

# Traffic Safety Facts

2003 Data

## Motorcycles

In 2003, 3,661 motorcyclists were killed and an additional 67,000 were injured in traffic crashes in the United States — 12 percent more than the 3,270 motorcyclist fatalities and 4 percent more than the 65,000 motorcyclist injuries reported in 2002.

Table 1

**Motorcyclist Fatalities and Injuries and Fatality and Injury Rates, 1993-2003**

*“NHTSA estimates that helmets saved 1,158 motorcyclists’ lives in 2003, and that 640 more could have been saved if all motorcyclists had worn helmets.”*

Year	Fatalities	Registered Vehicles	Fatality Rate*	Vehicle Miles Traveled (millions)	Fatality Rate**
1993	2,449	3,977,856	61.57	9,906	24.72
1994	2,320	3,756,555	61.76	10,240	22.66
1995	2,227	3,897,191	57.14	9,797	22.73
1996	2,161	3,871,599	55.82	9,920	21.78
1997	2,116	3,826,373	55.30	10,081	20.99
1998	2,294	3,879,450	59.13	10,283	22.31
1999	2,483	4,152,433	59.80	10,584	23.46
2000	2,897	4,346,068	66.66	10,469	27.65
2001	3,197	4,903,056	65.20	9,639	33.17
2002	3,270	5,004,156	65.35	9,553	34.23
2003	3,661	—	—	—	—
Year	Injuries	Registered Vehicles	Injury Rate*	Vehicle Miles Traveled (millions)	Injury Rate**
1993	59,000	3,977,856	1,494	9,906	600
1994	57,000	3,756,555	1,528	10,240	561
1995	57,000	3,897,191	1,475	9,797	587
1996	55,000	3,871,599	1,428	9,920	557
1997	53,000	3,826,373	1,374	10,081	522
1998	49,000	3,879,450	1,262	10,283	476
1999	50,000	4,152,433	1,204	10,584	472
2000	58,000	4,346,068	1,328	10,469	551
2001	60,000	4,903,056	1,229	9,639	625
2002	65,000	5,004,156	1,293	9,553	677
2003	67,000	—	—	—	—

\*Rate per 100,000 registered vehicles. \*\*Rate per 100 million vehicle miles traveled.  
 — = not available. Source: Vehicle miles traveled and registered vehicles — Federal Highway Administration. Traffic deaths — Fatality Analysis Reporting System (FARS), NHTSA. Traffic injuries — General Estimates System (GES), NHTSA.

More than 123,000 motorcyclists have died in traffic crashes since the enactment of the Highway Safety and National Traffic and Motor Vehicle Safety Act of 1966.

Motorcycles made up more than 2 percent of all registered vehicles in the United States in 2002 and accounted for only 0.3 percent of all vehicle miles traveled.

Per vehicle mile traveled in 2002, motorcyclists were about 27 times as likely as passenger car occupants to die in a motor vehicle traffic crash and 6 times as likely to be injured.

Table 2

**Occupant Fatality Rates by Vehicle Type, 1992 and 2002**

Fatality Rate	Motorcycles	Passenger Cars	Light Trucks
<b>1992</b>			
Per 100,000 Registered Vehicles	58.92	17.77	15.04
Per 100 Million Vehicle Miles Traveled	25.06	1.49	1.26
<b>2002</b>			
Per 100,000 Registered Vehicles	65.35	15.83	14.95
Per 100 Million Vehicle Miles Traveled	34.23	1.28	1.21
<b>Percent Change, 1992-2002</b>			
Per 100,000 Registered Vehicles	10.9%	-10.9%	-0.6%
Per 100 Million Vehicle Miles Traveled	36.6%	-14.1%	-4.0%

*“Per vehicle mile, motorcyclists are about 27 times as likely as passenger car occupants to die in a traffic crash.”*

Note: 2003 registered vehicle and vehicle miles traveled data not available.

Per registered vehicle, the fatality rate for motorcyclists in 2002 was 4.1 times the fatality rate for passenger car occupants. The injury rate for passenger car occupants per registered vehicle was 1.1 times the injury rate for motorcyclists.

In 2003, motorcyclists accounted for 9 percent of total traffic fatalities, 10 percent of all occupant fatalities, and 2 percent of all occupants injured.

About one-half (2,008) of all motorcycles involved in fatal crashes in 2003 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 2003, 25 percent of the motorcycles involved in fatal crashes collided with a fixed object, compared to 18 percent for passenger cars, 12 percent for light trucks, and 4 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 2003, 9 percent of the reported injury crashes involving motorcycles were fixed object crashes, compared to 9 percent for passenger cars, 7 percent for light trucks, and 5 percent for large trucks.

In 2003, there were 1,675 two-vehicle fatal crashes involving a motorcycle and another vehicle. In 38 percent (634) 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 458 crashes (27 percent).

