

Traffic Safety Facts 1997

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



Motorcycles



People Saving People

<http://www.nhtsa.dot.gov>

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In 1997, 2,106 motorcyclists were killed and an additional 54,000 were injured in traffic crashes in the United States — 3 percent less than the 2,161 motorcyclist fatalities and 4 percent less than the 56,000 motorcyclist injuries reported in 1996.

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.

Table 1. Motorcyclist Fatalities and Injuries and Fatality and Injury Rates, 1987-1997

Year	Fatalities	Registered Vehicles	Fatality Rate *	Vehicle Miles Traveled (millions)	Fatality Rate **
1987	4,036	4,885,772	8.3	9,506	42.5
1988	3,662	4,584,284	8.0	10,024	36.5
1989	3,141	4,420,420	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	3,756,555	6.2	10,240	22.7
1995	2,227	3,767,029	5.9	9,797	22.7
1996	2,161	3,871,237	5.6	9,906	21.8
1997	2,106	--	--	--	--

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	4,420,420	188	10,371	1,049
1990	84,000	4,259,462	198	9,557	882
1991	80,000	4,177,365	192	9,178	876
1992	65,000	4,065,118	160	9,557	681
1993	59,000	3,977,856	148	9,906	596
1994	57,000	3,756,555	152	10,240	557
1995	57,000	3,767,029	151	9,797	582
1996	56,000	3,871,237	145	9,906	565
1997	54,000	--	--	--	--

* Rate per 10,000 registered vehicles.

** Rate per 100 million vehicle miles traveled.

-- = not available.

Sources: Vehicle miles traveled and registered vehicles — Federal Highway Administration. Traffic deaths — Fatality Analysis Reporting System (FARS), NHTSA. Traffic injuries — General Estimates System (GES), NHTSA.

“NHTSA estimates that helmets saved 486 motorcyclists’ lives in 1997, and that 266 more could have been saved if all motorcyclists had worn helmets.”

For motorcyclists, the 1996 fatality rate per 10,000 registered vehicles was nearly 36 percent lower than the 1986 rate (5.6 and 8.7 in 1996 and 1986, respectively), compared with a decrease of 14 percent for passenger car occupants over the same period (1.8 and 2.1 fatalities per 10,000 registered vehicles in 1996 and 1986, respectively). The fatality rate for motorcyclists per 100 million vehicle miles traveled declined by 55 percent (from 48.6 in 1986 to 21.8 in 1996), compared with a 25 percent decrease (from 2.0 to 1.5) in the corresponding fatality rate for passenger car occupants (1997 registered vehicle and vehicle miles traveled data not available).

Motorcycles made up less than 2 percent of all registered vehicles in the United States in 1996 and accounted for only 0.4 percent of all vehicle miles traveled.

Per vehicle mile traveled in 1996, motorcyclists were about 15 times as likely as passenger car occupants to die in a motor vehicle traffic crash and about 3 times as likely to be injured.

Per registered vehicle, the fatality rate for motorcyclists in 1996 was 3.1 times the fatality rate for passenger car occupants. The injury rate for passenger car occupants per registered vehicle was 1.4 times the injury rate for motorcyclists.

In 1997, motorcyclists accounted for 5 percent of total traffic fatalities, 6 percent of all occupant fatalities, and 2 percent of all occupants injured.

More than one-half (1,120) of all motorcycles involved in fatal crashes in 1997 collided with another motor vehicle in transport. In two-vehicle crashes, 78 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 1997, 29 percent of the motorcycles involved in fatal crashes collided with a fixed object, compared to 23 percent for passenger cars, 18 percent for light trucks, and 8 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 1997, 15 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 1997, there were 999 two-vehicle fatal crashes involving a motorcycle and another vehicle. In 36 percent (363) 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 266 crashes (27 percent).

“Per vehicle mile, motorcyclists are about 15 times as likely as passenger car occupants to die in a traffic crash.”

