Traffic Safety Facts 1995

U.S. Department of Transportation
National Highway Traffic Safety Administration

Motorcycles

People Saving People
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In 1995, 2,221 motorcyclists were killed and an additional 55,000 were injured in traffic crashes in the United States—4 percent less than the 2,320 motorcyclist fatalities and 3 percent less than the 56,000 motorcyclist injuries reported in 1994.

More than 100,000 motorcyclists have died in traffic crashes since the enactment of the Highway Safety and National Traffic and Motor Vehicle Safety Act of 1966.

"NHTSA estimates that helmets saved 506 motorcyclists' lives in 1995, and that 285 more could have been saved if all motorcyclists had worn helmets."

Table 1. Motorcyclist Fatalities and Injuries and Fatality and Injury Rates, 1985-1995

Year	Fatalities	Registered Vehicles	Fatality Rate *	Vehicle Miles Traveled (millions)	Fatality Rate **
1985	4,564	5,444,404	8.4	9,086	50.2
1986	4,566	5,262,322	8.7	9,397	48.6
1987	4,036	4,917,131	8.2	9,506	42.5
1988	3,662	4,584,284	8.0	10,024	36.5
1989	3,141	4,433,915	7.1	10,371	30.3
1990	3,244	4,259,462	7.6	9,557	33.9
1991	2,806	4,177,365	6.7	9,178	30.6
1992	2,395	4,065,118	5.9	9,557	25.1
1993	2,449	3,977,856	6.2	9,906	24.7
1994	2,320	3,718,127	6.2	10,251	22.6
1995	2,221	3,700,000	6.0	NA	--

Year	Injuries	Registered Vehicles	Injury Rate *	Vehicle Miles Traveled (millions)	Injury Rate **
1988	105,000	4,584,284	229	10,024	1,064
1989	83,000	4,433,915	188	10,371	1,049
1990	84,000	4,259,462	198	9,557	882
1991	80,000	4,177,365	193	9,178	876
1992	65,000	4,065,118	160	9,557	681
1993	58,000	3,977,856	145	9,906	581
1994	56,000	3,718,127	151	10,251	549
1995	55,000	3,700,000	148	NA	--

* Rate per 10,000 registered vehicles.
** Rate per 100 million vehicle miles traveled.
NA = not available.
Note: 1995 Registered Vehicles are estimates.
Sources: Vehicle miles traveled and registered vehicles—Federal Highway Administration.
Traffic deaths—Fatal Accident Reporting System (FARS), NHTSA.

For motorcyclists, the fatality rate per 10,000 registered vehicles has decreased by nearly 29 percent since 1985 (6.0 and 8.4 in 1995 and 1985, respectively), compared with a decrease of 10 percent for passenger car occupants over the same period (1.8 and 2.0 fatalities per 10,000 registered vehicles in 1995 and 1985, respectively). The fatality rate for motorcyclists per 100 million vehicle miles traveled has declined by 55 percent (from 50.2 in 1985 to 22.6 in 1994), compared with a 26 percent decrease (from 1.9 to 1.4) in the corresponding fatality rate for passenger car occupants.

Motorcycles make up 2 percent of all registered vehicles in the United States and account for only 0.4 percent of all vehicle miles traveled. Motorcyclists were involved in only 1 percent of all police-reported traffic crashes in 1995, but they accounted for 5 percent of total traffic fatalities, 6 percent of all occupant fatalities, and 2 percent of all occupants injured.

"Per vehicle mile, motorcyclists are about 16 times as likely as passenger car occupants to die in a traffic crash."

Per vehicle mile traveled, motorcyclists are about 16 times as likely as passenger car occupants to die in a motor vehicle traffic crash and about 4 times as likely to be injured.

Per registered vehicle, the fatality rate for motorcyclists is 3.3 times the fatality rate for passenger car occupants, and the injury rate is 1.3 times the injury rate for passenger car occupants.

About one-half of all motorcycles involved in fatal crashes in 1995 collided with another motor vehicle in transport. In two-vehicle crashes, 79 percent of the motorcycles involved were impacted in the front. Only 5 percent were struck in the rear.

Motorcycles are more likely to be involved in a fatal collision with a fixed object than are other vehicles. In 1995, 29 percent of the reported fatal crashes involving motorcycles were fixed object crashes, compared to 23 percent for passenger cars, 19 percent for light trucks, and 7 percent for large trucks.

