DOT HS 809 089

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

Traffic Safety Facts 1999

Motorcycles

People Saving People
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In 1999, 2,472 motorcyclists were killed and an additional 50,000 were injured in traffic crashes in the United States — 8 percent more than the 2,294 motorcyclist fatalities and 2 percent more than the 49,000 motorcyclist injuries reported in 1998.

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 551 motorcyclists' lives in 1999, and that 326 more could have been saved if all motorcyclists had worn helmets."

Table 1. Motorcyclist Fatalities and Injuries and Fatality and Injury Rates, 1989-1999

Year	Fatalities	Registered Vehicles	Fatality Rate*	Vehicle Miles Traveled (millions)	Fatality Rate**
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	3,897,191	5.7	9,797	22.7
1996	2,161	3,871,599	5.6	9,920	21.8
1997	2,116	3,826,373	5.5	10,081	21.0
1998	2,294	3,879,450	5.9	10,260	22.4
1999	2,472	—	—	—	—

Year	Injuries	Registered Vehicles	Injury Rate*	Vehicle Miles Traveled (millions)	Injury Rate**
1989	83,000	4,420,420	189	10,371	805
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	59,000	3,977,856	149	9,906	600
1994	57,000	3,756,555	153	10,240	561
1995	57,000	3,897,191	147	9,797	587
1996	55,000	3,871,599	143	9,920	557
1997	53,000	3,826,373	137	10,081	526
1998	49,000	3,879,450	126	10,260	477
1999	50,000	—	—	—	—

* 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.

Table 2. Occupant Fatality Rates by Vehicle Type, 1988 and 1998

Fatality Rate	Motorcycles	Passenger Cars	Light Trucks
1988			
Per 10,000 Registered Vehicles	8.0	2.1	1.9
Per 100 Million Vehicle Miles Traveled	36.5	1.9	1.7
1998			
Per 10,000 Registered Vehicles	5.9	1.7	1.5
Per 100 Million Vehicle Miles Traveled	22.4	1.4	1.2
Percent Change, 1988-1998			
Per 10,000 Registered Vehicles	-26%	-19%	-21%
Per 100 Million Vehicle Miles Traveled	-39%	-26%	-29%

Note: 1999 registered vehicle and vehicle miles traveled data not available.

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

Motorcycles made up less than 2 percent of all registered vehicles in the United States in 1998 and accounted for only 0.4 percent of all vehicle miles traveled.

Per vehicle mile traveled in 1998, motorcyclists were about 16 times as likely as passenger car occupants to die in a motor vehicle traffic crash and 3 times as likely to be injured.

Per registered vehicle, the fatality rate for motorcyclists in 1998 was 3.5 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 1999, motorcyclists accounted for 6 percent of total traffic fatalities, 7 percent of all occupant fatalities, and 2 percent of all occupants injured.

More than one-half (1,319) of all motorcycles involved in fatal crashes in 1999 collided with another motor vehicle in transport. In two-vehicle crashes, 76 percent of the motorcycles involved were impacted in the front. Only 3 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 1999, 27 percent of the motorcycles involved in fatal crashes collided with a fixed object, compared to 17 percent for passenger cars, 11 percent for light trucks, and 3 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 1999, 14 percent of the reported injury crashes involving motorcycles were fixed object crashes, compared to 8 percent for passenger cars, 7 percent for light trucks, and 3 percent for large trucks.

In 1999, there were 1,122 two-vehicle fatal crashes involving a motorcycle and another vehicle. In 38 percent (425) 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 262 crashes (23 percent).

Almost half (42 percent) of all motorcyclist fatalities in 1999 resulted from crashes in seven states: 236 in California, 182 in Texas, 177 in Florida, 120 in Ohio, 111 in Pennsylvania, 107 in New York, and 106 in North Carolina.

In 1999, 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

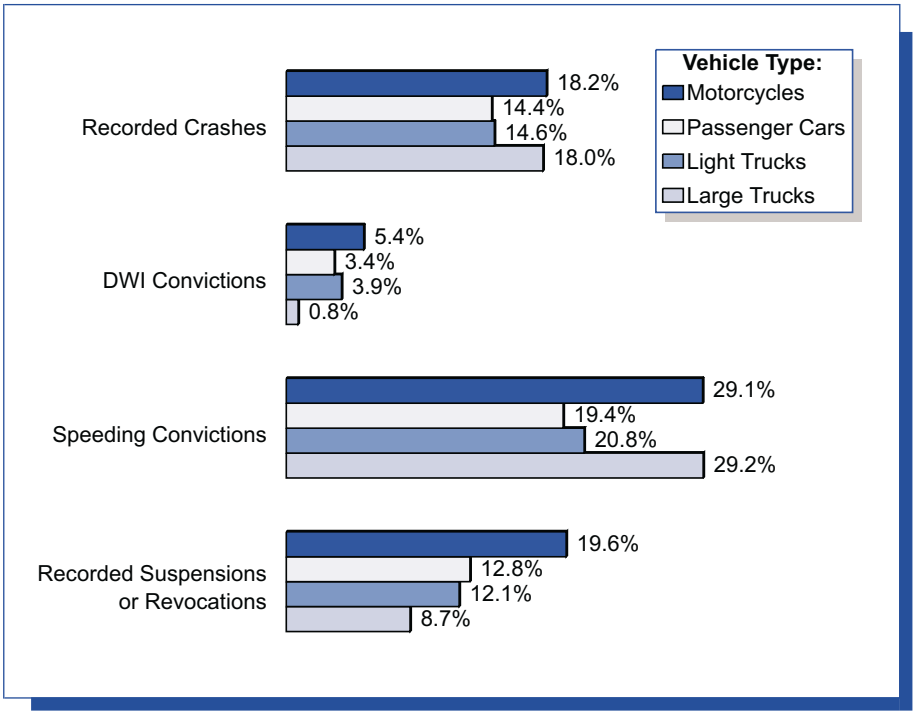
Nearly one out of six motorcycle operators (15 percent) involved in fatal crashes in 1999 were operating the vehicle with an invalid license at the time of the collision, while only 11 percent of drivers of passenger vehicles in fatal crashes did not have a valid license.