Almost half (44 percent) of all motorcyclist fatalities in 1997 resulted from crashes in seven states: 235 in California, 184 in Florida, 117 in Texas, 114 in New York, 106 in Ohio, 84 in Pennsylvania, and 82 in Illinois.

In 1997, 41 percent of all motorcyclists involved in fatal crashes were speeding, approximately twice the rate for drivers of passenger cars or light trucks. The percentage of alcohol involvement was more than 50 percent higher for motorcyclists than for drivers of passenger vehicles.

Licensing

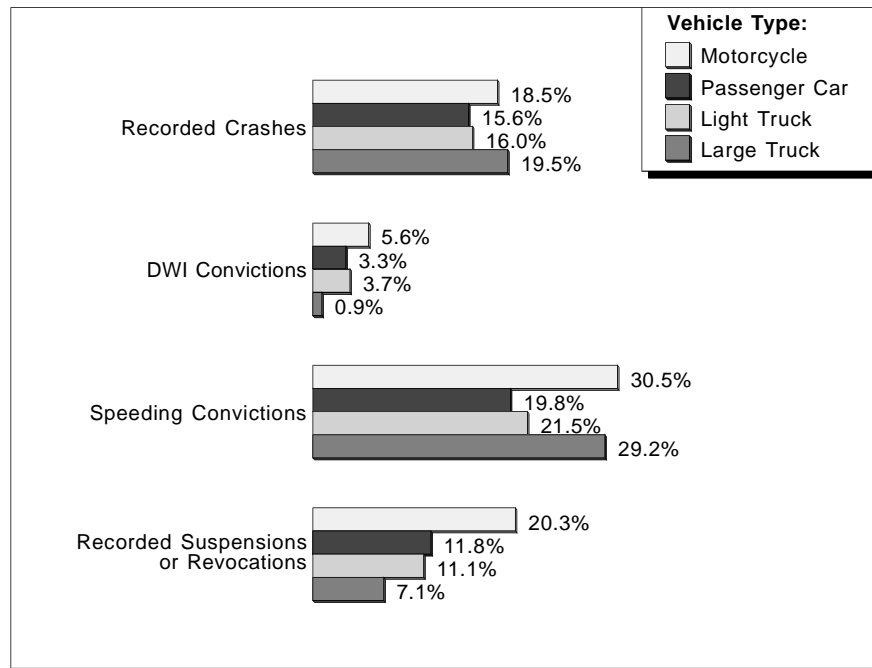
Nearly one out of five motorcycle operators (18 percent) involved in fatal crashes in 1997 were operating the vehicle with an invalid license at the time of the collision, while only 11 percent of drivers of passenger vehicles in fatal crashes did not have a valid license.

Motorcycle operators involved in fatal traffic crashes were nearly twice as likely as passenger vehicle drivers to have a previous license suspension or revocation (20 percent and 12 percent, respectively).

Almost 6 percent of the motorcycle operators involved in fatal crashes in 1997 had at least one previous conviction for driving while intoxicated on their driver records, compared to about 3 percent of passenger vehicle drivers.

“Nearly one out of five motorcycle operators in fatal crashes in 1997 were operating the vehicle with an invalid license.”

Figure 1. Previous Driving Records of Drivers Involved in Fatal Traffic Crashes, by Type of Vehicle, 1997



Alcohol

Motorcycle operators involved in fatal crashes in 1997 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 27.9 percent for motorcycles, 20.2 percent for light trucks, 18.2 percent for passenger cars, and 1.1 percent for large trucks.