Almost half (45 percent) of all motorcyclist fatalities in 2003 resulted from crashes in seven states: 383 in California, 365 in Florida, 323 in Texas, 156 in Pennsylvania, 154 in New York, 143 in Illinois, and 136 in Ohio.

NHTSA considers a crash to be *speeding-related* if the driver was charged with a speeding-related offense or if an officer indicated that racing, driving too fast for conditions, or exceeding the posted speed limit was a contributing factor in the crash.

In 2003, 36 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 40 percent higher for motorcyclists than for drivers of passenger vehicles.

## Licensing

Nearly one out of four motorcycle operators (24 percent) involved in fatal crashes in 2003 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.

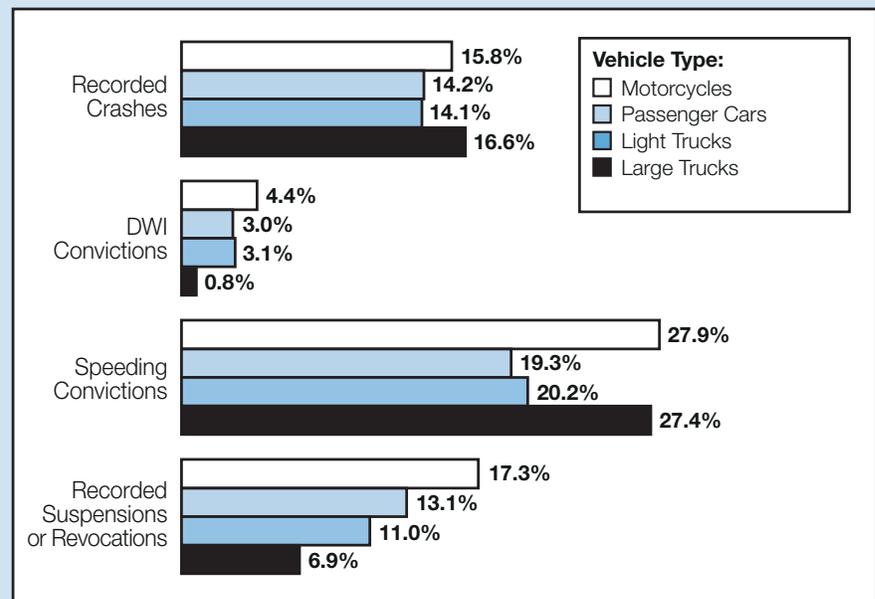
Motorcycle operators involved in fatal traffic crashes were 1.4 times as likely as passenger vehicle drivers to have a previous license suspension or revocation (17 percent and 12 percent, respectively).

In 2003, 4.4 percent of the motorcycle operators involved in fatal crashes had at least one previous conviction for driving while intoxicated on their driver records, compared to 3.0 percent of passenger vehicle drivers.

*“Nearly one out of four motorcycle operators in fatal crashes in 2003 were operating the vehicle with an invalid license.”*

Figure 1

### Previous Driving Records of Drivers Involved in Fatal Traffic Crashes, by Type of Vehicle, 2003



*“Almost half of the motorcycle operators who died in single-vehicle crashes in 2003 had BAC levels 0.08 g/dl or higher.”*

*“In 2003, a higher percentage of motorcycle operators in fatal crashes had BAC levels 0.08 g/dl or higher than any other type of driver.”*

