</u>	<u>576</u>	<u>19.4</u>	<u>2,140</u>	<u>15.3</u>	<u>4.250</u>	<u>17.4</u>	<u>6.966</u>	<u>16.8</u>	
	Total	488	100.0	2,964	100.0	13,955	100.0	24,464	100	41,383	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.)

SAFETY EQUIPMENT USE BY VEHICLE OCCUPANTS, BY GENDER AND INJURY SEVERITY, 1997

				Injured									
	Killed			Sev	ere	Moderate		Mi	nor				
	Female	Male	Total	Female	Male	Female	Male	Female	Male	Total			
Used	104	79	183	795	551	4,531	3,687	9,934	7,039	26,580			
Not Used	67	157	224	424	618	1,560	2,024	1,536	1,669	7,837			
Unknown	35	46	81	252	314	952	1,156	1,992	1,793	6,966			
Total	206	282	488	1471	1483	7.043	6.867	13.462	10.501	41.383			

Note: Gender was not reported for 556 persons injured (mostly those with minor injuries), causing the the "total" to be 556 greater than the sum of the "severe," "moderate," and "minor" injury columns.

TABLE 3.04

PERCENT OF INJURED OR KILLED MOTOR VEHICLE OCCUPANTS WHO USED SAFETY EQUIPMENT, BY INJURY SEVERITY AND YEAR, 1988 - 1997

	1988	1989	1990	1991	1992	1993	1994	1995	1996	1997
Killed										
Used	21.1	20.5	20.9	24.4	27.5	32.1	25.4	27.1	30.3	37.5
Not Used	64.1	63.8	65.9	57.0	58.5	52.6	56.3	48.3	52.6	45.9
Unknown	14.8	15.7	13.2	18.5	14.0	15.3	18.3	24.6	17.1	16.6
Injured										
Severe Injuries										
Used	30.5	31.6	32.6	35.7	36.6	40.7	43.0	41.7	44.8	45.4
Not Used	48.9	47.9	48.4	40.7	41.7	37.4	37.6	37.2	35.9	35.2
Unknown	20.6	20.5	18.9	23.6	21.7	21.9	19.4	21.1	19.3	19.4
Moderate Injuries										
Used	38.2	39.9	41.1	45.9	48.5	51.8	54.5	55.3	57.5	59.0
Not Used	41.7	40.6	40.2	33.7	34.0	31.9	29.6	28.4	27.4	25.7
Unknown	20.1	19.5	18.7	20.4	17.5	16.3	15.9	16.2	15.1	15.3
Minor Injuries										
Used	42.9	45.5	45.3	54.3	61.4	64.8	65.0	66.8	67.9	69.5
Not Used	24.4	21.9	23.1	19.8	19.9	17.0	16.0	15.2	14.6	13.1
Unknown	32.7	32.6	31.6	25.9	18.8	18.1	19.0	18.0	17.5	17.4
Total Injured										
Used	39.9	42.3	42.7	49.8	55.0	58.7	59.9	61.1	62.9	64.2
Not Used	32.9	30.7	31.2	26.3	26.4	23.5	22.1	21.2	20.3	18.9
Unknown	27.1	27.0	26.1	23.9	18.6	17.9	18.0	17.6	16.8	16.8

	Us	ed	Not	<u>Used</u>	<u>Unkn</u>	own	Tot	al
Roadway Type	Number	Percent	Number	Percent	Number	Percent	Number	Percent
Interstate	2,735	74.7	515	14.1	413	11.3	3,663	100.0
Trunk Highway	9,279	66.3	2,693	19.2	2,034	14.5	14,006	100.0
County State-								
Aid Highway	7,616	62.5	2,339	19.1	2,237	18.4	12,192	100.0
County Road	561	56.3	271	27.2	165	16.6	997	100.0
Township Road	452	44.0	367	35.7	208	20.3	1,027	100.0
Local Street	6,044	61.4	1,848	18.8	1,948	19.8	9,840	100.0
Other Road	76	52.1	28	19.2	42	28.8	146	100.0
Total	26,763	63.9	8,061	19.3	7,047	16.8	41,871	100.0

SAFETY EQUIPMENT USE BY MOTOR VEHICLE OCCUPANTS KILLED AND INJURED, BY ROADWAY TYPE, 1997

TABLE 3.06

SAFETY EQUIPMENT USE BY MOTOR VEHICLE OCCUPANTS KILLED AND INJURED, BY REGION OF THE STATE, 1997

	Percent	Percent	Percent	Number
EMS Region	Used	Not Used	Unknown	of People
Metropolitan	68.2	14.4	17.4	23,135
Central	61.2	23.7	15.1	5,472
Northeast	61.8	23.1	15.1	2,418
Northwest	44.1	31.6	24.3	1,238
South Central	63.1	23.1	13.9	1,701
Southeast	59.7	24.0	16.4	3,813
Southwest	54.4	29.4	16.2	2,374
West Central	55.9	27.3	16.8	1,720
Statewide	63.9	19.3	16.8	41,871

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



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AIRBAG DEPLOYMENTS, 1991 - 1997

		<u>Airbag I</u>	<u>Deployed</u>	Deployment	Not Indicated		
			Belt		Belt	Belt Use	1
Year	Injury Severity	Belt Used	Not Used	Belt Used	Not Used	Unknown	Total
1991	Killed	1	0	98	231	75	405
	Severe Injury	7	4	1,219	1,395	813	3,438
	Moderate Injury	45	6	5,772	4,272	2,588	12,683
	Minor Injury	44	11	11,867	4,342	5,687	21,951
	No Apparent Injury	<u>123</u>	7	<u>67,212</u>	<u>10,851</u>	<u>119,996</u>	<u>198,189</u>
	Total	220	28	86,168	21,091	129,159	236,666
1992	Killed	4	2	129	281	68	484
	Severe Injury	17	4	1,253	1,440	752	3,466
	Moderate Injury	63	11	6,008	4,239	2,193	12,514
	Minor Injury	85	11	13,746	4,471	4,228	22,541
	No Apparent Injury	<u>173</u>	<u>11</u>	<u>74,716</u>	<u>12,008</u>	<u>106,957</u>	193,865
	Total	342	39	95,852	22,439 "	114,198	232,870
1993	Killed	1	3	140	228	67	439
	Severe Injury	18	9	1,337	1,236	728	3,328
	Moderate Injury	116	15	6,618	4,125	2,122	12,996
	Minor Injury	124	16	15,518	4,093	4,375	24,126
	No Apparent Injury	<u>274</u>	<u>22</u>	<u>85,736</u>	<u>10,508</u>	<u>106,902</u>	203,442
	Total	533	65	109,349	20,190	114,194	244,331
1994	Killed	5	5	127	287	95	519
	Severe Injury	33	5	1,367	1,217	632	3,254
	Moderate Injury	160	16	7,172	3,971	2,133	13,452
	Minor Injury	179	17	15,920	3,949	4,692	24,757
	No Apparent Injury	- <u>465</u>	<u>28</u>	<u>95,102</u>	<u>9,189</u>	<u>96,345</u>	201,129
	Total	842	71	119,688	18,613	103,897	243,111
1995	Killed	7	4	127	235	122	495
	Severe Injury	38	14	1,242	1,126	647	3,067
	Moderate Injury	241	46	7,537	3,953	2,281	14,058
	Minor Injury	285	24	16,534	3,817	4,533	25,193
	No Apparent Injury	<u>668</u>	<u>32</u>	<u>93,028</u>	<u>8,393</u>	<u>89,646</u>	<u>191,767</u>
	Total	1,239	120	118,468	17,524	97,229	234,580
1996	Killed	11	8	129	235	79	462
	Severe Injury	67	21	1,298	1,074	590	3,050
	Moderate Injury	356	62	7,964	3,897	2,188	14,467
	Minor Injury	401	47	17,699	3,851	4,653	26,651
	No Apparent Injury	<u>973</u>	<u>51</u>	<u>103,909</u>	<u>8,574</u>	<u>98,418</u>	211,925
	Total	1,808	189	130,999	17,631	105,928	256,555
1997	Killed	12	15	171	209	81	488
	Severe Injury	73	30	1,273	1,012	576	2,964
	Moderate Injury	443	63	7,785	3,524	2,140	13,955
	Minor Injury	457	44	16,549	3,164	4,250	24,464
	No Apparent Injury	<u>1,142</u>	<u>66</u>	<u>98,069</u>	<u>7,600</u>	<u>89,634</u>	<u>196,511</u>
	Total	2,127	218	123,847	15,509	96,681	238,382

Note: "Belt use" is used as a shorthand term for safety restraint use. Safety restraint devices are normally lap and shoulder belts, but they can also be child safety seats or booster seats.

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

		Survey Design Used Through August 1994										urvey I)esign	_
-	June 1986	Aug 1986	Aug 1987	Aug 1988	Aug 1989	Aug 1990	Aug 1991	Aug 1992	Aug 1993	Aug 1994	Aug 1994	Aug 1995	Aug 1996	Aug 1997
Statewide	20%	33%	32%	47%	44%	47%	53%	51%	55%	55%	57%	65%	64%	65%
Metro	30	43	40	51	52	54	62	62	59	61	58	68	67	67
Non-Metro	15	26	28	45	40	42	47	46	52	52	54	56	58	59
Road Class														
Major Roads	23	35	35	48	44	49	53	55	57	60	65	68	68	69
Local Roads	17	31	29	46	45	46	52	48	53	51	54	64	62	63
Weather														
Clear	19	32	32	47	44	47	53	52	55	54				
Other	23	36	41	48	53	50	48	41	52	59				
Time										a ,				
Rush Hour	21	31	30	47	42	47	53	55	59	54				
Non-Rush	20	34	33	47	44	48	52	51	54	62				
Day of the Week														
Weekday	19	33	32	45	42	45	51	51	56	55				
Weekend	21	33	33	52	49	50	56	53	52	54				
Speed														
20 MPH	14	29	29	35	39	46	47	39	50	48				
40 MPH	20	32	30	47	46	46	56	58	57	60				
60 MPH	28	39	41	57	52	53	61	62	61	64				

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

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

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

IV: MOTORCYCLE CRASHES

1997 versus 1988

Comparing 1997 to ten years ago (1988), there are two percent more licensed motorcycle operators (298,863) and 12% fewer registered motorcycles (113,443). However, motorcycle crashes declined steadily over the decade. Last year, there were 971 crashes (down 51% from ten years ago), 24 motorcyclists killed (down 58%), and 916 injured (down 50%). Perhaps even though the number of licensed motorcyclists increased, motorcycle riding has decreased. Also, as baby boomers have aged, perhaps riders now are more mature and more experienced as motorcycle operators. The Department of Public Safety's motorcycle safety programs may be having significant effects. Regardless of the reason, the improvement is outstanding. Last year's 24 deaths is the lowest over the time for which records are available, and contrasts with the all-time high of 121 in 1980.

Limited riding season and greater crash severity

Motorcycle riding is different from normal vehicle driving in two obvious ways. One is that, in Minnesota, motorcycling is a highly seasonal activity. There were zero motorcycle crashes in January, 1997, and only 15 in the first two and last three months of the year combined. Crashes climb in number toward June and then decline toward December.

The second obvious difference is that a motorcycle does not have the stability of a four wheel vehicle, and the motorcycle operator is close to the road in a literal and figurative sense. This has two consequences. First, motorcyclists more often have crashes all by themselves: 54% of motorcycle crashes did not involve another motor vehicle, compared with 34% for other motor vehicle crashes. Second, motorcycle crashes are much more likely to result in injury or death. Last year, 85% of motorcycle crashes resulted in a non-fatal injury, and 2.4% resulted in a fatality. These figures compare with 32% and 0.5% (one-half of one percent), respectively, for other motor vehicle crashes.

When they occur

Motorcycle crashes are like other vehicle crashes with respect to when they occur across the hours of the day. They peak in the afternoon "rush hours" from 4 to 6:00 PM, and mostly occur in the "PM" instead of the "AM." Last year only 23% of motorcycle crashes occurred before noon. However, they are more likely than other crashes to occur on the three weekend days of Friday, Saturday, and Sunday. Last year, 57% occurred on those three days, compared to 42% for all vehicle crashes.

Young males are most often victims

Four-and-one-half times as many males as females were injured or killed in motorcycle crashes (766 males compared to 169 females) in 1997. Also the victims are young: 68% were under age 40, with 31% concentrated in the twenties decade. However, this is a change from ten years ago, when 83% of motorcyclists injured were under age 40. As another example of this change, ten years ago four out of 58 motorcyclists killed were over 40. Last year, 13 out of 24 were over 40.

Two risk factors: alcohol and no helmet

State law requires that drivers who die in traffic crashes be tested for alcohol concentration. Last year, 19 killed motorcycle operators were tested and 12 of them (63%) were positive for alcohol. By contrast, 34% of all killed drivers who were tested were found positive for alcohol. A second risk factor is helmet non-use. The need for helmet laws may be debated, but the benefits helmets offer are not: they protect the head in the event of a collision. Last year only three of the 24 motorcycle riders killed were known to be wearing a helmet; 17 were not. Helmet use was unknown for the remaining four.

Contributing factors:

Speed and inattention by motorcyclists Failing to yield by other vehicles

As noted, about half of motorcycle crashes are single-vehicle crashes. They do not involve another vehicle. In these crashes, the factors that reporting officers cite most often are: illegal or unsafe speed (29%), and driver inattention or distraction (14%), followed by driver inexperience and physical impairment (each representing 12% of all factors cited in these crashes). In crashes that do involve another motor vehicle, the reporting officers more often associate contributing factors with the other driver than with the motorcyclist. For the other drivers, failure to yield right of way is cited most commonly (33% of all factors cited), then driver inattention or distraction (22%).