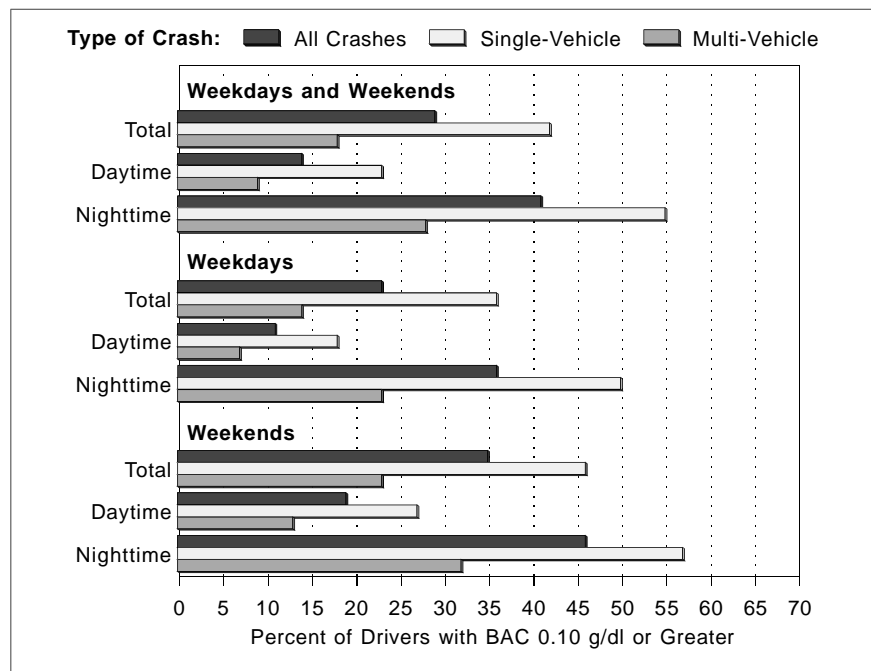
In 1997, 28.9 percent of all fatally injured motorcycle operators were intoxicated (BAC 0.10 g/dl or greater). An additional 11.2 percent had lower alcohol levels (BAC 0.01 to 0.09 g/dl). The intoxication rate was highest for fatally injured operators between 35 and 39 years old (43.7 percent), followed by ages 30 to 34 (39.7 percent), and ages 40 to 44 (37.0 percent).

Almost half (42 percent) of the 876 motorcycle operators who died in single-vehicle crashes in 1997 were intoxicated. Three-fifths (57 percent) of those killed in single-vehicle crashes on weekend nights were intoxicated.

Motorcycle operators killed in traffic crashes at night were 2.9 times as likely to be intoxicated as those killed during the day (41 percent and 14 percent, respectively).

The reported helmet use rate for intoxicated motorcycle operators killed in traffic crashes was 50 percent, compared with 61 percent for those who were sober.

Figure 2. Intoxication Rates for Motorcycle Operators Killed in Traffic Crashes, by Time of Day, 1997



“Almost half of the motorcycle operators who died in single-vehicle crashes in 1997 were intoxicated.”

“In 1997, motorcycle operators in fatal crashes had higher intoxication rates than any other type of driver.”

Helmets

NHTSA estimates that helmets saved the lives of 486 motorcyclists in 1997. If all motorcyclists had worn helmets, an additional 266 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 bodily injuries. However, 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, safety belt, and child safety seat use, helmet use was 64 percent in 1996. 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.

Reported helmet use rates for fatally injured motorcyclists in 1997 were 57 percent for operators and 49 percent for passengers, compared with 57 percent and 45 percent, respectively, in 1996.

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.

In 1997, 22 states, the District of Columbia, and Puerto Rico required helmet use by all motorcycle operators and passengers. In another 24 states, only persons under a specific age, usually 18, were required to wear helmets. Three states had no laws requiring helmet use.

NHTSA estimates that \$11.3 billion was saved from 1984 through 1997 because of the use of motorcycle helmets. An additional \$9.8 billion would have been saved if all motorcyclists had worn helmets.

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

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 1-800-934-8517. 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/nca>. To report a safety-related problem or to inquire about motor vehicle safety information, contact the Auto Safety Hotline at 1-800-424-9393.