Motorcycles are also more likely to be involved in an injury collision with a fixed object than are other vehicles. In 1995, 16 percent of the reported injury crashes involving motorcycles were fixed object crashes, compared to 8 percent for passenger cars, 9 percent for light trucks, and 6 percent for large trucks.

In 1995, there were 1,089 two-vehicle fatal crashes involving a motorcycle and another vehicle. In 36 percent (390) of these crashes the other vehicle was turning left while the motorcycle was going straight, passing, or overtaking the vehicle. Both vehicles were going straight in 317 crashes (29 percent).

For 76 percent of the motorcycle operators involved in fatal crashes in 1995, police reported one or more errors or other factors related to the operator's behavior. The factor most often noted for motorcycle operators involved in fatal crashes was "driving too fast for conditions."

Almost half (43 percent) of all motorcyclist fatalities in 1995 resulted from crashes in seven states: 260 in California, 181 in Florida, 128 in Texas, 108 in Ohio, 101 in Illinois, 92 in New York, and 84 in Pennsylvania.

Licensing

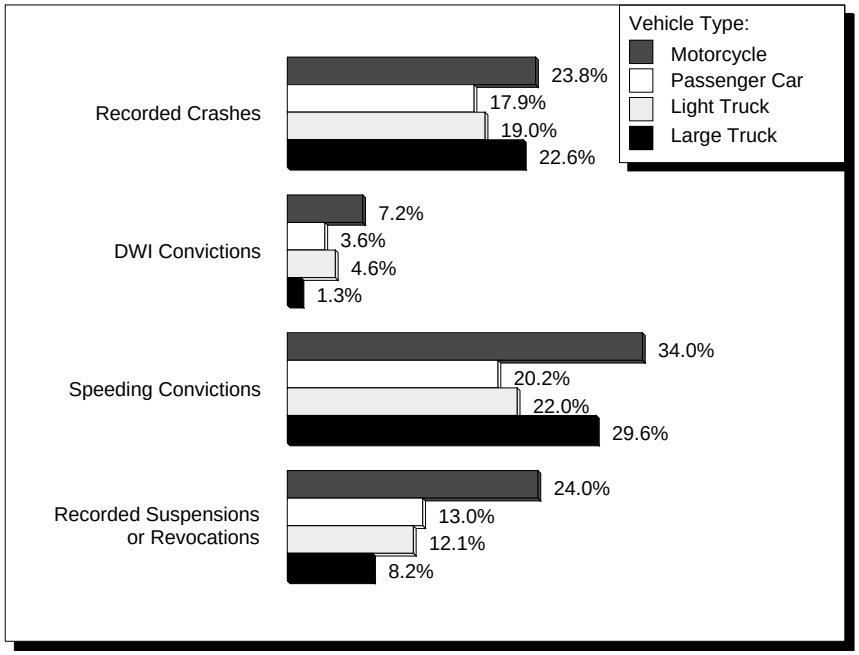
More than one out of five motorcycle operators (21 percent) involved in fatal crashes in 1995 were operating the vehicle with an invalid license at the time of the collision, while only 12 percent of drivers of passenger vehicles in fatal crashes did not have a valid license.

Motorcycle operators involved in fatal traffic crashes were nearly twice as likely as passenger vehicle drivers to have a previous license suspension or revocation (24 percent and 13 percent, respectively).

"More than 1 out of 5 motorcycle operators in fatal crashes in 1995 were operating the vehicle with an invalid license."

Almost 7 percent of the motorcycle operators involved in fatal crashes in 1995 had at least one previous conviction for driving while intoxicated on their driver records, compared to less than 4 percent of passenger car drivers.

Figure 1. Previous Driving Records of Drivers Involved in Fatal Traffic Crashes, by Type of Vehicle, 1995



Alcohol

Motorcycle operators involved in fatal crashes in 1995 had higher intoxication rates, with blood alcohol concentrations (BAC) of 0.10 grams per deciliter (g/dl) or greater, than any other type of motor vehicle driver. Intoxication rates for vehicle operators involved in fatal crashes were 29.1 percent for motorcycles, 22.4 percent for light trucks, 19.2 percent for passenger cars, and 1.3 percent for large trucks.