MOTORCYCLE CRASH SUMMARY, 1988 - 1997

											Record High
	1988	1989	1990	1991	1992	1993	1994	1995	1996	1997	(since 1970)
Total Crashes	1 969	1 748	1 735	1 461	1 361	1 245	1 3 9 1	1 126	1 131	971	3 308 (1980)
Fatal Crashes	57	37	46	38	29	1,245	41	32	39	23	112 (1980)
Personal Injury Crashes	1.628	1.463	1.446	1.198	1.133	1.022	1.151	941	934	821	2,728 (1980)
Property Damage Crashes	284	248	243	225	199	190	189	153	158	127	537 (1976)
Persons Killed:											
Motorcyclists	58	37	50	40	28	34	43	35	42	24	121 (1980)
Non-Motorcyclists/Unknown	4	0	2	0	3	3	0	2	0	1	9 (1975)
Persons Injured:											
Motorcyclists	1,817	1,617	1,605	1,357	1,288	1,151	1,324	1,063	1,046	916	3,359 (1980)
Non-Motorcyclists/Unknown	126	104	126	104	60	104	66	76	71	65	N/A
Licensed Operators	293,347	290,000	292,074	296,624	290,722	291,756	293,164	295,849	297,102	298,863	298,863 (1997)
Registered Motorcycles	128,956	123,308	120,081	117,492	116,124	114,548	113,337	113,981	112,551	113,443	166,151 (1981)
Rates:											
Fatal Motorcycle Crashes Per											
100 Motorcycle Crashes	2.9	2.1	2.7	2.6	2.1	2.7	3.0	2.8	3.4	2.4	3.6 (1978)
Fatal Crashes Per 100 Crashes											
(All Vehicles)	0.5	0.5	0.5	0.5	0.5	0.5	0.6	0.5	0.5	0.5	0.8 (1970)

		т.	Property		18 <i>6</i> 7 / 11° /	та <i>л</i> ги 19°и
First Harmful Event	Fatal <u>Crashes</u>	Injury <u>Crashes</u>	Damage <u>Crashes</u>	Crashes	Killed	Injured
Collision With:						-
Other Motor Vehicle	10	364	72	446	12	405
Parked Motor Vehicle	0	9	23	32	0	9
Bicycle	0	5	0	5	0	4
Pedestrian	1	5	0	6	0	5
Deer	2	39	3	44	2	46
Other Animal	1	13	2	16	1	17
Fixed Object	2	93	7	102	2	102
Other Object	0	3	0	3	0	3
Non-Collision:						
Overturn	6	205	11	222	6	228
Other / Unknown	1	85	9	95	11	97
Total	23	821	127	971	24	916

1997 MOTORCYCLE CRASHES BY FIRST HARMFUL EVENT

TABLE 4.03

1997 MOTORCYCLE CRASHES BY POPULATION OF AREA

			Property			
Population of	Fatal	Injury	Damage	Total	Motorcyclists	Motorcyclists
City or Township	Crashes	Crashes	Crashes	Crashes	Killed	Injured
100,000 and Over	1	158	48	207	1	169
50,000 - 99,999	1	62	10	73	1	68
25,000 - 49,999	0	98	12	110	0	106
10,000 - 24,999	1	113	16	130	0	123
5,000 - 9,999	3	48	6	57	3	53
2,500 - 4,999	2	38	4	44	2	41
1,000 - 2,499	1	15	3	19	1	19
Under 1,000	14	289	28	331	16	337
Total	23	821	127	971	24	916

			Property			
	Fatal	Injury	Damage	Total	Motorcyclists	Motorcyclists
Month	Crashes	Crashes	Crashes	Crashes	Killed	Injured
January	0	0	0	0	0	0
February	0	1	0	1	0	1
March	0	8	1	9	0	9
April	3	53	11	67	3	57
May	2	113	22	137	2	120
June	7	184	17	208	9	212
July	3	161	23	187	2	180
August	4	140	32	176	4	163
September	2	94	12	108	2	106
October	1	64	8	73	1	65
November	1	2	1	4	1	2
December	0	1	0	1	0	1
				,	8	
Total	23	821	127	971	24	916

1997 MOTORCYCLE CRASHES BY MONTH



Minnesota Motor Vehicle Crash Facts, 1997

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1997 MOTORCYCLE CRASHES BY TIME AND DAY

Hour	Total	Fatal	Sund	day	Mo	nday	Tu	esday	Wed	lnesday	Th	ursday	Fri	day	Sat	urday
Beginning	Crashes	<u>Crashes</u>	All	<u>Fatal</u>	All	Fatal	All	Fatal	All	Fatal	All	Fatal	All	Fatal	All	Fatal
Midnight	17	1	6	1	0	0	1	0	2	0	0	0	1	0	7	0
2:00 3:00	16 6	1	4 2	0 0 1	0 0	0 0 0	0	0 0	3	0 1 0	0 0	0	5 1	0	4 2	0 0
4:00	4	0	2	0	0	0	1	0	0	0	0	0	0	0	1	0
5:00	4	0	0	0	1	0	0	0	1	0	1	0	1	0	0	0
6:00	14	1	0	0	3	0	3	· 1	4	0	3	0	1	0	0	0
7:00	26	0	1	0	3	0	2	0	6	0	5	0	6	0	3	0
8:00	19	0	1	0	2	0	4	0	3	0	1	0	7	0	1	0
9:00	23	1	2	0	4	0	3	1	0	0	5	0	4	0	5	0
10:00	19	0	4	0	2	0	0	0	3	0	1	0	2	0	7	0
11:00	35	0	8	0	3	0	5	0	5	0	3	0	2	0	9	0
Noon	51	0	17	0	4	0	5	0	6	0	3	0	10	0	6	0
1:00	57	2	8	0	7	0	3	0	9	0	5	0	9	0	16	2
2:00	53	2	12	0	7	0	2	0	7	1	7	0	10	1	8	0
3:00	62	2	11	1	8	0	8	0	7	0	6	0	12	1	10	0
4:00	90	1	19	0	6	0	9	1	7	0	9	0	20	0	20	0
5:00	89	1	20	0	11	0	12	0	11	0 ·	9	0	13	1	13	0
6:00	61	2	12	1	4	0	5	0	4	0	10	1	13	0	13	0
7:00	52	4	7	1	8	0	7	1	8	1	6	1	10	0	6	0
8:00	52	1	7	1	5	0	6	0	9	0	4	0	10	0	11	0
9:00	64	1	10	0	4	0	3	0	11	0	9	0	12	1	15	0
10:00	46	1	3	0	5	0	5	0	7	0	5	0	9	1	12	0
11:00	41	0	5	0	5	0	3	0	4	0	3	0	13	0	8	0
Not Stated	44	1	10	0	10	0	3	1	2	0	4	0	9	0	6	0
Total	971	23	183	6	102	0	90	5	123	3	101	2	181	5	191	2

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										<u> Injui</u>	red				
		Kille	ed		<u>Seve</u>	re		Mode	<u>rate</u>		Mir	lor		Total	<u>l</u>
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	0	1	1	1	1	2	1	0	1	2	2	4
10 - 14	1	0	1	0	0	0	2	1	3	2	0	2	4	1	5
15 - 19	1	0	1	22	5	27	43	8	51	15	5	20	80	18	98
20 - 24	2	0	2	33	4	37	75	14	90	29	5	34	137	23	161
25 - 29	2	1	2	22	0	22	53	8	61	33	5	38	108	13	121
30 - 34	0	0	1	21	7	28	44	11	55	26	6	32	91	24	115
35 - 39	4	0	4	29	7	36	49	12	61	20	4	24	98	23	121
40 - 44	1	0	1	17	5	22	45	20	65	19	3	22	81	28	109
45 - 49	4	0	4	15	4	19	31	12	43	16	3	19	62	19	81
50 - 54	3	1	4	11	0	11	15	3	18	5	0	5	31	3	34
55 - 59	2	0	2	3	1	4	12	1	13	3	1	4	18	3	21
60 - 64	0	0	0	3	1	4	6	1	7	7	0	.7	16	2	18
65 - 69	0	0	0	1	0	1	2	0	2	2	0	2	5	0	5
70 & Older	2	0	2	2	0	2	5	0	5	3	0	3	10	0	10
Not Stated	0	0	0	0	2	2	1	3	5	0	3	6	1	8	13
Total	22	2	24	179	37	216	384	95	481	181	35	219	744	167	916

MOTORCYCLISTS KILLED OR INJURED BY AGE AND GENDER, 1997

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



				Hel	met	Helm	et Use		
		Helme	t Used	Not	Used	Unk	nown	T	otal
www		Number	Percent	Number	Percent	Number	Percent	Number	Percent
Killed									
	1991	11	27.5%	24	60.0%	5	12.5%	40	100.0%
	1992	2	7.1	23	82.1	3	10.7	28	100.0
	1993	2	5.9	30	88.2	2	5.9	34	100.0
	1994	3	7.0	30	69.8	10	23.3	43	100.0
	1995	1	2.9	30	85.7	4	11.4	35	100.0
	1996	9	21.4	29	69.1	4	9.5	42	100.0
	1997	3	12.5	17	70.8	4	16.7	24	100.0
Injured									
	1991	310	22.8%	594	43.8%	453	33.4%	1,357	100.0%
	1992	349	27.1	678	52.6	261	20.3	1,288	100.0
	1993	298	25.9	599	52.0	254	22.1	1,151	100.0
	1994	375	28.3	641	48.4	308	23.3	1,342	100.0
	1995	279	26.3	544	51.2	240	22.6	1,063	100.0
	1996	269	25.7	546	52.2	231	22.1	1,046	100.0
	1997	225	24.5	470	51.3	221	24.1	916	100.0

HELMET USE BY MOTORCYCLISTS KILLED OR INJURED, 1991 - 1997

TABLE 4.08

ENDORSEMENT STATUS OF MOTORCYCLE OPERATORS INVOLVED IN FATAL CRASHES, 1986 - 1997

				Can	celed,				
Va	lid			Suspe	ended,	N	0	Tot	al**
Endors	ement*	<u>Permi</u>	t Only	Rev	<u>oked</u>	Endors	sement	For	<u>Year</u>
Number	Percent	Number	Percent	Number	Percent	Number	Percent	Number	Percent
41	64.1%	1	1.6%	7	10.9%	15	23.4%	64	100.0%
33	64.7	1	2.0	10	19.6	7	13.7	51	100.0
32	55.2	3	5.2	9	15.5	13	22.4	58	100.0
22	56.4	0	0.0	8	20.5	9	23.1	39	100.0
25	53.2	2	4.3	9	19.1	11	23.4	47	100.0
28	71.8	1	2.6	4	10.3	5	12.8	39	100.0
17	60.7	0	0.0	5	17.9	4	14.3	28	100.0
21	65.6	· 1	3.1	4	12.5	4	12.5	32	100.0
33	75.0	0	0.0	3	6.8	7	15.9	44	100.0
21	65.6	0	0.0	5	15.6	6	18.8	32	100.0
27	64.3	0	0.0	4	9.5	9	21.4	42	100.0
21	91.3	0	0.0	0	0.0	2	8.7	23	100.0
	Va Endors Number 41 33 32 22 25 28 17 21 33 21 27 21	Valid Endorsement* Number Percent 41 64.1% 33 64.7 32 55.2 22 56.4 25 53.2 28 71.8 17 60.7 21 65.6 33 75.0 21 65.4 27 64.3 21 91.3	ValidEndorsement*PermiNumberPercentNumber4164.1%13364.713255.232256.402553.222871.811760.702165.613375.002165.602764.302191.30	Valid Endorsement* Permit Only Number Percent Number Percent 41 64.1% 1 1.6% 33 64.7 1 2.0 32 55.2 3 5.2 22 56.4 0 0.0 25 53.2 2 4.3 28 71.8 1 2.6 17 60.7 0 0.0 21 65.6 1 3.1 33 75.0 0 0.0 21 65.6 0 0.0 21 65.6 0 0.0 21 65.6 0 0.0 21 65.6 0 0.0 21 91.3 0 0.0	Canology Valid Suspanding Endorsement* Permit Only Rev Number Percent Number Percent Number 41 64.1% 1 1.6% 7 33 64.7 1 2.0 10 32 55.2 3 5.2 9 22 56.4 0 0.0 8 25 53.2 2 4.3 9 28 71.8 1 2.6 4 17 60.7 0 0.0 5 21 65.6 1 3.1 4 33 75.0 0 0.0 5 21 65.6 0 0.0 5 27 64.3 0 0.0 4 21 91.3 0 0.0 0	Canceled, Suspended,ValidPermit OnlySuspended, RevokedNumberPercentNumberPercentNumber41 64.1% 1 1.6% 7 10.9% 33 64.7 1 2.0 10 19.6 32 55.2 3 5.2 9 15.5 22 56.4 00.08 20.5 25 53.2 2 4.3 9 19.1 28 71.8 1 2.6 4 10.3 17 60.7 0 0.0 5 17.9 21 65.6 1 3.1 4 12.5 33 75.0 0 0.0 5 5.6 21 65.6 0 0.0 5.6 21 65.6 0 0.0 4 9.5 21 91.3 0 0.0 0.0 0.0	Canceled,ValidSuspended,NEndorsement*Permit OnlyRevkedEndorsement*NumberPercentNumberPercentNumber4164.1%11.6%710.9%3364.712.01019.63255.235.2915.53255.235.2915.52256.400.0820.52553.224.3919.12871.812.6410.31760.700.0517.92165.613.1412.52165.600.0515.62764.300.049.52191.300.000.0	Canceled,ValidSuspended,NoEndorsement*Permit OnlyRevedEndorsementNumberPercentNumberPercentNumberPercent41 64.1% 1 1.6% 7 10.9% 15 23.4% 33 64.7 1 2.0 10 19.6 7 13.7 32 55.2 3 5.2 9 15.5 13 22.4 22 56.4 0 0.0 8 20.5 9 23.1 25 53.2 2 4.3 9 19.1 11 23.4 28 71.8 1 2.6 4 10.3 5 12.8 17 60.7 0 0.0 5 17.9 4 14.3 21 65.6 1 3.1 4 12.5 4 12.5 33 75.0 0 0.0 5 15.6 6 18.8 27 64.3 0 0.0 4 9.5 9 21.4 21 91.3 0 0.0 0 0.0 2 8.7	Canceled,ValidSuspended,NoTotEndorsement*Permit OnlyRevedEndorsementForNumberPercentNumberPercentNumberPercent4164.1%11.6%710.9%1523.4%4164.712.01019.6713.7513255.235.2915.51322.4582256.400.0820.5923.1392553.224.3919.11123.4472871.812.6410.3512.8391760.700.0517.9414.3282165.613.1412.5412.5323375.000.0515.6618.8322764.300.049.5921.4422191.300.00.00.028.723

* 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.