Table 2. 1997 Motorcyclist Fatalities and 1996 Fatality Rates by State

State	1997			1996	
	Total Traffic Fatalities	Motorcyclist Fatalities	Percent of Total	Registered Vehicles (thousands)	Motorcyclist Fatalities per 10,000 Registered Vehicles
Alabama ^a	1,189	29	2.4	37	7.8
Alaska ^b	77	6	7.8	13	4.6
Arizona ^b	951	57	6.0	72	7.9
Arkansas ^b	660	19	2.9	16	11.9
California ^a	3,688	235	6.4	526	4.5
Colorado ^c	613	38	6.2	94	4.0
Connecticut ^b	338	38	11.2	48	7.9
Delaware ^d	143	8	5.6	10	8.0
District of Columbia ^a	60	4	6.7	2	20.0
Florida ^a	2,782	184	6.6	203	9.1
Georgia ^a	1,577	56	3.6	73	7.7
Hawaii ^b	131	14	10.7	25	5.6
Idaho ^b	259	18	6.9	34	5.3
Illinois ^c	1,395	82	5.9	171	4.8
Indiana ^b	935	48	5.1	97	4.9
Iowa ^c	468	28	6.0	132	2.1
Kansas ^b	481	17	3.5	49	3.5
Kentucky ^e	857	26	3.0	37	7.0
Louisiana ^a	913	20	2.2	37	5.4
Maine ^f	192	10	5.2	27	3.7
Maryland ^a	608	26	4.3	38	6.8
Massachusetts ^a	442	30	6.8	91	3.3
Michigan ^a	1,446	63	4.4	150	4.2
Minnesota ^b	600	25	4.2	116	2.2
Mississippi ^a	861	13	1.5	30	4.3
Missouri ^a	1,192	37	3.1	54	6.9
Montana ^b	265	20	7.5	21	9.5
Nebraska ^a	302	5	1.7	19	2.6
Nevada ^a	347	24	6.9	22	10.9
New Hampshire ^b	125	14	11.2	52	2.7
New Jersey ^a	774	43	5.6	92	4.7
New Mexico ^b	484	26	5.4	32	8.1
New York ^a	1,643	114	6.9	136	8.4
North Carolina ^a	1,483	62	4.2	68	9.1
North Dakota ^b	105	3	2.9	16	1.9
Ohio ^g	1,441	106	7.4	220	4.8
Oklahoma ^b	838	33	3.9	59	5.6
Oregon ^a	523	24	4.6	61	3.9
Pennsylvania ^a	1,557	84	5.4	179	4.7
Rhode Island ^e	75	5	6.7	17	2.9
South Carolina ^b	903	60	6.6	39	15.4
South Dakota ^b	148	8	5.4	25	3.2
Tennessee ^a	1,223	56	4.6	79	7.1
Texas ^h	3,510	117	3.3	149	7.9
Utah ^b	366	22	6.0	23	9.6
Vermont ^a	96	7	7.3	18	3.9
Virginia ^a	984	38	3.9	58	6.6
Washington ^a	676	28	4.1	104	2.7
West Virginia ^a	379	8	2.1	16	5.0
Wisconsin ^b	725	63	8.7	170	3.7
Wyoming ^b	137	5	3.6	15	3.3
U.S. Total	41,967	2,106	5.0	3,871	5.4
Puerto Rico	591	27	4.6	--	--

Status of state motorcycle helmet use requirements (as of July 1997): ^aRequired for all riders. ^bRequired for riders under 18 years old. ^cNo helmet use requirement. ^dRequired for riders under 19 years old; helmets must be in possession of other riders, but use is not required. ^eRequired for riders under 21 years old and novices (first-year operators). ^fRequired for riders under 15 years old, novices, and holders of learner's permits. ^gRequired for riders under 18 years old and novices. ^hRequired for riders 20 and under and those who have not completed a rider training course or who do not have \$10,000 medical insurance coverage.

Notes: 1997 registered vehicle data not available. Totals may not equal sum of components due to independent rounding.

Sources: Fatalities — Fatality Analysis Reporting System, NHTSA. Registered vehicles — FHWA.