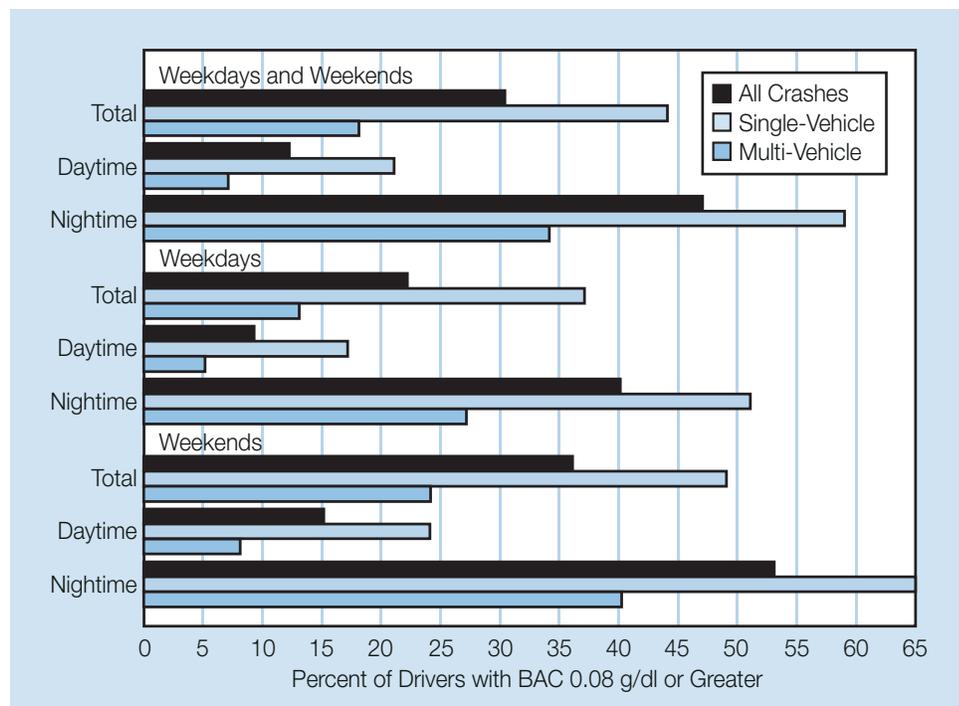
## Alcohol

A higher percentage of motorcycle operators involved in fatal crashes in 2003 had blood alcohol concentrations (BAC) of 0.08 grams per deciliter (g/dl) or higher than any other type of motor vehicle driver. The percentages for vehicle operators involved in fatal crashes were 29 percent for motorcycles, 22 percent for light trucks, 22 percent for passenger cars, and 1 percent for large trucks.

In 2003, 30 percent of all fatally injured motorcycle operators had BAC levels of 0.08 g/dl or higher. An additional 7 percent had lower alcohol levels (BAC 0.01 to 0.07 g/dl). The percentage with BAC 0.08 g/dl or above was highest for fatally injured operators between 40 and 44 years old (44 percent), followed by ages 35 to 39 (41 percent) and ages 45 to 49 (36 percent).

Almost half (44 percent) of the 1,501 motorcycle operators who died in single-vehicle crashes in 2003 had BAC levels of 0.08 g/dl or higher. Almost two-thirds (65 percent) of those killed in single-vehicle crashes on weekend nights had BAC 0.08 g/dl or higher.

Figure 2  
**Intoxication Rates for Motorcycle Operators Killed in Traffic Crashes, by Time of Day, 2003**



Motorcycle operators killed in traffic crashes at night were 4 times as likely to have BAC levels 0.08 g/dl or higher as those killed during the day (47 percent and 12 percent, respectively).

The reported helmet use rate for motorcycle operators with BAC levels 0.08 g/dl or higher killed in traffic crashes was 41 percent, compared with 60 percent for those with no alcohol (BAC = 0.00 g/dl).

Table 3  
**2003 Motorcyclist Fatalities and 2002 Fatality Rates by State**

State	2003			2002	
	Total Traffic Fatalities	Motorcyclist Fatalities	Percent of Total	Registered Vehicles (thousands)	Motorcyclist Fatalities per 10,000 Registered Vehicles
Alabama <sup>a</sup>	1,001	51	5.1	62	6.93
Alaska <sup>b</sup>	95	12	12.6	18	6.60
Arizona <sup>b</sup>	1,120	109	9.7	219	4.29
Arkansas <sup>b</sup>	627	56	8.9	34	11.14
California <sup>a</sup>	4,215	383	9.1	535	6.05
Colorado <sup>k</sup>	632	69	10.9	119	5.31
Connecticut <sup>b</sup>	294	28	9.5	62	7.57
Delaware <sup>c</sup>	142	11	7.7	14	5.07
District of Columbia <sup>a</sup>	67	7	10.4	1	47.78
Florida <sup>d</sup>	3,169	365	11.5	345	9.23
Georgia <sup>a</sup>	1,603	103	6.4	109	7.80
Hawaii <sup>b</sup>	135	19	14.1	21	11.66
Idaho <sup>b</sup>	293	19	6.5	43	2.81
Illinois <sup>k</sup>	1,453	143	9.8	232	4.31
Indiana <sup>b</sup>	834	81	9.7	136	6.49
Iowa <sup>k</sup>	441	51	11.6	141	2.92
Kansas <sup>b</sup>	471	31	6.6	54	6.15
Kentucky <sup>e</sup>	928	58	6.3	49	9.28
Louisiana <sup>f</sup>	894	77	8.6	54	12.61
Maine <sup>g</sup>	207	20	9.7	31	4.19
Maryland <sup>a</sup>	649	56	8.6	57	8.98
Massachusetts <sup>a</sup>	462	35	7.6	130	4.47
Michigan <sup>a</sup>	1,283	81	6.3	205	4.25
Minnesota <sup>b</sup>	657	64	9.7	159	2.97
Mississippi <sup>a</sup>	871	42	4.8	27	9.62
Missouri <sup>a</sup>	1,232	90	7.3	64	9.35
Montana <sup>b</sup>	262	12	4.6	30	8.07
Nebraska <sup>a</sup>	293	13	4.4	25	5.92
Nevada <sup>a</sup>	368	26	7.1	36	9.75
New Hampshire <sup>b</sup>	127	9	7.1	57	2.09
New Jersey <sup>a</sup>	747	34	4.6	134	3.73
New Mexico <sup>b</sup>	439	36	8.2	34	9.28
New York <sup>a</sup>	1,491	154	10.3	143	9.87
North Carolina <sup>a</sup>	1,531	106	6.9	91	13.51
North Dakota <sup>b</sup>	105	4	3.8	18	0.56
Ohio <sup>h</sup>	1,277	136	10.6	271	4.91
Oklahoma <sup>b</sup>	668	43	6.4	67	5.84
Oregon <sup>a</sup>	512	44	8.6	74	3.49
Pennsylvania <sup>a</sup>	1,577	156	9.9	250	5.36
Rhode Island <sup>i</sup>	104	13	12.5	23	3.91
South Carolina <sup>b</sup>	968	89	9.2	63	14.35
South Dakota <sup>b</sup>	203	19	9.4	34	5.60
Tennessee <sup>a</sup>	1,193	90	7.5	84	8.89
Texas <sup>j</sup>	3,675	323	8.8	235	10.90
Utah <sup>b</sup>	309	22	7.1	41	4.35
Vermont <sup>a</sup>	69	3	4.3	27	1.88
Virginia <sup>a</sup>	943	56	5.9	70	7.70
Washington <sup>a</sup>	600	59	9.8	134	4.02
West Virginia <sup>a</sup>	394	30	7.6	31	9.39
Wisconsin <sup>b</sup>	848	103	12.1	205	4.01
Wyoming <sup>p</sup>	165	20	12.1	25	4.84
<b>U.S. Total</b>	<b>42,643</b>	<b>3,661</b>	<b>8.6</b>	<b>5,004</b>	<b>6.53</b>
Puerto Rico <sup>a</sup>	493	56	11.4	22	27.48