In 1995, 30.0 percent of all fatally injured motorcycle operators were intoxicated (BAC 0.10 g/dl or greater). An additional 11.5 percent had lower alcohol levels (BAC 0.01 to 0.09 g/dl). The intoxication rate was highest for fatally injured operators between 35 and 39 years old (45.8 percent), followed by those between 30 and 34 years old (44.1 percent), and was somewhat lower for ages 40 to 44 (36.1 percent).

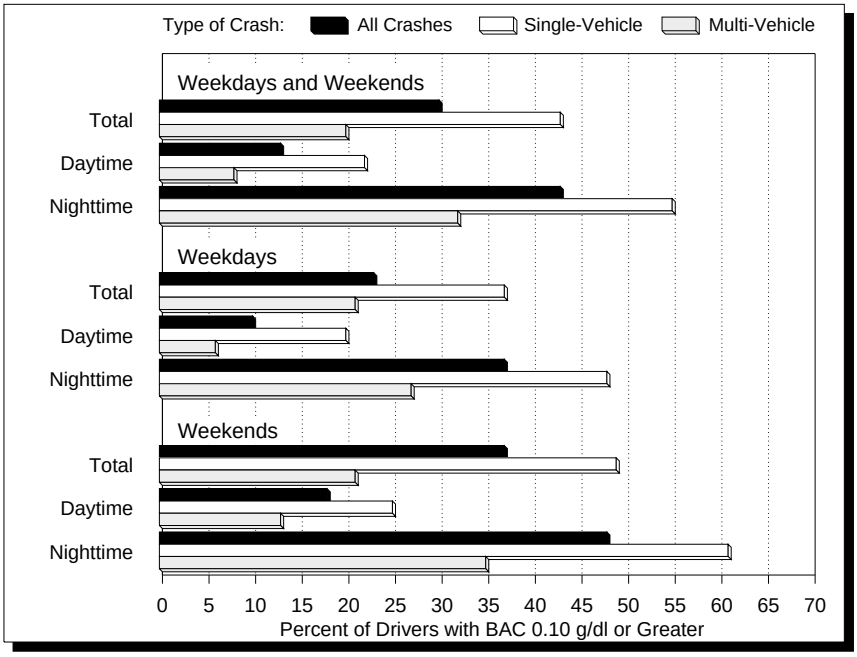
"In 1995, motorcycle operators in fatal crashes had higher intoxication rates than any other type of driver."

Almost half (43 percent) of the 869 motorcycle operators who died in single-vehicle crashes in 1995 were intoxicated. Three-fifths (61 percent) of those killed on weekend nights were intoxicated.

Motorcycle operators killed in traffic crashes at night were 3.3 times as likely to be intoxicated as those killed during the day (43 percent and 13 percent, respectively).

The reported helmet use rate for intoxicated motorcycle operators killed in traffic crashes was 50 percent, compared with 60 percent for those who were sober.

Figure 2. Intoxication Rates for Motorcycle Operators Killed in Traffic Crashes, by Time of Day, 1995



Helmets

NHTSA estimates that helmets saved the lives of 506 motorcyclists in 1995. If all motorcyclists had worn helmets, an additional 285 lives could have been saved.

Helmets are estimated to be 29 percent effective in preventing fatal injuries to motorcyclists.

Helmets cannot protect the rider from most types of injuries. A recent NHTSA study showed that motorcycle helmets are 67 percent effective in preventing brain injuries. (Source: *1996 Crash Outcome Data Evaluation System (CODES): Report to Congress on Benefits of Safety Belts and Motorcycle Helmets*.)

According to NHTSA's National Occupant Protection Use Survey, a nationally representative observational survey of motorcycle helmet use and safety belt use, helmet use was 63 percent in 1994. According to previous NHTSA surveys, helmet use was reported to be essentially 100 percent at sites with helmet use laws governing all motorcycle riders, as compared to 34 to 54 percent at sites with no helmet use laws or laws limited to minors.

"Almost half of the motorcycle operators who died in single-vehicle crashes in 1995 were intoxicated."

Reported helmet use rates for fatally injured motorcyclists in 1995 were 57 percent for operators and 44 percent for passengers, compared with 55 percent and 50 percent, respectively, in 1994.

NHTSA strongly believes that effective, comprehensive programs encompassing motorcycle helmet usage, rider education, motorcycle operator licensing, and responsible use of alcohol have a strong positive effect on motorcycle safety. Motorcycle helmets offer motorcyclists involved in traffic crashes the best protection from head injury, and the passage of helmet use laws governing all motorcycle riders is the most effective method of getting all motorcyclists to wear helmets. NHTSA encourages all motorcycle riders to wear helmets.