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			A	lcohol Concent	entration*		
Year	Killed	Tested	(.00)	(.0109)	<u>(.10 or more)</u>		
1986	56	46	16 (35%)	5 (11%)	25 (54%)		
1987	45	42	17 (40%)	3 (7%)	22 (52%)		
1988	52	45	20 (44%)	8 (18%)	17 (38%)		
1989	31	30	9 (30%)	3 (10%)	18 (60%)		
1990	43	35	10 (29%)	5 (14%)	20 (57%)		
1991	36	30	13 (43%)	3 (10%)	14 (47%)		
1992	23	21	10 (48%)	0 (0%)	11 (52%)		
1993	29	26	9 (35%)	3 (12%)	14 (54%)		
1994	36	27	17 (63%)	2 (7%)	8 (30%)		
1995	25	22	7 (32%)	2 (9%)	13 (59%)		
1996	38	36	22 (61%)	4 (11%)	10 (28%)		
1997	22	19	7 (37%)	3 (16%)	9 (47%)		

ALCOHOL USE BY MOTORCYCLE DRIVERS, 1986 - 1997

*Percentages are based on those motorcycle drivers tested.

TABLE 4.10

1997 MOTORCYCLE DRIVER FATALITIES' LEVEL OF ALCOHOL CONCENTRATION BY AGE

					Alcohol Concentration						
			Alcohol Co	ncentration*		.01-	.05-	.10-	.15-	.20-	.25 &
Age	Killed	Tested	(.0109)	(.10 or more)	.00	.04	.09	.14	.19	.24	Over
14 & Younger	0	0	0	0	0	0	0	0	0	0	0
15	0	0	0	0	0	0	0	0	0	0	0
16	0	0	0	0	0	0	0	0	0	0	0
17	0	0	Q	0	0	0	0	0	0	0	0
18	0	0	0	0	0	0	0	0	0	0	0
19	1	1	0	0	1	0	0	0	0	0	0
20	0	0	0	0	0	0	0	0	0	0	0
Under 21	1	1	0	0	1	0	0	0	0	0	0
					T						
14 & Younger	0	0	0	0	0	0	0	0	0	0	0
15 - 19	1	1	0	0	1	0	0	0	0	0	0
20 - 24	2	2	0	2	0	0	0	1	1	0	0
25 - 29	2	2	1	1	0	0	1	1	0	0	0
30 - 34	1	1	0	0	1	0	0	0	0	0	0
35 - 39	4	3	2	1	0	2	0	0	1	0	0
40 - 44	1	1	0	1	0	0	0	0	0	0	1
45 - 49	4	4	0	1	3	0	0	0	1	0	0
50 - 54	3	2	0	2	0	0	0	1	1	0	0
55 - 59	2	2	0	0	2	0	0	0	0	0	0
60 & Older	2	1	0	1	0	0	0	0	1	0	0
Total	22	19	3	9	7	2	1	3	5	0	1

* Percentages are based on those motorcycle drivers tested.