Status of state motorcycle helmet use requirements (as of December 2003): <sup>a</sup>Required for all riders. <sup>b</sup>Required for riders under 18 years old. <sup>c</sup>Required for riders under 19 years old; helmets must be in possession of other riders, but use is not required. <sup>d</sup>Required for riders under 21 years old and those without \$10,000 medical insurance that will cover injuries from a motorcycle crash. <sup>e</sup>Required for riders under 21 years old, riders operating with instruction permit, and novices (first-year operators). <sup>f</sup>Required for riders under 18 years old and those without \$10,000 medical insurance; proof of insurance policy must be shown to law enforcement officer upon request. <sup>g</sup>Required for riders under 15 years old, novices, and holders of learner's permits. <sup>h</sup>Required for riders under 18 years old; novices must wear helmets. <sup>i</sup>Required for riders under 21 years old; novices must wear helmets. <sup>j</sup>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. <sup>k</sup>No helmet use requirement.

Notes: 2003 registered vehicle data not available. Totals may not equal sum of components due to independent rounding.

Source: Registered vehicles — FHWA.

*“Helmets are estimated to be 37 percent effective in preventing fatal injuries to motorcyclists.”*

## Helmets

NHTSA estimates that helmets saved the lives of 1,158 motorcyclists in 2003. If all motorcyclists had worn helmets, an additional 640 lives could have been saved.

Helmets are estimated to be 37 percent effective in preventing fatal injuries to motorcyclists.

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 declined by 13 percentage points over 2 years, from 71 percent in 2000 to 58 percent in 2002. This drop is statistically significant and corresponds to a striking 45 percent increase in nonuse.

Reported helmet use rates for fatally injured motorcyclists in 2003 were 53 percent for operators and 50 percent for passengers, compared with 53 percent and 41 percent, respectively, in 2002.

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 2003, 20 states, the District of Columbia, and Puerto Rico required helmet use by all motorcycle operators and passengers. In another 27 states, only persons under a specific age, usually 18, were required to wear helmets. Three states had no laws requiring helmet use.

### For more information:

Information on motorcycle traffic fatalities is available from the National Center for Statistics and Analysis, NPO-101, 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/nca>. To report a safety-related problem or to inquire about motor vehicle safety information, contact the DOT Vehicle Safety Hotline at 1-888-327-4236.

Other fact sheets available from the National Center for Statistics and Analysis are *Overview, Alcohol, Occupant Protection, Older Population, Speeding, Young Drivers, Pedestrians, Pedalcyclists, Children, Large Trucks, School Transportation-Related Crashes, State Traffic Data, and State Alcohol Estimates*. Detailed data on motor vehicle traffic crashes are published annually in *Traffic Safety Facts: A Compilation of Motor Vehicle Crash Data from the Fatality Analysis Reporting System and the General Estimates System*.