All motorcycle helmets sold in the United States are required to meet Federal Motor Vehicle Safety Standard 218, the performance standard which establishes the minimum level of protection helmets must afford each user.

Numerous studies have proven that helmets do not impair the user's vision or hearing. All helmets provide a field of view greater than 210 degrees and often provide an advantage in hearing warning signals by reducing wind and engine noise.

Currently, 25 states, the District of Columbia, and Puerto Rico require helmet usage by all motorcycle operators and passengers. In another 22 states, only persons under a specific age, usually 18, are required to wear helmets. Three states have no laws requiring helmet use.

Data on crashes in states where only minors are required to wear helmets show that fewer than 40 percent of fatally injured minors were wearing helmets when they were killed, even though the law requires them to do so. Helmet laws that govern only minors are extremely difficult to enforce.

Data from Louisiana, the first state to repeal and then re-adopt a full helmet law, showed a 30 percent reduction in fatalities (40 fewer deaths) during 1982, the first year after the reenactment of the state's helmet law. This reduction occurred even though motorcycle registrations increased by 6 percent during the year. The helmet use rate increased from roughly 50 percent to 96 percent.

"Helmets are estimated to be 29 percent effective in preventing fatal injuries to motorcyclists."

Failure to use motorcycle helmets places a large financial burden on society and individual states. A number of studies have been conducted that compare hospital costs for helmeted and unhelmeted motorcyclists involved in traffic crashes. They have found that unhelmeted riders involved in crashes are less likely to have insurance and more likely to have higher hospital costs than helmeted riders involved in similar crashes.

In Louisiana, the average cost per motorcycle crash decreased by 48 percent from 1981 to 1982, the first year of its helmet use law. Dramatic differences were found in hospital stay lengths between helmeted and unhelmeted riders.

Studies show that the costs of treating helmeted vs. unhelmeted motorcyclists at various hospitals across the country ranged from $2,438 to $13,368 for helmeted motorcyclists and $3,368 to $30,365 for unhelmeted riders.

NHTSA estimates that $6.4 billion was saved from 1984 through 1993 because of the use of motorcycle helmets. An additional $6 billion would have been saved if all motorcyclists had worn helmets.

For more information:

Information on motorcycle traffic fatalities is available from the National Center for Statistics and Analysis, NRD-31, 400 Seventh Street, S.W., Washington, D.C. 20590. Telephone inquiries should be addressed to Ms. Louann Hall at (202) 366-4198. FAX messages should be sent to (202) 366-7078. General information on highway traffic safety can be accessed by Internet users at http://www.nhtsa.dot.gov/people/ncsa. To report a safety-related problem or to inquire about motor vehicle safety information, contact the Auto Safety Hotline at 1-800-424-9393.

Some Points To Remember When Choosing a Motorcycle Helmet:

- ***Think Safety and Comfort.*** A helmet is the most important piece of motorcycle safety equipment you can buy. The following guidelines will assist you is choosing a helmet that offers the most protection without sacrificing comfort or style.

- ***Be Certain Your Helmet Meets the DOT Standard and Is Well Made.*** Make sure your helmet meets the Department of Transportation's (DOT) Federal Motor Vehicle Safety Standard (FMVSS) 218. First, look for the DOT symbol on the outside back of the helmet. Then, look for a label inside the helmet stating the manufacturer's name, month, and year of manufacture, construction materials, helmet model and size, and other information. Helmets that comply with the federal safety standard will have a firm polystyrene (styrofoam) inner liner of about one inch thickness.

- ***Think About Style.*** Full-face helmets offer the most protection in a collision. Plastic face shields protect you from wind, dust, rain, insects, and road debris thrown up by cars.

- ***Make Sure Your Helmet Can Be Seen.*** Brightly colored helmets will increase your visibility to other vehicles. Add reflective tape on the back and side of the helmet for even greater visibility.

- ***Make Sure Your Helmet Fits Properly.*** Always try a helmet on before you buy it. Your helmet should feel snug, and it should not turn freely around your head or be able to move back and forth on your head. A helmet should not in any way prevent you from turning your head to observe traffic. Each brand of helmet fits differently, so try on a variety of brands to find the one that fits you best.