CONTRIBUTING FACTORS IN 1997 MOTORCYCLE CRASHES

Attributed to Motorcycle Drivers Attributed to Motorcycle Drivers Attributed to Motorcycle Drivers Attributed to Other Drivers Contributing Factors: Number Percent Number Percent Number Percent Hugal/Unsafe Speed 153 29.3% 47 15.7% 19 4.1% Driver Inexperience 64 12.2 17 5.7 8 1.7 Physical Impairment 62 11.9 9 3.0 13 2.8 Improper/Unsafe Lane Use 16 3.1 19 6.3 31 6.8 Improper Turn 5 1.0 5 1.7 9 2.0 Failure to Yield Right of Way 7 1.3 30 10.0 26 5.7 Disregard for Traffic Control Device 4 0.8 6 2.0 16 3.5 Driving Left of Center 2 0.4 5 1.7 5 1.1 Improper Passing / Overtaking 9 1.7 24 8.0 6		Single Veh	icle Crashes					
Motorcycle Drivers Contributing FactorsNumber NumberPercentNumber PercentOther Drivers NumberHuman Factors: Illegal/Unsafe Speed15329.3%4715.7%194.1%Driver Inatention/Distraction7514.36822.7%9921.6Driver Instention/Distraction7514.36822.7%9921.6Driver Instention/Distraction751.1993.0132.8Improper/Unsafe Lane Use163.1196.3316.8Improper Parking/Starting/ Stopping51.051.792.0Failure to Yield Right of Way71.3227.314932.5Disregard for Traffic Control Drevice40.862.0163.5Driving Left of Center20.451.751.1Improper Passing / Overtaking91.7248.061.3Pailure to Use Lights00.010.340.9Unsafe Backing00.010.340.2Driver actors: Wether actors:731.010.2Other Vehicular Factors91.731.010.2Driver Backing00.000.00.00.00.0Other Wether Actors91.731.010.2Unsafe Backing00.00		Attributed to		Attrik	outed to	Attributed to		
Contributing Factors Number Percent Number Percent Human Factors: Illegal/Unsafe Speed 153 29.3% 47 15.7% 19 4.1% Driver Inattention/Distraction 75 14.3 68 22.7% 99 21.6 Driver Inexperience 64 12.2 17 5.7 8 1.7 Physical Impairment 62 11.9 9 3.0 13 2.8 Improper/Unsafe Lane Use 16 3.1 19 6.3 31 6.8 Stopping 5 1.0 6 2.0 32 7.0 Improper Parking/Starting/ 7 1.3 22 7.3 149 32.5 Following Too Closely 7 1.3 30 10.0 26 5.7 Disregard for Traffic Control		Motorcycle Drivers		Motorcy	<u>cle Drivers</u>	Other Drivers		
Human Factors: Illegal/Unsafe Speed 153 29.3% 47 15.7% 19 4.1% Driver Inattention/Distraction 75 14.3 68 22.7% 99 21.6 Driver Inexperience 64 12.2 17 5.7 8 1.7 Physical Impairment 62 11.9 9 3.0 13 2.8 Improper/Unsafe Lane Use 16 3.1 19 6.3 31 6.8 Improper Turn 5 1.0 6 2.0 32 7.0 Failure to Yield Right of Way 7 1.3 22 7.3 149 32.5 Disregard for Traffic Control 0 100 26 5.7 Driving Left of Center 2 0.4 5 1.7 5 1.1 Improper Passing / Overtaking 9 1.7 24 8.0 6 1.3 Vision Obscured 4 0.8 4 1.3 14 3.1 <tr< td=""><td>Contributing Factors</td><td>Number</td><td>Percent</td><td>Number</td><td>Percent</td><td>Number</td><td>Percent</td></tr<>	Contributing Factors	Number	Percent	Number	Percent	Number	Percent	
Illegal/Unsafe Speed 153 29.3% 47 15.7% 19 4.1% Driver Inattention/Distraction 75 14.3 68 22.7% 99 21.6 Driver Inattention/Distraction 75 14.3 68 22.7% 99 21.6 Driver Inexperience 64 12.2 17 5.7 8 1.7 Physical Impairment 62 11.9 9 3.0 13 2.8 Improper Turm 5 1.0 6 2.0 32 7.0 Improper Parking/Starting/ 7 1.3 22 7.3 149 32.5 Following Too Closely 7 1.3 30 10.0 26 5.7 Disregard for Traffic Control 0 0.4 5 1.7 5 1.1 Driving Left of Center 2 0.4 5 1.7 1 0.2 Driving Left of Center 2 0.4 5 1.7 1 0.2 Unsafe Backing 0 0.0 5 1.1 1.7 1 0.2 <td>Human Factors:</td> <td></td> <td></td> <td></td> <td></td> <td></td> <td></td>	Human Factors:							
Driver Inattention/Distraction 75 14.3 68 22.7% 99 21.6 Driver Inexperience 64 12.2 17 5.7 8 1.7 Physical Impairment 62 11.9 9 3.0 13 2.8 Improper/Unsafe Lane Use 16 3.1 19 6.3 31 6.8 Improper Turn 5 1.0 6 2.0 32 7.0 Improper Parking/Starting/ 5 1.0 5 1.7 9 2.0 Failure to Yield Right of Way 7 1.3 22 7.3 149 32.5 Following Too Closely 7 1.3 30 10.0 26 5.7 Disregard for Traffic Control 5 1.7 5 1.1 Improper Passing / Overtaking 9 1.7 24 8.0 6 1.3 Vision Obscured 4 0.8 4 1.3 14 3.1 Failure to Use Lights 0 0.0	Illegal/Unsafe Speed	153	29.3%	47	15.7%	19	4.1%	
Driver Inexperience 64 12.2 17 5.7 8 1.7 Physical Impairment 62 11.9 9 3.0 13 2.8 Improper/Unsafe Lane Use 16 3.1 19 6.3 31 6.8 Improper Turn 5 1.0 6 2.0 32 7.0 Improper Parking/Starting/ 7 1.3 22 7.3 149 32.5 Following Too Closely 7 1.3 30 10.0 26 5.7 Disregard for Traffic Control	Driver Inattention/Distraction	75	14.3	68	22.7%	99	21.6	
Physical Impairment 62 11.9 9 3.0 13 2.8 Improper/Unsafe Lane Use 16 3.1 19 6.3 31 6.8 Improper Turn 5 1.0 6 2.0 32 7.0 Improper Parking/Starting/ 5 1.0 5 1.7 9 2.0 Failure to Yield Right of Way 7 1.3 22 7.3 149 32.5 Following Too Closely 7 1.3 30 10.0 26 5.7 Disregard for Traffic Control 2 0.4 5 1.7 5 1.1 Improper Passing / Overtaking 9 1.7 24 8.0 6 1.3 Vision Obscured 4 0.8 4 1.3 14 3.1 Failure to Use Lights 0 0.0 1 0.2 Unsafe Backing 0 0.0 1 0.2 Unsafe Backing 0 0.0 0 0.0 1 0.2	Driver Inexperience	64	12.2	17	5.7	8	1.7	
Improper/Unsafe Lane Use 16 3.1 19 6.3 31 6.8 Improper Turn 5 1.0 6 2.0 32 7.0 Improper Parking/Starting/ Stopping 5 1.0 5 1.7 9 2.0 Failure to Yield Right of Way 7 1.3 22 7.3 149 32.5 Following Too Closely 7 1.3 30 10.0 26 5.7 Disregard for Traffic Control	Physical Impairment	62	11.9	9	3.0	13	2.8	
Improper Turn 5 1.0 6 2.0 32 7.0 Improper Parking/Starting/ Stopping 5 1.0 5 1.7 9 2.0 Failure to Yield Right of Way 7 1.3 22 7.3 149 32.5 Following Too Closely 7 1.3 30 10.0 26 5.7 Disregard for Traffic Control 30 10.0 26 5.7 Device 4 0.8 6 2.0 16 3.5 Driving Left of Center 2 0.4 5 1.7 5 1.1 Improper Passing / Overtaking 9 1.7 24 8.0 6 1.3 Vision Obscured 4 0.8 4 1.3 14 3.1 Improper on No Signal 0 0.0 0 0.0 1.0 2 Unsafe Backing 0 0.0 0 0.0 1 0.2 Driver on CB Ratio / Phone 0	Improper/Unsafe Lane Use	16	3.1	19	6.3	31	6.8	
Improper Parking/Starting/ Stopping 5 1.0 5 1.7 9 2.0 Failure to Yield Right of Way 7 1.3 22 7.3 149 32.5 Following Too Closely 7 1.3 30 10.0 26 5.7 Disregard for Traffic Control 0 0 26 5.7 Device 4 0.8 6 2.0 16 3.5 Driving Left of Center 2 0.4 5 1.7 5 1.1 Improper Passing / Overtaking 9 1.7 24 8.0 6 1.3 Vision Obscured 4 0.8 4 1.3 14 3.1 Failure to Use Lights 0 0.0 5 1.7 1 0.2 Unsafe Backing 0 0.0 1 0.3 4 0.9 Improper or No Signal 0 0.0 0 0.0 0 0.0 Driver on CB Radio / Phone 0 0.0 0	Improper Turn	5	1.0	6	2.0	32	7.0	
Stopping 5 1.0 5 1.7 9 2.0 Failure to Yield Right of Way 7 1.3 22 7.3 149 32.5 Following Too Closely 7 1.3 30 10.0 26 5.7 Disregard for Traffic Control	Improper Parking/Starting/							
Failure to Yield Right of Way 7 1.3 22 7.3 149 32.5 Following Too Closely 7 1.3 30 10.0 26 5.7 Disregard for Traffic Control 7 1.3 30 10.0 26 5.7 Device 4 0.8 6 2.0 16 3.5 Driving Left of Center 2 0.4 5 1.7 5 1.1 Improper Passing / Overtaking 9 1.7 24 8.0 6 1.3 Vision Obscured 4 0.8 4 1.3 14 3.1 Failure to Use Lights 0 0.0 5 1.7 1 0.2 Unsafe Backing 0 0.0 1 0.3 4 0.9 Improper or No Signal 0 0.0 0 0 1 0.2 Driver on CB Radio / Phone 0 0.0 0 0.0 0 0.0 Other Human Factor 13 2.5 3 1.0 1 0.2 Defective Equipment 9	Stopping	5	1.0	5	1.7	9	2.0	
Following Too Closely 7 1.3 30 10.0 26 5.7 Disregard for Traffic Control 0 0.8 6 2.0 16 3.5 Driving Left of Center 2 0.4 5 1.7 5 1.1 Improper Passing / Overtaking 9 1.7 24 8.0 6 1.3 Vision Obscured 4 0.8 4 1.3 14 3.1 Failure to Use Lights 0 0.0 5 1.7 1 0.2 Unsafe Backing 0 0.0 1 0.3 4 0.9 Impeding Traffic 0 0.0 1 0.3 4 0.9 Impeding Traffic 0 0.0 0 0.0 1 0.2 Driver on CB Radio / Phone 0 0.0 0 0.0 0 0.0 Other Human Factor 13 2.5 3 1.0 1 0.2 Defective Equipment 9 1.7 2 0.7 0 0.0 Miscellaneous Factors: 9	Failure to Yield Right of Way	7	1.3	22	7.3	149	32.5	
Disregard for Traffic Control DeviceDevice40.862.0163.5Driving Left of Center20.451.751.1Improper Passing / Overtaking91.7248.061.3Vision Obscured40.841.3143.1Failure to Use Lights00.051.710.2Unsafe Backing00.000.051.1Improper or No Signal00.010.340.9Impeding Traffic00.000.010.2Driver on CB Radio / Phone00.0000.00Other Human Factor132.531.030.7Vehicular Factors:91.720.700.0Miscellaneous Factors:91.720.700.0Miscellaneous Factors:91.724.0112.4Total523100.0%300100.0%458100.0%Vehicles for Which There Was'''No Clear Contributing Factor''120251159"No Clear Contributing Factor''120251159	Following Too Closely	7	1.3	30	. 10.0	26	5.7	
Device 4 0.8 6 2.0 16 3.5 Driving Left of Center 2 0.4 5 1.7 5 1.1 Improper Passing / Overtaking 9 1.7 24 8.0 6 1.3 Vision Obscured 4 0.8 4 1.3 14 3.1 Failure to Use Lights 0 0.0 5 1.7 1 0.2 Unsafe Backing 0 0.0 0 0.0 5 1.1 Improper or No Signal 0 0.0 1 0.3 4 0.9 Impeding Traffic 0 0.0 0 0.0 1 0.2 Driver on CB Radio / Phone 0 0.0 0 0.0 0 0.0 Other Human Factor 13 2.5 3 1.0 1 0.2 Defective Equipment 9 1.7 3 1.0 1 0.2 Defective Equipment 9 1.7 2	Disregard for Traffic Control							
Driving Left of Center 2 0.4 5 1.7 5 1.1 Improper Passing / Overtaking 9 1.7 24 8.0 6 1.3 Vision Obscured 4 0.8 4 1.3 14 3.1 Failure to Use Lights 0 0.0 5 1.7 1 0.2 Unsafe Backing 0 0.0 0 0.0 5 1.1 Improper or No Signal 0 0.0 1 0.3 4 0.9 Impeding Traffic 0 0.0 0 0.0 1 0.2 Driver on CB Radio / Phone 0 0.0 0 0.0 0 0.0 Other Human Factor 13 2.5 3 1.0 3 0.7 Vehicular Factors:	Device	4	0.8	6	2.0	16	3.5	
Improper Passing / Overtaking 9 1.7 24 8.0 6 1.3 Vision Obscured 4 0.8 4 1.3 14 3.1 Failure to Use Lights 0 0.0 5 1.7 1 0.2 Unsafe Backing 0 0.0 0 0.0 5 1.1 Improper or No Signal 0 0.0 1 0.3 4 0.9 Impeding Traffic 0 0.0 0 0.0 1 0.2 Driver on CB Radio / Phone 0 0.0 0 0.0 0 0.0 Other Human Factor 13 2.5 3 1.0 3 0.7 Vehicular Factors:	Driving Left of Center	2	0.4	5	1.7	5	1.1	
Vision Obscured 4 0.8 4 1.3 14 3.1 Failure to Use Lights 0 0.0 5 1.7 1 0.2 Unsafe Backing 0 0.0 0 0.0 5 1.1 Improper or No Signal 0 0.0 1 0.3 4 0.9 Impeding Traffic 0 0.0 0 0.0 1 0.2 Driver on CB Radio / Phone 0 0.0 0 0.0 1 0.2 Driver on CB Radio / Phone 0 0.0 0 0.0 0 0.0 Other Human Factor 13 2.5 3 1.0 3 0.7 Vehicular Factors:	Improper Passing / Overtaking	9	1.7	24	8.0	6	1.3	
Failure to Use Lights 0 0.0 5 1.7 1 0.2 Unsafe Backing 0 0.0 0 0.0 5 1.1 Improper or No Signal 0 0.0 1 0.3 4 0.9 Impeding Traffic 0 0.0 0 0.0 1 0.2 Driver on CB Radio / Phone 0 0.0 0 0.0 0 0.0 Other Human Factor 13 2.5 3 1.0 3 0.7 Vehicular Factors:	Vision Obscured	4	0.8	4	1.3	14	3.1	
Unsafe Backing 0 0.0 0 0.0 5 1.1 Impoper or No Signal 0 0.0 1 0.3 4 0.9 Impeding Traffic 0 0.0 0 0.0 1 0.2 Driver on CB Radio / Phone 0 0.0 0 0.0 0 0.0 Other Human Factor 13 2.5 3 1.0 3 0.7 Vehicular Factors:	Failure to Use Lights	0	0.0	5	1.7	1	0.2	
Improper or No Signal 0 0.0 1 0.3 4 0.9 Impeding Traffic 0 0.0 0 0.0 1 0.2 Driver on CB Radio / Phone 0 0.0 0 0.0 0 0.0 0 0.0 Other Human Factor 13 2.5 3 1.0 3 0.7 Vehicular Factors:	Unsafe Backing	0	0.0	0	0.0	5	1.1	
Impeding Traffic 0 0.0 0 0.0 1 0.2 Driver on CB Radio / Phone 0 0.0 0 0.0 0 0.0 0.0 Other Human Factor 13 2.5 3 1.0 3 0.7 Vehicular Factors:	Improper or No Signal	0	0.0	1	0.3	4	0.9	
Driver on CB Radio / Phone 0 0.0 0 0.0 0 0.0 Other Human Factor 13 2.5 3 1.0 3 0.7 Vehicular Factors: 3 34 6.5 11 3.7 1 0.2 Defective Equipment 9 1.7 3 1.0 1 0.2 Other Vehicular Factors 9 1.7 2 0.7 0 0.0 Miscellaneous Factors: 9 1.7 2 0.7 0 0.0 Miscellaneous Factors: Veather Conditions 10 1.9 1 0.3 3 0.7 Other 35 6.7 12 4.0 11 2.4 Total 523 100.0% 300 100.0% 458 100.0% Vehicles for Which There Was ''' 251 159 501	Impeding Traffic	0	0.0	0	0.0	. 1	0.2	
Other Human Factor 13 2.5 3 1.0 3 0.7 Vehicular Factors: Skidding 34 6.5 11 3.7 1 0.2 Defective Equipment 9 1.7 3 1.0 1 0.2 Other Vehicular Factors 9 1.7 3 1.0 1 0.2 Other Vehicular Factors 9 1.7 2 0.7 0 0.0 Miscellaneous Factors: Weather Conditions 10 1.9 1 0.3 3 0.7 Other 35 6.7 12 4.0 11 2.4 Total 523 100.0% 300 100.0% 458 100.0% Vehicles for Which There Was ''No Clear Contributing Factor'' 120 251 159 501	Driver on CB Radio / Phone	0	0.0	0	0.0	0	0.0	
Vehicular Factors: 34 6.5 11 3.7 1 0.2 Defective Equipment 9 1.7 3 1.0 1 0.2 Other Vehicular Factors 9 1.7 2 0.7 0 0.0 Miscellaneous Factors: 9 1 0.3 3 0.7 0 Other 35 6.7 12 4.0 11 2.4 Total 523 100.0% 300 100.0% 458 100.0% Vehicles for Which There Was 120 251 159 159 Total Number Drivers 401 402 501 501	Other Human Factor	13	2.5	3	1.0	3	0.7	
Skidding 34 6.5 11 3.7 1 0.2 Defective Equipment 9 1.7 3 1.0 1 0.2 Other Vehicular Factors 9 1.7 2 0.7 0 0.0 Miscellaneous Factors: Veather Conditions 10 1.9 1 0.3 3 0.7 Other 35 6.7 12 4.0 11 2.4 Total 523 100.0% 300 100.0% 458 100.0% Vehicles for Which There Was ''No Clear Contributing Factor'' 120 251 159 Total Number Drivers 401 402 501 501	Vehicular Factors:							
Defective Equipment 9 1.7 3 1.0 1 0.2 Other Vehicular Factors 9 1.7 2 0.7 0 0.0 Miscellaneous Factors: Weather Conditions 10 1.9 1 0.3 3 0.7 Other 35 6.7 12 4.0 11 2.4 Total 523 100.0% 300 100.0% 458 100.0% Vehicles for Which There Was ''No Clear Contributing Factor'' 120 251 159 Total Number Drivers 401 402 501	Skidding	34	6.5 *	11	3.7	1	0.2	
Other Vehicular Factors 9 1.7 2 0.7 0 0.0 Miscellaneous Factors: Weather Conditions 10 1.9 1 0.3 3 0.7 Other 35 6.7 12 4.0 11 2.4 Total 523 100.0% 300 100.0% 458 100.0% Vehicles for Which There Was "No Clear Contributing Factor" 120 251 159 501	Defective Equipment	9	1.7	3	1.0	1	0.2	
Miscellaneous Factors: 10 1.9 1 0.3 3 0.7 Other 35 6.7 12 4.0 11 2.4 Total 523 100.0% 300 100.0% 458 100.0% Vehicles for Which There Was "No Clear Contributing Factor" 120 251 159 Total 401 402 501 100.0%	Other Vehicular Factors	9	1.7	2	0.7	0	0.0	
Weather Conditions 10 1.9 1 0.3 3 0.7 Other 35 6.7 12 4.0 11 2.4 Total 523 100.0% 300 100.0% 458 100.0% Vehicles for Which There Was "No Clear Contributing Factor" 120 251 159 Total Number Drivers 401 402 501 100	Miscellaneous Factors:							
Other 35 6.7 12 4.0 11 2.4 Total 523 100.0% 300 100.0% 458 100.0% Vehicles for Which There Was "No Clear Contributing Factor" 120 251 159 Total Number Driver 401 402 501 100	Weather Conditions	10	1.9	1	0.3	3	0.7	
Total 523 100.0% 300 100.0% 458 100.0% Vehicles for Which There Was "No Clear Contributing Factor" 120 251 159 Total Number Drivers 401 402 501	Other	35	6.7	12	4.0	11	2.4	
Total 523 100.0% 300 100.0% 458 100.0% Vehicles for Which There Was "No Clear Contributing Factor" 120 251 159 Total Number Driver 401 402 501								
Vehicles for Which There Was"No Clear Contributing Factor"120251159Tatal Number Driver401402501	Total	523	100.0%	300	100.0%	458	100.0%	
"No Clear Contributing Factor" 120 251 159 Tatal Number Drivers 401 501	Vehicles for Which There Was							
Total Number Drivera 401 402 501	"No Clear Contributing Factor"	120		251		150		
LOWEINHOUDER LICENERS AND AVE AVE SOL	Total Number Drivers	120 201		201 202		501		

Zero, one, or two contributing factors may be attributed to a single driver. This may cause the sum of the factors cited to differ from the number of drivers. Percentages are based on all contributing factors cited. They may not sum to 100 due to rounding.

V: TRUCK CRASHES

This section summarizes data on crashes involving trucks. On the accident report form, trucks are identified as any of the following eight types of vehicles: (1) two-axle, six-tire single unit truck or stepvan, (2) three-or-more-axle single unit truck, (3) single-unit truck with trailer, (4) truck tractor with no trailer, (5) truck tractor with semi-trailer, (6) truck tractor with double trailers, (7) truck tractor with triple trailers, (8) heavy truck of other or unknown type. A crash involving any of these vehicles is classified as a truck crash. Pickup trucks and vans are not counted as trucks in this section.

Truck crashes remain high

In 1997, there were 4,991 truck crashes. This total represents a 7% decrease from the previous year. However, the total number of truck crashes for 1997 is slightly higher than the average from the previous five year period. From 1992 through 1996, there was an average of 4,927 truck crashes per year.

Deaths rise sharply

There were 90 fatal truck crashes in 1997, killing 105 people. In addition, 2,042 people were injured. Unlike other types of crashes, truck crashes resulting in severe injury have not been decreasing in the 1990s. From 1990 through 1996, the average number of deaths and injuries per year in truck crashes was 84 and 1,926 respectively.

Persons killed or injured usually in other vehicles

In a two-vehicle collision, relative vehicle weight is a recognized safety advantage. Of the 105 people killed, only 9 were truck occupants. And, of the 2,042 people injured, only 433 (21%) were truck occupants.