"Nearly one out of six motorcycle operators in fatal crashes in 1999 were operating the vehicle with an invalid license."

Motorcycle operators involved in fatal traffic crashes were more than 1.5 times as likely as passenger vehicle drivers to have a previous license suspension or revocation (20 percent and 13 percent, respectively).

More than 5 percent of the motorcycle operators involved in fatal crashes in 1999 had at least one previous conviction for driving while intoxicated on their driver records, compared to less than 4 percent of passenger vehicle drivers.

Figure 1. Previous Driving Records of Drivers Involved in Fatal Traffic Crashes, by Type of Vehicle, 1999



Alcohol

Motorcycle operators involved in fatal crashes in 1999 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 28 percent for motorcycles, 20 percent for light trucks, 17 percent for passenger cars, and 1 percent for large trucks.

In 1999, 28 percent of all fatally injured motorcycle operators were intoxicated (BAC 0.10 g/dl or greater). An additional 10 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 percent), followed by ages 40 to 44 (39 percent) and ages 30 to 34 (39 percent).

"Almost half of the motorcycle operators who died in single-vehicle crashes in 1999 were intoxicated."

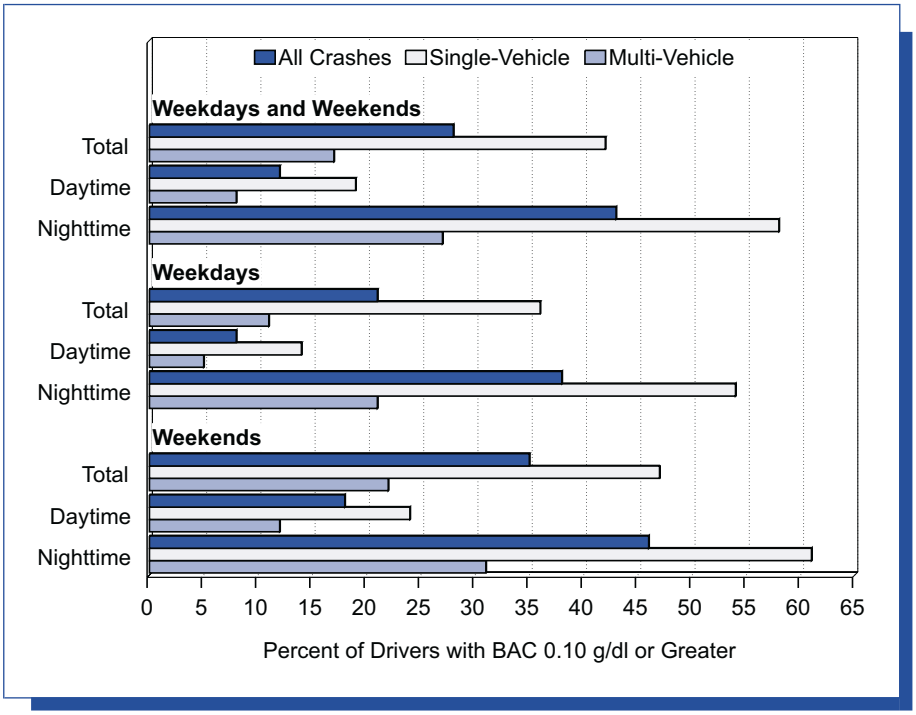
Almost half (42 percent) of the 1,045 motorcycle operators who died in single-vehicle crashes in 1999 were intoxicated. Three-fifths (61 percent) of those killed in single-vehicle crashes on weekend nights were intoxicated.

Motorcycle operators killed in traffic crashes at night were nearly 4 times as likely to be intoxicated as those killed during the day (43 percent and 12 percent, respectively).

The reported helmet use rate for intoxicated motorcycle operators killed in traffic crashes was 42 percent, compared with 62 percent for those who were sober.

"In 1999, motorcycle operators in fatal crashes had higher intoxication rates than any other type of driver."