- ***Always Fasten and Tighten the Chin Strap.*** An unfastened helmet will fly off in a crash.

- ***Avoid Using Damaged Helmets.*** A used helmet may have been involved in a crash and damaged in ways that are not obvious. Be sure to replace your helmet if it has been in a crash. Any damage to a helmet reduces it effectiveness, so replace your helmet if it has been damaged.

Table 2. Motorcyclist Fatalities and Fatality Rates by State, 1995

State	Total Traffic Fatalities	Registered Vehicles (thousands)	Motorcyclist Fatalities	Percent of Total	Motorcyclist Fatalities per 10,000 Registered Vehicles
Alabama[a]	1,113	41	33	3.0	8.0
Alaska[b]	87	13	3	3.4	2.3
Arizona[b]	1,031	68	65	6.3	9.6
Arkansas[a]	631	13	17	2.7	13.1
California[a]	4,192	537	260	6.2	4.8
Colorado[c]	645	96	45	7.0	4.7
Connecticut[b]	317	48	33	10.4	6.9
Delaware[d]	121	9	6	5.0	6.7
District of Columbia[a]	58	1	6	10.3	60.0
Florida[a]	2,805	177	181	6.5	10.2
Georgia[a]	1,488	57	44	3.0	7.7
Hawaii[b]	130	12	21	16.2	17.5
Idaho[b]	262	33	18	6.9	5.5
Illinois[c]	1,586	188	101	6.4	5.4
Indiana[b]	960	97	65	6.8	6.7
Iowa[c]	527	115	43	8.2	3.7
Kansas[b]	442	45	14	3.2	3.1
Kentucky[a]	849	34	23	2.7	6.8
Louisiana[a]	883	36	28	3.2	7.8
Maine[e]	187	28	13	7.0	4.6
Maryland[a]	671	38	26	3.9	6.8
Massachusetts[a]	444	66	28	6.3	4.2
Michigan[a]	1,530	113	83	5.4	7.3
Minnesota[b]	597	130	36	6.0	2.8
Mississippi[a]	868	29	15	1.7	5.2
Missouri[a]	1,109	57	40	3.6	7.0
Montana[b]	215	20	16	7.4	8.0
Nebraska[a]	254	21	6	2.4	2.9
Nevada[a]	313	20	23	7.3	11.5
New Hampshire[b]	118	33	16	13.6	4.8
New Jersey[a]	773	86	34	4.4	4.0
New Mexico[b]	485	33	33	6.8	10.0
New York[a]	1,674	175	92	5.5	5.3
North Carolina[a]	1,448	64	76	5.2	11.9
North Dakota[b]	74	17	6	8.1	3.5
Ohio[f]	1,366	224	108	7.9	4.8
Oklahoma[b]	669	54	40	6.0	7.4
Oregon[a]	572	60	22	3.8	3.7
Pennsylvania[a]	1,480	169	84	5.7	5.0
Rhode Island[g]	69	16	6	8.7	3.8
South Carolina[b]	881	35	50	5.7	14.3
South Dakota[b]	158	26	14	8.9	5.4
Tennessee[a]	1,259	58	48	3.8	8.3
Texas[a]	3,181	131	128	4.0	9.8
Utah[b]	326	22	11	3.4	5.0
Vermont[a]	106	16	8	7.5	5.0
Virginia[a]	900	58	35	3.9	6.0
Washington[a]	653	97	37	5.7	3.8
West Virginia[a]	376	17	26	6.9	15.3
Wisconsin[b]	745	151	48	6.4	3.2
Wyoming[b]	170	16	7	4.1	4.4
U.S. Total	**41,798**	**3,700**	**2,221**	**5.3**	**6.0**
Puerto Rico	595	NA	32	5.4	NA

Status of state motorcycle helmet use requirements (as of July 1995): [a]Required for all riders. [b]Required for riders under 18 years old. [c]No helmet use requirement. [d]Required for riders under 19 years old; helmets must be in possession of other riders, but use is not required. [e]Required for riders under 15 years old, novices (first-year operators), and holders of learner's permits. [f]Required for riders under 18 years old and novices. [g]Required for riders under 21 years old and novices.
Note: Totals may not equal sum of components due to independent rounding.
Sources: Fatalities—Fatal Accident Reporting System, NHTSA. Registered vehicles—FHWA.