Contributing factors similar for truck and nontruck drivers

Reporting officers indicated they could determine no clear contributing factor for 39% of the truck drivers and for 43% of the other vehicle drivers.

Truck drivers were less likely to be alcohol-impaired than non-truck drivers. For the truck drivers, 10 were reported to have been drinking, and 12 were reported to have been under the influence, compared with 32 and 71, respectively, for the non-truck drivers. Defective vehicular factors were far more common on trucks than on the other vehicles. Not including "skidding", vehicular factors were reported 298 times compared to just 54 times for the other vehicles. Otherwise, contributing factors were similar for the two groups. Driver inattention or distraction (22% for truck drivers and 23% for non-truck drivers), and illegal or unsafe speed (10% and 12%, respectively) were the top two factors cited for both.

Truck crashes are workday related

Truck crashes appear about equally distributed across warm-weather and cold-weather months, but they are very strongly tied to the workday. In 1997, Monday through Friday averaged 902 truck crashes per day, compared to just 240 on the average Saturday or Sunday.

Driving conditions

Driving conditions are usually good in Minnesota, and most truck crashes occurred on dry roads in clear weather. However, 20% of the fatal crashes and 33% of the 1,389 injury crashes occurred on road surfaces reported to be wet, or to be covered with snow or slush, or with ice or packed snow.

Truck crashes in rural areas

For this report, rural is defined as an area that has less than 5,000 population. Eighty-three percent of the fatal truck crashes, and 48% of the injury crashes occurred in rural areas. A majority (64%) of the fatal truck crashes occurred on U.S. Trunk or State Trunk Highways.

TABLE 5.01

	1988	1989	1990	1991	1992	1993	1994	1995	1996	1997
Total Crashes	7,038	7,381	6,712	5,152	4,463	4,931	5,132	4,752	5,358	4,991
Fatal Crashes	70	77	70	72	65	63	81	77	60	90
Persons Killed	78	94	83	85	84	77	94	86	79	105
Injury Crashes	1,729	1,784	1,652	1,250	1,213	1,268	1,369	1,277	1,473	1,389
Severe	282	247	225	137	167	148	151	153	176	163
Moderate	604	586	617	477	418	452	481	470	516	505
Minor	843	951	810	636	628	668	737	654	781	721
Persons Injured	2,444	2,411	2,390	1,762	1,721	1,764	1,902	1,869	2,074	2,042
Severe	362	293	285	179	222	198	203	196	217	215
Moderate	856	777	876	667	560	598	630	645	708	721
Minor	1,226	1,341	1,229	916	939	968	1,069	1,028	1,149	1,106
Property Damage										
Crashes	5,239	5,520	4.990	3.830	3,185	3,600	3.682	3.398	3.825	3.512

TRUCK CRASH SUMMARY, 1988 - 1997

TABLE 5.02

PERSONS KILLED OR INJURED IN 1997 TRUCK CRASHES BY VEHICLE OCCUPIED

		Injured						
Vehicle Type	Killed	Severe	Moderate	Minor	Total			
Automobile	60	129	383	596	1,108			
Pickup Truck	16	28	77	112	217			
Van	6	12	65	92	169			
Police or Fire Department Vehicle	0	1	1	2	4			
School Bus	4	2	6	18	26			
Snowmobile	0	1	0	1	2			
Farm Equipment	0	1	0	3	4			
Motorcycle	2	4	7	1	12			
Hit and Run Vehicle	0	0	1	4	5			
Two-Axle, Six-Tire Single								
Unit Truck or Stepvan	1	5	42	77	124			
Three or More Axle Single Unit Truck	1	9	28	31	68			
Single Unit Truck with Trailer	2	2	12	17	31			
Truck Tractor with No Trailer	1	0	7	3	10			
Truck Tractor with Semi Trailer	4	11	69	114	194			
Truck Tractor with Twin Trailers	0	0	0	1	1			
Heavy TruckOther or Unknown Type	0	0	3	2	5			
Other or Unknown Vehicle Type	1	2	10	13	25			
Bicycle	1	6	4	8	18			
Pedestrian	6	2	6	11	19			
Total	105	215	721	1,106	2,042			
	Attrib	uted to	Attribu	ted to				
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	Truck V	Vehicles	Non-Truck	<u>Vehicles</u>				
Contributing Factors	Number	Percent	Number	Percent				
Human Factors								
Driver Inattention/Distraction	953	22.5%	814	22.7%				
Illegal or Unsafe Speed	424	10.0	430	12.0				
Failure to Yield Right of Way	370	8.7	370	10.3				
Improper or Unsafe Lane Use	307	7.2	295	8.2				
Following Too Closely	256	6.0	208	5.8				
Improper Turn	209	4.9	63	1.8				
Vision Obscurred	150	3.5	98	2.7				
Unsafe Backing	139	3.3	20	0.6				
Disregard for Traffic Control Device	92	2.2	102	2.8				
Improper Passing or Overtaking	64	1.5 -	156	4.4				
Improper Parking, Starting, or Stopping	64	1.5	56	1.6				
Driver Inexperience	61	1.4	82	2.3				
Physical Impairment	49	1.2	103	2.9				
Driving Left of Center (Not Passing)	38	0.9	72	2.0				
Improper/No Signal	22	0.5	16	0.4				
Impeding Traffic	8	0.2	14	0.4				
Driver on Phone/CB/2-Way Radio	5	0.1	4	0.1				
Failure to Use Lights	2	0.0	3	0.1				
Other Human Factors	35	0.8	38	1.1				
Vehicular Factors								
Skidding	149	3.5	180	5.0				
Defective Brakes	89	2.1	15	0.4				
Oversize/Overweight Vehicle	55	1.3	3	0.1				
Defective Tire	29	0.7	7	0.2				
Defective Lights	15	0.4	11	0.3				
Other Vehicular Factor	110	2.6	18	0.5				
Miscellaneous Factors			i					
Weather	371	8.8	305	8.5				
Other	167	4.0	96	2.7				
	<u></u>		n, n, an					
Total Contributing Factors Cited	4,233	100%	3,579	100%				
Vehicles for Which There Was								
"No Clear Contributing Factor"	2 025		1 936					
Total Number of Vehicles	5,188		4,540					

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."

Driver Age	Truck or Truck Tractor	Truck with Semi-Trailer	Truck with Twin Trailer	Truck with Other Trailer	Total
15 - 19	75	20	0	13	108
20 - 24	258	172	0	48	478
25 - 29	290	312	2	51	655
30 - 34	313	357	5	52	727
35 - 39	285	422	7	56	770
40 - 44	210	362	7	52	631
45 - 49	172	364	7	31	574
50 - 54	124	281	4	27	436
55 - 59	93	177	7	20	297
60 - 64	52	98	1	22	173
65 & Older	43	57	0	24	124
Not Stated	16	25	0	4	45
Total [*]	1,931	2,647	40	400	5,018

AGE OF TRUCK DRIVERS IN 1997 CRASHES

* There were 5,188 trucks in crashes in 1997. However, 152 of these were parked vehicles. The driver could not be identified for an additional 18 of these trucks. This table tabulates the ages of drivers for the remaining 5,018 trucks where it was possible to identify a driver.

TABLE 5.05

DRIVERS IN 1997 TRUCK CRASHES BY PHYSICAL CONDITION*

	<u> </u>	Driver	<u>Other</u>	<u>Driver</u>
Physical Condition	Number	Percent	Number	Percent
Normal	4,637	92.4	3,792	88.1
Under the Influence	12	0.2	71	1.7
Had Been Drinking	10	0.2	32	0.7
Had Been Using Drugs	1	0.0	2	0.0
Asleep	18	0.4	19	0.4
Fatigued	19	0.4	12	0.3
III -	7	0.1	9	0.2
Other	14	0.3	13	0.3
Unknown	300	6.0	353	8.2
Total **	5,018	100%	4,303	100%

* As noted by police officer on accident report.

** There were 5,188 trucks in crashes in 1997. However, 152 were parked. The driver could not be identified for an additional 18. This table tabulates the apparent physical condition of drivers for the remaining 5,018 trucks where it was possible to identify a driver. Also, there were 4,540 non-truck motor vehicles in 1997 truck crashes. However, 182 of them were parked, and there were 55 more for which a driver could not be identified, leaving 4,303 for which an apparent physical condition was recorded.

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			Property			
	Fatal	Injury	Damage	Total		
First Harmful Event	Crashes	Crashes	Crashes	Crashes	Killed	<u>Injured</u>
Collision With:						
Other Motor Vehicle	76	1,076	2,521	3,673	90	1,689
Parked Motor Vehicle	1	42	204	247	1	59
Railroad Train	1	2	8	11	1	2
Bicycle	1	17	0	18	1	18
Pedestrian	4	10	0	14	4	12
Deer	0	2	38	40	0	2
Other Animal	0	4	19	23	0	4
Fixed Object	4	71	308	383	5	81
Other Object	0	8	24	32	0	10
Non-Collision:						
Overturn	3	139	185	327	3	146
Fire or Explosion	0	1	18	19	0	1
Other	0	17	187	204	0	18
Total	90	1,389	3,512	4,991	105	2,042

1997 TRUCK CRASHES BY FIRST HARMFUL EVENT

TABLE 5.07

1997 TRUCK CRASHES BY MONTH

			Property			
	Fatal	Injury	Damage	Total		
Month	Crashes	Crashes	Crashes	Crashes	Killed	Injured
January	4	178	493	675	4	251
February	4	69	225	298	5	97
March	3	101	311	415	4	143
April	12	88	178	278	16	163
May	6	102	231	339	7	138
June	8	123	294	425	10	187
July	8	121	305	434	11	169
August	9	145	281	435	10	209
September	6	120	284	410	6	180
October	15	129	326	470	16	183
November	9	135	354	498	9	211
December	6	78	230	314	7	111
Total	90	1,389	3,512	4,991	105	2,042

Time of Day	Total	Sunday	Monday	Tuesday	Wednesday	Thursday	Friday	Saturday
Midnight - 2:59 AM	102	7	8	12	14	19	20	22
3:00 - 5:59 AM	134	12	17	31	24	13	32	5
6:00 - 8:59 AM	818	14	146	176	146	161	149	26
9:00 - 11:59 AM	1,067	27	189	223	184	181	204	59
Noon - 2:59 PM	1,073	38	205	203	192	169	213	53
3:00 - 5:59 рм	1,073	51	186	187	186	197	214	52
6:00 - 8:59 PM	361	38	49	59	41	75	73	26
9:00 - 11:59 рм	227	20	41	30	28	58	34	16
Unknown	136	6	27	27	19	25	24	8
Total	4,991	213	868	948	834	898	963	267

1997 TRUCK CRASHES BY TIME AND DAY



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			Property			
Road Surface	Fatal	Injury	Damage	Total		
Condition	Crashes	Crashes	Crashes	Crashes	Killed	Injured
Dry	69	913	2,162	3,144	82	1,327
Wet	6	184	476	666	7	276
Snow or Slush	2	70	211	283	3	102
Ice or Packed Snow	10	205	603	818	10	309
Other	3	13	22	38	3	22
Unknown	0	4	38	42	0	6
Total	90	1,389	3,512	4,991	105	2,042

1997 TRUCK CRASHES BY ROAD SURFACE CONDITION

TABLE 5.10

			Property			
	Fatal	Injury	Damage	Total		
Weather Condition	Crashes	Crashes	Crashes	Crashes	Killed	Injured
Clear	50	661	1,707	2,418	59	966
Cloudy	24	404	986	1,414	28	572
Rain	2	89	209	300	2	130
Snow	3	122	350	475	3	179
Sleet/Hail/Freezing Rain	2	15	43	60	3	31
Fog/Smog/Smoke	2	20	21	43	2	32
Blowing Sand/Dust/Snow	5	58	116	179	6	97
Severe Cross Winds	0	9	22	31	0	15
Other	1	2	7	10	1	8
Unknown	1	9	51	61	1	12
Total	90	1,389	3,512	4,991	105	2,042

1997 TRUCK CRASHES BY WEATHER CONDITION

			Property			
Population of	Fatal	Injury	Damage	Total		
City or Township	Crashes	Crashes	Crashes	Crashes	Killed	Injured
100,000 & Over	4	207	591	802	4	287
50,000 - 99,999	2	123	292	417	2	163
25,000 - 49,999	2	166	477	645	3	249
10,000 - 24,999	4	150	486	640	4	207
5,000 - 9,999	3	71	269	343	3	93
2,500 - 4,999	3	53	124	180	3	78
1,000 - 2,499	2	30	104	136	2	51
Under 1,000	70	589	1,169	1,828	84	914
Total	90	1,389	3,512	4,991	105	2,042

1997 TRUCK CRASHES BY POPULATION OF AREA

TABLE 5.12

Property Fatal Injury Damage Total Roadway Type Crashes Crashes Crashes Crashes Killed Injured Interstate Highway 10 403 9 276 832 1,117 US Trunk Highway 28 267 559 854 34 403 479 State Trunk Highway 30 308 704 1,042 34 912 26 421 County State-Aid Highway 22 288 602 County Road 0 21 45 66 0 28 Township Road 27 47 75 34 1 1

699

3,512

24

199

1,389

3

0

0

90

1997 TRUCK CRASHES BY TYPE OF ROADWAY

Local Street

Other Road

Total

898

27

4,991

0

0

105

271

2,042

3

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.

Pedestrian crashes increase in 1997

In 1997, there were 1,419 crashes in which a pedestrian was injured or killed by a motor vehicle. This figure represents a 3% increase in the number of pedestrian crashes that occurred in 1996. However, the 1997 total is close to the average number of pedestrian crashes from the previous five year period. From 1992 through 1996, the average number of pedestrian crashes was 1,409.