Figure 2. Intoxication Rates for Motorcycle Operators Killed in Traffic Crashes, by Time of Day, 1999



Helmets

NHTSA estimates that helmets saved the lives of 551 motorcyclists in 1999. If all motorcyclists had worn helmets, an additional 326 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 67 percent in 1998. 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.

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

Reported helmet use rates for fatally injured motorcyclists in 1999 were 55 percent for operators and 47 percent for passengers, compared with 54 percent and 45 percent, respectively, in 1998.

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 1999, 21 states, the District of Columbia, and Puerto Rico required helmet use by all motorcycle operators and passengers. In another 26 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 $13.2 billion was saved from 1984 through 1999 because of the use of motorcycle helmets. An additional $11.1 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. NCSA information can also be obtained by telephone or by fax-on-demand 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/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.

Table 3. 1999 Motorcyclist Fatalities and 1998 Fatality Rates by State

State	1999			1998	
	Total Traffic Fatalities	Motorcyclist Fatalities	Percent of Total	Registered Vehicles (thousands)	Motorcyclist Fatalities per 10,000 Registered Vehicles
Alabama[a]	1,138	32	2.8	44	7.3
Alaska[b]	76	9	11.8	14	6.6
Arizona[b]	1,024	73	7.1	54	13.6
Arkansas[c]	604	22	3.6	21	10.5
California[a]	3,559	236	6.6	390	6.0
Colorado[d]	626	60	9.6	97	6.2
Connecticut[b]	301	38	12.6	50	7.6
Delaware[e]	100	7	7.0	10	6.9
District of Columbia[a]	41	4	9.8	1	35.6
Florida[a]	2,918	177	6.1	216	8.2
Georgia[a]	1,508	59	3.9	85	6.9
Hawaii[b]	98	17	17.3	20	8.4
Idaho[b]	278	13	4.7	34	3.8
Illinois[d]	1,456	103	7.1	204	5.0
Indiana[b]	1,013	67	6.6	102	6.5
Iowa[d]	490	30	6.1	128	2.3
Kansas[b]	537	15	2.8	47	3.2
Kentucky[f]	814	42	5.2	40	10.5
Louisiana[g]	924	38	4.1	39	9.7
Maine[h]	181	16	8.8	28	5.7
Maryland[a]	590	44	7.5	43	10.3
Massachusetts[a]	414	35	8.5	100	3.5
Michigan[a]	1,382	83	6.0	153	5.4
Minnesota[b]	625	30	4.8	128	2.3
Mississippi[a]	927	18	1.9	31	5.8
Missouri[a]	1,094	37	3.4	54	6.9
Montana[b]	220	15	6.8	21	7.0
Nebraska[a]	295	8	2.7	18	4.3
Nevada[a]	350	17	4.9	24	7.0
New Hampshire[b]	141	32	22.7	46	7.0
New Jersey[a]	727	42	5.8	100	4.2
New Mexico[b]	460	23	5.0	32	7.2
New York[a]	1,548	107	6.9	138	7.8
North Carolina[a]	1,505	106	7.0	75	14.2
North Dakota[b]	119	3	2.5	16	1.9
Ohio[i]	1,430	120	8.4	229	5.2
Oklahoma[b]	739	33	4.5	53	6.2
Oregon[a]	414	18	4.3	64	2.8
Pennsylvania[a]	1,549	111	7.2	190	5.8
Rhode Island[j]	88	12	13.6	18	6.8
South Carolina[c]	1,065	65	6.1	41	15.9
South Dakota[b]	150	10	6.7	25	4.0
Tennessee[a]	1,285	59	4.6	59	9.9
Texas[k]	3,518	182	5.2	144	12.6
Utah[b]	360	23	6.4	24	9.5
Vermont[a]	90	7	7.8	17	4.2
Virginia[a]	877	38	4.3	57	6.6
Washington[a]	634	38	6.0	106	3.6
West Virginia[a]	395	23	5.8	22	10.5
Wisconsin[b]	745	66	8.9	170	3.9
Wyoming[b]	189	9	4.8	16	5.7
U.S. Total	**41,611**	**2,472**	**5.9**	**3,839**	**6.4**
Puerto Rico	558	35	6.3	—	—

Status of state motorcycle helmet use requirements (as of July 2000): [a]Required for all riders. [b]Required for riders under 18 years old. [c]Required for riders under 21 years old. [d]No helmet use requirement. [e]Required for riders under 19 years old; helmets must be in possession of other riders, but use is not required. [f]Required for riders under 21 years old, riders operating with instruction permit, novices (first-year operators), and/or riders without proof of health insurance to county. [g]Operators must have $10,000 medical insurance coverage. [h]Required for riders under 15 years old, novices, and holders of learner's permits. [i]Required for riders under 18 years old and novices. [j]Required for riders under 21 years old and novices (first-year operators). [k]Required 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: 1999 registered vehicle data not available. Totals may not equal sum of components due to independent rounding.
Source: Registered vehicles — FHWA.