Deaths and injuries also increase

Pedestrians killed and pedestrians injured also increased. Fifty-eight pedestrians were killed, a 26% increase, and 1,434 were injured, a 3% increase from the previous year. In 1997, about four percent of pedestrian crashes resulted in a death, compared to about one-half of one percent for all crashes.

Young people at greater risk

In all pedestrian crashes, persons less than 20 years of age accounted for 41% of the persons killed or injured. The numbers of people injured mostly decreased as age increased. Males were more likely than females to be injured, as male pedestrians outnumbered females as victims by about 25%. Pedestrian injuries and fatalities both appear evenly distributed across months of the year.

Urban areas

In 1997, only 16% of the non-fatal pedestrian crashes occurred in rural areas (defined as less than 5,000 population). In 1997, almost one out of every three (31%) pedestrian crashes occurred during the weekday rush-hour driving time periods. These time periods are defined as from 6:00-9:00 am, and from 3:00-6:00 pm on the days Monday through Friday.

Prior actions of vehicles and pedestrians

Regarding the motor vehicles that were involved in pedestrian crashes in 1997, 55% of them were simply going straight ahead on the roadway prior to the crash. An additional 23% of the motor vehicles involved were making a right or left turn. As might be expected, a high percentage (52%) of the pedestrians were often trying to cross the road when the crash occurred.

Contributing factors

For 38% of the motor vehicle drivers in pedestrian crashes, the reporting officer indicated that there had been "no clear contributing factor" to the crash. For those where a factor was cited, two were mentioned much more than the others: driver inattention or distraction (29%), and failure to yield the right of way (23%.).

Pedestrians and alcohol

Of the 58 pedestrians killed, 40 were tested for alcohol. Of those tested, roughly one-quarter (11 of the 40) tested positive. About 23% had concentrations over the legal driving limit of .10. All 11 of the pedestrians who tested positive were greater than 20 years of age.

PEDES	STRIAN C	RASH	SUMMARY,	1988 -	1997

	1988	1989	1990	1991	1992	1993	1994	1995	1996	1997
Pedestrian Crashes	1,575	1,591	1,512	1,338	1,420	1,383	1,409	1,458	1,378	1,419
Pedestrians Killed	69	67	65	61	46	47	53	49	46	58
Pedestrians Injured	1,566	1,578	1,499	1,339	1,424	1,390	1,400	1,471	1,388	1,434

TABLE 6.02

PEDESTRIANS KILLED OR INJURED BY AGE AND GENDER, 1997

									Inj	<u>ured</u>					
Age		Kille	ed		Seve	re	N	loder	ate		Mino	<u>r</u>		Tota	
Group	_M_	F	<u>Total</u>	M	F	<u>Total*</u>	<u>M</u>	F	Total*	M	F	Total*	M	F_	Total*
0 - 4	4	2	6	6	2	8	20	6	27	16	8	27	42	16	62
5 - 9	3	2	5	27	14	41	33	18	52	45	26	75	105	58	168
10 - 14	1	4	5	12	18	32	35	38	75	37	35	76	84	91	183
15 - 19	2	1	3	18	14	32	29	32	61	30	23	57	77	69	150
20 - 24	3	1	4	10	11	21	20	16	36	29	31	60	59	58	117
25 - 29	1	0	1	6	3	9	28	11	39	23	23	46	57	37	94
30 - 34	4	1	5	9	9	18	25	17	42	24	18	45	58	44	105
35 - 39	1	2	3	7	6	13	23	15	38	23	17	40	53	38	91
40 - 44	2	1	3	14	6	20	15	18	33	17	8	26	46	32	79
45 - 49	0	2	2	7	3	10	13	10	23	14	16	30	34	29	63
50 - 54	3	1	4	4	9	13	7	9	16	9	13	22	20	31	51
55 - 59	1	0	1	4	4	8	4	3	7	6	7	14	14	14	29
60 - 64	1	1	2	1	0	1	5	4	9	9	7	16	15	11	26
65 - 69	1	2	3	3	3	6	3	3	6	8	6	14	14	12	26
70 - 74	2	0	2	2	3	5	3	4	7	4	5	9	9	12	21
75 - 79	2	4	6	1	3	4	3	3	6	4	11	15	8	17	25
80 - 84	1	1	2	1	2	3	2	3	5	3	2	6	6	7	14
85 & Older	0	1	1	2	4	6	6	2	8	1	3	4	9	9	18
Not Stated	0	0	00	4	2	6	18	7	25	29	20	81	51	29	112
Total	32	26	58	138	116	256	292	219	515	331	279	663	761	614	1,434

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





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	Fatal	Injury	Total	Pedestrians	Pedestrians
<u>Month</u>	Crashes	Crashes	Crashes	Killed	Injured
January	5	118	123	5	125
February	1	101	102	1	107
March	2	100	102	2	105
April	5	100	105	6	102
May	2	119	121	2	123
June	2	103	105	2	107
July	4	109	113	5	112
August	7	132	139	6	143
September	6	119	125	7	124
October	10	128	138	10	138
November	6	141	147	6	151
December	6	93	99	6	97
Total	56	1,363	1,419	58	1,434

1997 PEDESTRIAN CRASHES BY MONTH

TABLE 6.04

1997 PEDESTRIAN CRASHES BY POPULATION OF AREA

Population of	Fatal	Injury	Total	Pedestrians	Pedestrians
<u>City or Township</u>	Crashes	Crashes	Crashes	Killed	Injured
100,000 and Over	17	674	691	18	701
50,000 - 99,999	5	95	100	6	99
25,000 - 49,999	7	113	120	7	121
10,000 - 24,999	5	183	188	5	196
5,000 - 9,999	0	76	76	0	78
2,500 - 4,999	3	33	36	3	35
1,000 - 2,499	1	17	18	1	20
Under 1,000	18	172	190	18	184
Total	56	1,363	1,419	58	1,434

	Fatal	Total							
Time of Day	Crashes	Crashes	Sunday	Monday	Tuesday	Wednesday	Thursday	Friday	<u>Saturday</u>
Midnight 2:59 AM	2	63	14	9	4	4	4	9	19
3:00 - 5:59 AM	2	19	8	1	2	1	3	2	2
6:00 - 8:59 AM	6	140	5	26	26	32	24	25	2
9:00 - 11:59 AM	5	145	12	20	12	23	20	39	19
Noon - 2:59 PM	8	212	31	33	32	23	35	29	29
3:00 - 5:59 pm	11	374	31	55	56	58	71	70	33
6:00 - 8:59 PM	15	256	27	32	27	35	47	53	35
9:00 - 11:59 pm	5	144	10	15	21	18	19	29	32
Unknown	2	66	5	6	17	9	9	9	11
Total	56	1,419	143	197	197	203	232	265	182

1997 PEDESTRIAN CRASHES BY TIME AND DAY



Action	Vehicles in Fatal Crashes	Vehicles in Injury Crashes	Vehicles in Total Crashes*
Going Straight	39	789	828
Wrong Way Opposing Traffic	0	5	5
Turning Right on Red	0	29	29
Turning Left on Red	0	2	2
Turning Right	3	112	115
Turning Left	2	206	208
Making U Turn	1	6	7
Starting From Parked	0	29	29
Starting in Traffic	0	27	27
Slowing in Traffic	0	19	19
Parking	0	2	2
Avoiding Object in Road	4	12	16
Changing Lanes	1	8	9
Passing	1	13	14
Backing	1	57	58
All Others	2	95	97
Unknown	6	41	47
Total	60	1,452	1,512

PRIOR ACTION OF VEHICLES IN 1997 PEDESTRIAN CRASHES

* 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 1997

	Pedestria	ins Killed	<u>Pedestrians Injured</u>		
Action	Number	Percent	Number	Percent	
Crossing Road (No Crosswalk					
and No Signal)	21	36.2%	350	24.4%	
Crossing Against Signal	2	3.4	86	6.0	
Crossing With Signal	2	3.4	211	14.7	
Crossing In Crosswalk (No Signal)	3	5.2	108	7.5	
Walking In Road With Traffic	3	5.2	97	6.8	
Walking In Road Against Traffic	6	10.3	73	5.1	
Standing In Road	4	6.9	75	5.2	
Emerging From Front/Behind					
Parked Car	0	0.0	68	4.7	
Child Getting On/Off School Bus	0	0.0	6	0.4	
Pushing/Working On Vehicle	1	1.7	3	0.2	
Working In Road	1	1.7	11	0.8	
Getting On/Off Vehicle	0	0.0	16	1.1	
Plaving In Road	1	1.7	27	1.9	
Not In Road	4	6.9	34	2.4	
Other Pedestrian Action	5	8.6	110	7.7	
Unknown	5	8.6	159	11.1	
Total*	58	100.0%	1.434	100.0%	

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

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CONTRIBUTING FACTORS IN 1997 PEDESTRIAN CRASHES

	Attributed to			
	<u>Motor Veh</u>	icle Drivers		
Contributing Factors	Number	Percent		
Human Factors	7 40	00.004		
Driver Inattention / Distraction	343	29.2%		
Failure to Yield Right of Way	272	23.2		
Vision Obscured	110	9.4		
Illegal or Unsafe Speed	64	5.5		
Disregard for Traffic Control Device	40	3.4		
Improper / Unsafe Lane Use	33	2.8		
Unsafe Backing	31	2.6		
Improper Turn	26	2.2		
Physical Impairment	25	2.1		
Driver Inexperience	22	1.9		
Improper Parking / Starting /Stopping	16	1.4		
Improper Passing / Overtaking	6	0.5		
Driving Left of Center	5	0.4		
Following Too Closely	4	0.3		
Failure to Use Lights	4	0.3		
Impeding Traffic	2	0.2		
Driver on Phone/CB/2-Way Radio	1	0.1		
Other Human Factors	26	2.2		
Vehicular Factors				
Skidding	37	3.2		
Defective Equipment	4	0.3		
Other Vehicular Factors	4	0.3		
Miscellaneous Factors				
Weather Conditions	39	3.3		
Other	60	5.1		
Total Contributing Factors Cited	1,174	100.0%		
17-1 '-1 C 1171 '-1- TT 117				
venicies for which There was	5.00			
"No Clear Contributing Factor"	569			
Total Number of Drivers	1,512			

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.

PEDESTRIAN FATALITIES' LEVEL OF ALCOHOL CONCENTRATION, 1988 - 1997

			Alcohol Concentration*						
Year	Killed	Tested	(.00)	(.0109)	(.10 or more)				
1988	69	47	25 (53%)	2 (4%)	20 (43%)				
1989	67	42	26 (62%)	4 (10%)	12 (29%)				
1990	65	41	25 (61%)	1 (2%)	15 (37%)				
1991	61	32	20 (63%)	1 (3%)	11 (34%)				
1992	46	24	17 (71%)	1 (4%)	6 (25%)				
1993	47	17	9 (53%)	0 (0%)	8 (47%)				
1994	53	26	18 (69%)	1 (4%)	7 (27%)				
1995	49	38	24 (63%)	2 (5%)	12 (32%)				
1996	46	34	23 (68%)	0 (0%)	11 (32%)				
1997	58	40	29 (73%)	2 (5%)	9 (23%)				

* 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

1997 PEDESTRIAN FATALITIES' LEVEL OF ALCOHOL CONCENTRATION BY AGE

			Alcohol Concentration				
Age Group	Killed	Tested	(.00)	(.0109)	(.10 or more)		
14 & Younger	16	9	9	0	0		
15 - 19	3	2	2	0	0		
20 - 24	4	4	3	0	1		
25 - 29	1	1	0	0	1		
30 - 34	5	3	0	1	2		
35 - 39	3	2	0	0	2		
40 - 44	3	2	2	0	0		
45 - 49	2	2	1	0	1		
50 - 54	4	4	1	1	2		
55 - 59	1	1	1	0	0		
60 - 64	2	2	2	0	0		
65 - 69	3	1	1	0	0		
70 - 74	2	2	2	0	0		
75 - 79	6	3	3	0	0		
80 - 84	2	2	2	0	0		
85 & Older	1	0	0	0	0		
Total	58	40	29	2	9		

1997 PEDESTRIAN FATALITIES' LEVEL OF ALCOHOL CONCENTRATION BY TIME OF DAY

				Alcohol Conc	entration
Time of Day	Killed	Tested	(.00)	(.0109)	<u>(.10 or more)</u>
Midnight - 2:59 AM	2	2	0	0	2
3:00 - 5:59 AM	2	2	1	0	1
6:00 - 8:59 AM	7	4	4	0	0
9:00 - 11:59 AM	5	2	2	0	0
Noon - 2:59 PM	8	5	5	0	0
3:00 - 5:59 PM	12	7	7	0	0
6:00 - 8:59 pm	15	13	8	1	4
9:00 - 11:59 рм	5	5	2	1	2
Unknown	2	0	0	» 0	0
				14	
Total	58	40	29	2	9

VII: BICYCLE CRASHES

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

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

Bicycle crashes and injuries increase

In 1997, there were 1,384 bicycle crashes and 1,348 bicyclists who were injured in Minnesota. This represents a 4% increase in crashes from the previous year, and a 5% increase in the number of injuries to bicyclists.

Low number of fatalities again in 1997

There were 7 bicyclist fatalities in Minnesota during the 1997 calendar year. This number is lower than the average number of deaths from the previous five year period. From 1992 through 1996, the average number of bicyclist fatalities was 9.4.

Young people at risk

Of all the bicyclists in 1997 who were injured or killed in a bicycle/motor vehicle traffic crash, 61% were under 20 years of age. This percentage includes 5 out of the 7 bicyclist fatalities.

Warm weather

As expected, bicycle crashes are mostly a warm weather occurrence. In 1997, all 7 fatalities, 78% of the crashes, and 78% of the injuries occurred in the five month period of May through September.

Afternoon rush-hour

Bicycle crashes in 1997 were most prevalent in the three hour time period of 3:00-6:00 pm. More than one-third (36%) of all bicycle crashes occurred during this period.

Big cities

As a general rule, traffic crashes involving a bicycle and a motor vehicle occur in high population areas. This rule applied once again in 1997. Almost 40% of all bicycle crashes occurred in cities where the population was over 100,000 people. Only 15% of all bicycle crashes occurred in cities defined as rural. (Less than 5,000 people).

Males injured most often

In 1997, all 7 of the bicyclist fatalities, and 73% of bicyclist injuries were male. In other words, males were injured three times as often as females (988 to 332).

Actions by bicyclists prior to crash

Bicyclists are supposed to ride with traffic. The most commonly occurring action by bicyclists prior to the crash (for 478, or 34% of the total) was attempting to ride across the trafficway. (However, the prior action was indicated as "other" or "unknown" for a full 40% of the bicyclists.)

Contributing factors

There were four contributing factors that officers reported relatively frequently for bicyclists. These were failure to yield the right of way (cited 22% of the time), inattention or distraction (21%), improper or unsafe lane use (10%), and disregard for traffic control device (10%). For the motor vehicle drivers, two factors accounted for 61% of the contributing factors cited, and thus stood out more than the others. These two were driver inattention or distraction (34%), and failure to yield the right-of-way (28%).

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BICYCLE CRASH SUMMARY, 1988 - 1997

	1988	1989	1990	1991	1992	1993	1994	1995	1996	1997
Bicycle Crashes	1,448	1,392	1,357	1,208	1,343	1,321	1,436	1,333	1,337	1,384
Bicyclists Killed	16	10	8	8	11	9	16	5	6	7
Bicyclists Injured	1,401	1,353	1,327	1,157	1,249	1,240	1,359	1,283	1,281	1,348

TABLE 7.02

1997 BICYCLE CRASHES BY MONTH

			Property			
	Fatal	Injury	Damage	Total	Bicyclists	Bicyclists
Month	Crashes	Crashes	Crashes	Crashes	Killed	Injured
January	0	5	0	5	0	5
February	0	8	3	11	0	8
March	0	26	0	26	0	26
April	0	83	2	85	0	83
May	0	151	9	160	0	152
June	1	257	13	271	1	264
July	2	210	4	216	2	215
August	2	216	4	222	2	217
September	2	193	8	203	2	198
October	0	133	5	138	0	135
November	0	23	2	25	0	24
December	0	21	1	22	0	21
Total	7	1,326	51	1,384	7	1,348



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Department of Public Safety, Office of Traffic Safety

Time of Day	Total	Sunday	Monday	Tuesday	Wednesda	<u>vThursday</u>	Friday	<u>Saturday</u>
Midnight - 2:59 AM	15	2	3	3	2	0	2	3
3:00 - 5:59 AM	3	0	0	0	1	2	0	0
6:00 - 8:59 AM	68	0	10	13	12	14	16	3
9:00 - 11:59 AM	115 .	11	22	19	13	20	10	20
Noon - 2:59 PM	267	38	40	38	38	41	36	36
3:00 - 5:59 рм	494	47	74	72	86	78	91	46
6:00 - 8:59 pm	283	24	37	45	50	40	49	38
9:00 - 11:59 рм	77	13	11	12	12	9	13	7
Unknown	62	2	13	4	9	15	8	11
Total	1,384	137	210	206	223	219	225	164

1997 BICYCLE CRASHES BY TIME AND DAY

TABLE 7.04

1997 BICYCLE CRASHES BY POPULATION OF AREA

			Property			
Population of	Fatal	Injury	Damage	Total	Bicyclists	Bicyclists
City or Township	Crashes	Crashes	Crashes	Crashes	Killed	Injured
100,000 and Over	3	508	27	538	3	517
50,000 - 99,999	0	114	3	117	0	117
25,000 - 49,999	0	188	9	197	0	192
10,000 - 24,999	0	237	7	244	0	240
5,000 - 9,999	1	77	2	80	1	76
2,500 - 4,999	0	38	0	38	0	40
1,000 - 2,499	0	27	0	27	0	27
Under 1,000	3	137	3	143	3	139
Total	7	1,326	51	1,384	7	1,348



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					Injured										
	F	Killed			<u>Sever</u>	e	<u>I</u>	Modera	ite		<u>Minc</u>	or		<u>Total</u>	
Age Group	M	ΓŢ	otal	M	F	<u>Total*</u>	M	F	Total*	M	F	<u>Total*</u>	M	F	Total*
0 - 4	0	0	0	0	0	0	5	0	5	1	2	3	6	2	8
5 - 9	2	0	2	16	5	21	80	30	111	46	23	71	142	58	203
10 - 14	1	0	1	32	14	46	133	63	198	131	41	173	296	118	417
15 - 19	2	0	2	11	5	16	75	32	107	58	16	76	144	53	199
20 - 24	0	0	0	10	1	11	33	12	46	35	13	48	78	26	105
25 - 29	1	0	1	10	3	13	29	10	39	34	6	41	73	19	93
30 - 34	0	0	0	8	0	8	22	8	30	26	2	28	56	10	66
35 - 39	0	0	0	5	0	5	15	6	21	22	4	26	42	10	52
40 - 44	0	0	0	4	2	6	25	5	30	18	3	21	47	10	57
45 - 49	1	0	1	1	0	1	11	5	16	8	3	11	20	8	28
50 - 54	0	0	0	1	0	1	6	3	9	5	0	5	12	3	15
55 - 59	0	0	0	0	0	0	6	1	7	2	1	3	8	2	10
60 - 64	0	0	0	0	0	0	5	0	5	3	2	5	8	2	10
65 - 69	0	0	0	0	0	0	2	0	2	2	0	2	4	0	4
70 - 74	0	0	0	0	0	0	1	0	1	2	0	2	3	0	3
75 & Older	0	0	0	1	2	3	5	0	5	0	1	1	6	3	9
Not Stated	0	0	0	3	0	3	13	3	17	27	5	49	43	8	69
Total	7	0	7	102	32	134	466	178	649	420	122	565	988	332	1,348

BICYCLISTS KILLED OR INJURED BY AGE AND GENDER, 1997

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* 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 1997 CRASHES

			Bicyclists	
	Bicyclists	Bicyclists	In Property	Bicyclists
	In Fatal	In Injury	Damage	In All
Prior Action	Crashes	Crashes	Crashes	Crashes*
Riding With Traffic	1	170	4	175
Riding Against Traffic	0	149	3	152
Making Left Turn	0	22	0	22
Making Right Turn	0	7	0	7
Making U Turn	0	5	0	5
Riding Across Road	2	457	19	478
Other/Unknown	4	532	25	561
Total	7	1,342	51	1,400

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

	Attrib <u>Bicy</u>	uted to clists	Attributed to Motor Vehicle Drivers		
Contributing Factors	Number	Percent	Number	Percent	
Human Factors					
Failure to Yield Right of Way	243	22.1%	249	27.8%	
Driver Inattention/Distraction	231	21.0	303	33.9	
Improper / Unsafe Lane Use	113	10.3	25	2.8	
Disregard for Traffic					
Control Device	110	10.0	23	2.6	
Driver Inexperience	75	6.8	8	0.9	
Vision Obscured	41	3.7	118	13.2	
Illegal or Unsafe Speed	30	2.7	35	3.9	
Driving Left of Center	30	2.7	6	0.7	
Failure to Use Lights	29	2.6	0	0.0	
Improper Turn	16	1.5	21	2.3	
Physical Impairment	15	1.4	11	1.2	
Improper Parking/Starting/Stop.	12	1.1	12	1.3	
Following Too Closely	6	0.5	8	0.9	
Improper Passing/Overtaking	5	0.5	10	1.1	
Impeding Traffic	5	0.5	2	0.2	
Improper/No Signal	4	0.4	0	0.0	
Driver on Phone/CB/2-Way Radio	1	0.1	3	0.3	
Unsafe Backing	0	0.0	5	0.6	
Other Human Factors	25	2.3	8	0.9	
Vehicular Factors					
Defective Equipment	23	2.1	0	0.0	
Skidding	5	0.5	6	0.7	
Other Vehicular Factors	3	0.3	0	0.0	
Miscellaneous Factors					
Weather Conditions	3	0.3	7	0.8	
Other	75	6.8	35	3.9	
Total	1,100	100.0%	895	100.0%	
Vehicles for Which There Was					
"No Clear Contributing Factor"	355		649		
Total Number of Bicyclists/Drivers	1,400		1,403		

CONTRIBUTING FACTORS IN 1997 BICYCLE CRASHES

Zero, one, or two contributing factors may be attributed to a single driver or bicyclist. This may cause the sum of the factors cited to differ from the number of drivers or bicyclists. Percentages are based on all contributing factors cited. They may not sum to 100 due to rounding.

VIII: SCHOOL BUS CRASHES

As a general rule, school bus travel is very safe. The school bus is usually a large and heavy vehicle that provides good protection for its occupants. However, since buses can carry many passengers, serious crashes could potentially cause many injuries. Crashes included in this section are those in which at least one school bus was physically involved. Note that in some cases, a crash could be seen as involving a school bus, yet not be counted as a school bus crash. For example, one such case would be a crash in which a person gets off the bus, crosses a street, and is struck by another vehicle.

Number of crashes remain high

The average number of school bus crashes per year from 1991 through 1995 was 842. There were 961 school bus crashes in 1997, the second highest number ever recorded. (There were 1,041 school bus crashes in 1996). However, almost 78% of the 1997 crashes were property damage only. This is a 2% increase from the average of the previous 6 years.

Seven deaths in 1997

In 1997, there were four fatal school bus crashes which resulted in seven deaths. The average number of deaths per year from 1991 through 1995 was 2.4. (There were 8 deaths in 1996). Of the 7 deaths in 1997, 3 were persons that were riding on a school bus, one was a school bus driver, and 3 were drivers of other motor vehicles.

Number of injuries drop

Of the total school bus crashes in 1997, only 22% (211 out of 961) were injury crashes, resulting in 408 injured persons. This represents a 14% drop in the number of injuries from the previous year. Of the 408 total injuries in 1997, 197 were occupants of a school bus, 193 were occupants of other motor vehicles, and 18 were pedestrians.

School year and school day

As expected, school bus crashes in 1997 mainly occurred during the school year. Only 47 (5%) of the crashes occurred during the summer months, June, July, and August.

Of the 961 total school bus crashes, 569 (59%) occurred between 6:00 and 9:00 AM or between 3:00 and 6:00 PM.

More than one vehicle involved

Eighty-five percent of school bus crashes involved a collision with another moving motor vehicle, and an additional 10% involved collisions with a parked motor vehicle. Less than 2% of school bus crashes involved a collision with a pedestrian.

No traffic control device

Many (42%) of the school bus crashes occurred where there was no traffic control device. Only 3% of the crashes occurred when the school bus stop arm was deployed.

Contributing factors

Though there were 961 school bus crashes in 1997, a few involved more than one school bus. In all, there were 979 school buses in crashes. For 48% of the school bus drivers, police showed there was "no clear contributing factor." This compares favorably to the 30% of other motor vehicle drivers for whom there was "no clear contributing factor." For the school bus two contributing drivers, factors were significant. These were: driver inattention or distraction (22%), and failure to yield the right of way (14%). For the other motor vehicle drivers, three contributing factors were significant: driver inattention or distraction (19%), failure to yield the right of way (12%), and illegal or unsafe speed (11%).

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SCHOOL BUS CRASH SUMMARY, 1988 - 1997

	1988	1989	1990	1991	1992	1993	1994	1995	1996	1997
Total Crashes	679	828	674	857	741	894	821	898	1,041	961
Fatal Crashes	3	4	5	4	1	3	2	2	6	4
Persons Killed	3	4	6	4	1	3	2	2	8	7
Injury Crashes	175	167	149	181	169	212	210	216	241	211
Persons Injured	359	281	329	383	425	432	401	457	472	408
Property Damage										
Crashes	501	657	520	672	571	679	609	680	794	746
School Buses Involved	684	834	680	867	756	909	844	906	1,050	979

TABLE 8.02

1997 SCHOOL BUS CRASHES BY TIME OF DAY

			Property			
	Fatal	Injury	Damage	Total		
Time of Day	Crashes	Crashes	Crashes	Crashes	Killed	Injured
Midnight - 2:59 AM	0	0	0	0	0	0
3:00 - 5:59 AM	0	0	0	0	0	0
6:00 - 8:59 AM	1	59	237	297	4	125
9:00 - 11:59 AM	0	26	114	140	0	39
Noon - 2:59 PM	0	53	127	180	0	93
3:00 - 5:59 РМ	1	66	205	272	1	138
6:00 - 8:59 pm	1	3	19	23	1	9
9:00 - 11:59 pm	0	0	5	5	0	0
Unknown	1	4	39	44	1	4
Total	4	211	746	961	7	408

TABLE 8.03

1997 SCHOOL BUS CRASHES BY MONTH

			Property			
	Fatal	Injury	Damage	Total		
<u>Month</u>	Crashes	Crashes	Crashes	Crashes	Killed	Injured
January	1	37	194	232	1	66
February	1	• 22	101	124	1	36
March	0	33	80	113	0	46
April	1	14	40	55	4	46
May	0	21	50	71	0	58
June	0	4	17	21	0	8
July	0	3	14	17	0	4
August	0	2	7	9	0	8
September	0	18	59	77	0	30
October	0	26	33	59	0	53
November	1	17	105	123	1	37
December	0	14	46	60	0	16
Total	4	211	746	961	7	408

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Minnesota Motor Vehicle Crash Facts, 1997

Department of Public Safety, Office of Traffic Safety

				In Other		
Age Group	Total*	In Bus	Pedestrian	Vehicle	Male	Female
0 - 4	10	2	0	8	8	2
5-9	38	29	4	5	18	18
10 - 14	69	61	1	7	24	33
15 - 19	58	26	2	30	17	31
20 - 24	21	4	2	15	8	12
25 - 29	22	6	0	16	12	10
30 - 34	23	6	0	17	7	16
35 - 39	28	7	1	20	17	11
40 - 44	30	5	0	25	13	17
45 - 54	23	11	3	9	12	11
55 - 64	21	6	2	13	· 9	12
65 & Older	27	5	2	20	. 11	16
Unknown	38	29	1	8	12	6
Total	408	197	18	193	168	195

AGE AND GENDER OF PERSONS INJURED IN 1997 SCHOOL BUS CRASHES

* There were 45 cases where the gender of the person was not stated.

TABLE 8.05

PERSONS KILLED OR INJURED IN 1997 SCHOOL BUS CRASHES BY POPULATION OF AREA

Population of			<u> </u>	ed	
City or Township	Killed	Severe	Moderate	Minor	Total
100,000 and Over	0	4	33	80	117
50,000 - 99,999	0	1	5	6	12
25,000 - 49,999	1	4	28	25	57
10,000 - 24,999	1	8	16	56	80
5,000 - 9,999	0	1	3	5	9
2,500 - 4,999	0	0	9	6	15
1,000 - 2,499	0	0	3	13	16
Under 1,000	5	11	20	71	102
Total	7	29	117	262	408

			Property			
	Fatal	Injury	Damage	Total		
First Harmful Event	Crashes	Crashes	Crashes	Crashes	Killed	Injured
Collision With:						
Other Motor Vehicle	3	176	635	814	6	343
Parked Motor Vehicle	1	5	90	96	1	8
Bicycle	0	4	0	4	0	4
Pedestrian	0	15	0	15	0	16
Deer or Other Animal	0	0	4	4	0	0
Fixed Object	0	7	15	22	0	10
Other Object	0	0	0	0	0	0
Non-collision:						
Overturn	0	2	0	2	0	25
Other/Unknown	0	2	2	4	0	2
				ie.		
Total	4	211	746	961	7	408

1997 SCHOOL BUS CRASHES BY FIRST HARMFUL EVENT

TABLE 8.07

1997 SCHOOL BUS CRASHES BY TRAFFIC CONTROL DEVICE

			Property			
Traffic	Fatal	Injury	Damage	Total		
Control Device	Crashes	Crashes	Crashes	Crashes	Killed	<u>Injured</u>
Not Applicable	2	95	307	404	2	201
Traffic Signal	0	42	128	170	0	67
Overhead Flashers	0	2	1	3	0	3
Stop SignAll Approaches	0	2	30	32	0	2
Other Stop Sign	1	49	161	211	4	89
Yield Sign	0	5	8	13	0	9
Officer/Flagperson/						
School Patrol	0	0	4	4	0	0
School Bus Stop Arm	1	9	16	26	1	29
School Sign Zone	0	0	3	3	0	0
No Passing Zone	0	1	3	4	0	1
Railroad Crossing Device	0	0	6	6	0	0
Other	0	4	30	34	0	4
Unknown	00	2	49	51	0	3
Total	4	211	746	961	7	408

CONTRIBUTING FACTORS IN 1997 SCHOOL BUS CRASHES

	A 4491-		Attrib	uted to	
	Attrio		Other Vehicles		
Cantailantin - Eastann	School B	us privers	<u>Otner</u>	<u>venicies</u>	
Contributing Factors	Number	Percent	Number	Percent	
Human Factors	100	A A A A A A A A A A			
Driver Inattention /Distraction	109	21.8%	153	19.4%	
Failure to Yield Right of Way	/1	14.2	93	11.8	
Illegal / Unsafe Speed	34	6.8	89	11.3	
Vision Obscured	28	5.6	27	3.4	
Following Too Closely	26	5.2	62	7.9	
Improper Turn	26	5.2	14	1.8	
Improper / Unsafe Lane Use	23	4.6	24	3.0	
Unsafe Backing	22	4.4	13	1.7	
Improper Parking / Starting /			ri		
Stopping	16	3.2	21	2.7	
Driving Left of Center	11	2.2	7	0.9	
Disregard for Traffic Control					
Device	8	1.6	38	4.8	
Driver Inexperience	7	1.4	24	3.0	
Improper Passing / Overtaking	4	0.8	16	2.0	
Impeding Traffic	2	0.4	1	0.1	
Physical Impairment	2	0.4	11	1.4	
Improper or No Signal	0	0.0	1	0.1	
Pedestrian Violation or Error	0	0.0	6	0.8	
Failure To Use Lights	0	0.0	3	0.4	
Other Human Factors	5	1.0	7	0.9	
Vehicular Factors					
Skidding	35	7.0	89	11.3	
Defective Equipment	7	1.4	3	0.4	
Other Vehicular Factors	2	0.4	0	0.0	
Miscellaneous Factors					
Weather Conditions	41	8.2	66	8.4	
Other	22	4.4	19	2.4	
	·····				
Total	501	100.0%	787	100.0%	
Vehicles for Which There Was					
"No Clear Contributing Factor"	474		302		
Total Number of Drivers	979		990		

Zero, one, or two contributing factors may be attributed to a single driver. This may cause the sum of the factors cited to differ from the number of drivers. Percentages are based on all contributing factors cited. They may not sum to 100 due to rounding. Bicyclists and pedestrians are included as other drivers in this table.

IX: MOTOR VEHICLE/TRAIN CRASHES

Each crash reported in this section involves a motor vehicle and a train. Train collisions with pedestrians or bicyclists are not counted as traffic crashes for the purpose of this publication.

Statewide, about one-half of one percent of <u>all</u> motor vehicle crashes result in a fatality. In 1997, almost 6% of motor-vehicle/train crashes were fatal. That's more than ten times the rate for all crashes. Motor vehicle/train crashes may be few in number, but they are more likely to be serious and, thus, are a cause for concern.

Number of train crashes is lowest ever

Over the years, the number of motorvehicle/train crashes has been declining. There were 107 motor-vehicle/train crashes in 1997. This represents the lowest yearly total ever recorded in Minnesota. The 1997 total of 107 also represents a 14% decline from 1996 when there were 124 train crashes.

Number of fatalities and injuries also decline

The number of deaths related to motorvehicle/train crashes in 1997 was also the lowest ever recorded in Minnesota. Six crashes were fatal, resulting in 6 deaths. The number of nonfatal injury crashes declined from the previous year, as there were 36 injury crashes compared to 45 in 1996. The number of people injured in motor-vehicle/train crashes declined from 50 in 1996 to 46 in 1997.

Colder months

In 1997, motor vehicle/train crashes were most numerous in January, February, March, and December, as those four months accounted for over half (53%) of the crashes. Four out of the 6 fatalities also occurred in those months.

Railroad crossbuck sites remain dangerous

Thirty-five of the 107 train crashes, including 27 of the 46 injuries, occurred at a crossing signed by a railroad crossbuck. An additional 11 crashes, including one fatal, occurred at a railroad crossing stop sign. Combined, those two types of traffic control devices were present for 43% of the total number of train crashes. By contrast, only 4 property damage only crashes occurred at a crossing equipped with overhead flashing lights and a gate.

15-to-19-year-olds injured most often

In 1997, persons from the 15-19 age-group accounted for 28% of all persons injured in motor-vehicle/train crashes. Also, 2 out of the 6 fatalities came from this age-group.

Rural Areas at Greatest Risk

Motor vehicle crashes involving a train are predominantly rural. (Defined as an area with less than 5,000 population). In 1997, 56% of the total crashes, 83% of the fatal crashes, 67% of the injury crashes, and 67% of all injuries occurred in rural areas.

Contributing Factors

For the motor vehicles involved in train crashes, driver inattention or distraction, disregard for traffic control device, and failure to yield the right of way, were the three most often cited contributing factors listed by officers at the scene. These three accounted for 64% of all contributing factors cited.

TABLE 9.01

MOTOR VEHICLE / TRAIN CRASH SUMMARY, 1988 - 1997

	1988	1989	1990	1991	1992	1993	1994	1995	1996	1997
Total Crashes	168	142	116	147	111	128	144	132	124	107
Fatal Crashes	9	11	13	10	7	11	14	15	8	6
Persons Killed	12	15	17	10	9	15	17	16	8	6
Injury Crashes	56	48	35	49	39	45	51	30	45	36
Persons Injured	70	75	67	70	54	63	75	34	50	46
Property Damage										
Crashes	103	83	68	88	65	72	79	87	71	65

TABLE 9.02

1997 MOTOR VEHICLE / TRAIN CRASHES BY MONTH

			Property			
	Fatal	Injury	Damage	Total		
Month	Crashes	Crashes	Crashes	Crashes	Killed	Injured
January	0	5	15	20	0	5
February	3	4	8	15	3	4
March	0	3	7	10	0	3
April	0	1	3	4	0	4
May	1	4	4	9	1	5
June	0	2	2	4	0	5
July	1	4	4	9	1	4
August	0	4	4	8	0	4
September	0	1	4	5	0	` 3
October	0	۰ [•] 2	4	6	0	3
November	0	2	3	5	0	2
December	1	4	. 7	12	1	4
Total	6	36	65	107	6	46

TABLE 9.03

1997 MOTOR VEHICLE / TRAIN CRASHES BY TIME AND DAY

Time of Day	<u>Total</u>	Sunday	<u>Monday</u>	<u>Tuesday</u>	Wednesday	Thursday	<u>Friday</u>	Saturday
Midnight - 2:59 AM	3	0	1	1	0	1	0	0
3:00 - 5:59 AM	3	1	1	0	1	0	0	0
6:00 - 8:59 AM	17	0	3	3	6	1	4	0
9:00 - 11:59 AM	21	1	0	3	7	7	1	2
Noon - 2:59 PM	18	5	0	3	2	5	1	2
3:00 - 5:59 рм	18	2	6	2	3	2	0	3
6:00 - 8:59 pm	16	0	1	3	4	3	1	4
9:00 - 11:59 pm	9	1	1	2	1	1	1	2
Unknown	2	0	0	1	00	1	0	0
Total	107	10	13	18	24	21	8	13

TABLE 9.04

1997 MOTOR VEHICLE / TRAIN CRASHES BY TRAFFIC CONTROL DEVICE

			Property			
Traffic	Fatal	Injury	Damage	Total		
Control Device	Crashes	Crashes	Crashes	Crashes	Killed	Injured
RR Crossbuck	0	19	16	35	0	27
RR Crossing Stop Sign	1	6	4	11	1	8
RR Flashing Lights	0	5	14	19	0	5
RR Overhead Flashers						
Plus Gate	0	0	4	4	0	0
RR Overhead Flashers	0	0	1	1	0	0
RR Crossing Gate	2	1	7	10	2	1
Stop Sign	2	1	5	8	2	1
Other	1	3	5	9	1	3
Unknown	0	0	2	-2	0	0
Not Applicable	00	1	7	8	0	1
Total	6	36	65	107	6	46

TABLE 9.05

AGE OF PERSONS KILLED OR INJURED IN 1997 MOTOR VEHICLE / TRAIN CRASHES

		Injured				
Age Group	Killed	Severe	Moderate	Minor	Total	
0-4	0	0	0	0	0	
5-9	0	0	0	0	0	
10-14	0	0	1	0	1	
15-19	2	5	6	2	13	
20-24	0	4	2	1	7	
25-29	0	1	4	2	7	
30-34	0	0	3	0	3	
35-39	1	0	1	4	5	
40-44	0	1	3	1	5	
45-49	0	1	0	0	1	
50-54	0	0	0	0	0	
55-59	2	0	0	0	0	
60-69	1	0	0	2	2	
70-79	0	0	0	0	0	
80 & Older	0	0	1	1	2	
Not Stated	0	0	0	0	0	
Total	6	12	21	13	46	

TABLE 9.06

1997 MOTOR VEHICLE / TRAIN CRASHES BY POPULATION OF AREA

			Property			
Population of	Fatal	Injury	Damage	Total		
<u>City or Township</u>	Crashes	Crashes	Crashes	Crashes	Killed	Injured
100,000 and Over	0	4	6	10	0	4
50,000 - 99,999	0	3	3	6	0	6
25,000 - 49,999	0	1	11	12	0	1
10,000 - 24,999	0	4	13	17	0	4
5,000 - 9,999	1	0	1	2	1	0
2,500 - 4,999	1	1	2	4	1	1
1,000 - 2,499	0	1	2	3	0	1
Under 1,000	4	22	27	53	4	29
Total	6	36	65	107	6	46

TABLE 9.07

CONTRIBUTING FACTORS IN 1997 MOTOR VEHICLE / TRAIN CRASHES

Contributing Factor	Number	Percent
Human Factors	et in the second se	
Driver Inattention / Distraction	44	28.0%
Disregard for Traffic Control Device	31	19.7
Failure to Yield Right of Way	25	15.9
Illegal or Unsafe Speed	10	6.4
Vision Obscured	9	5.7
Improper Parking/Stopping/Starting	5	3.2
Physical Impairment	5	3.2
Driver Inexperience	3	1.9
Other Human Factor	2	1.3
Vehicular Factors		
Skidding	9	5.7
Other Vehicular Factor	1	0.6
Miscellaneous Factors		
Other	7	4.5
Weather Conditions	6	3.8
Total	157	100.0%
Vehicles for Which There Was		
"No Clear Contributing Factor"	6	
Number of Drivers	110	

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.

MINNESOTA DEPARTMENT OF PUBLIC SAFETY



Traffic Safety

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