

Traffic Safety Facts

2006 Data

DOT HS 810 806
 (Updated March 2008)

Motorcycles

In 2006, 4,810 motorcyclists were killed – an increase of 5 percent over the 4,576 motorcyclists killed in 2005. There were 88,000 motorcyclists injured during 2006.

“NHTSA estimates that helmets saved 1,658 motorcyclists’ lives in 2006, and that 752 more could have been saved if all motorcyclists had worn helmets.”

Table 1
Motorcyclist Fatalities and Injuries and Fatality and Injury Rates, 1996-2006

Year	Fatalities	Registered Vehicles	Fatality Rate*	Vehicle Miles Traveled (millions)	Fatality Rate**
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	27.67
2001	3,197	4,903,056	65.20	9,639	33.17
2002	3,270	5,004,156	65.35	9,552	34.23
2003	3,714	5,370,035	69.16	9,577	38.78
2004	4,028	5,767,934	69.83	10,122	39.79
2005	4,576	6,227,146	73.48	10,454	43.77
2006	4,810	6,686,147	71.94	12,401	38.79

Year	Injuries	Registered Vehicles	Injury Rate*	Vehicle Miles Traveled (millions)	Injury Rate**
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	9,552	677
2003	67,000	5,370,035	1,250	9,577	701
2004	76,000	5,767,934	1,324	10,122	755
2005	87,000	6,227,146	1,402	10,454	835
2006	88,000	6,686,147	1,311	12,401	707

*Rate per 100,000 registered vehicles. **Rate per 100 million vehicle miles traveled.

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

Table 2
2006 Motorcycle Rider Fatalities by State, Helmet Use, and Operator Alcohol Use

State	Total Motorcycle Rider Fatalities	Helmeted	Not Helmeted	BAC \geq .01 g/dL	No Alcohol (.00)
	Number	Percent	Percent	Number	Number
Alabama	105	90.5	9.5	31	74
Alaska	9	77.8	22.2	1	8
Arizona	142	33.8	66.2	53	89
Arkansas	76	24.3	75.7	24	52
California	506	86.5	13.5	160	346
Colorado	74	17.6	82.4	33	41
Connecticut	53	34.6	65.4	17	36
Delaware	12	33.3	66.7	6	6
Dist of Columbia	1	100.0	0.0	0	1
Florida	562	53.3	46.7	178	384
Georgia	154	85.6	14.4	49	105
Hawaii	27	22.2	77.8	10	17
Idaho	38	40.5	59.5	15	23
Illinois	132	21.4	78.6	63	69
Indiana	110	19.8	80.2	41	69
Iowa	57	14.0	86.0	21	36
Kansas	64	30.6	69.4	19	45
Kentucky	98	30.6	69.4	26	72
Louisiana	95	87.1	12.9	29	66
Maine	23	27.3	72.7	6	17
Maryland	84	85.7	14.3	28	56
Massachusetts	50	89.6	10.4	15	35
Michigan	114	88.0	12.0	39	75
Minnesota	67	22.4	77.6	21	46
Mississippi	55	80.0	20.0	21	34
Missouri	93	81.1	18.9	40	53
Montana	26	46.2	53.8	10	16
Nebraska	18	76.5	23.5	9	9
Nevada	50	82.0	18.0	16	34
New Hampshire	21	28.6	71.4	11	10
New Jersey	87	86.9	13.1	29	58
New Mexico	43	22.0	78.0	14	29
New York	192	86.6	13.4	59	133
North Carolina	150	90.5	9.5	44	106
North Dakota	4	0.0	100.0	2	2
Ohio	158	25.6	74.4	68	90
Oklahoma	64	25.0	75.0	19	45
Oregon	44	97.7	2.3	18	26
Pennsylvania	188	52.7	47.3	63	125
Rhode Island	16	31.3	68.8	8	8
South Carolina	109	25.7	74.3	50	59
South Dakota	22	22.7	77.3	7	15
Tennessee	140	84.9	15.1	41	99
Texas	346	36.4	63.6	154	192
Utah	24	34.8	65.2	3	21
Vermont	10	60.0	40.0	2	8
Virginia	69	96.9	3.1	15	54
Washington	80	92.5	7.5	23	57
West Virginia	38	75.0	25.0	12	26
Wisconsin	93	25.8	74.2	48	45
Wyoming	17	23.5	76.5	7	10
U.S. Total	4,810	58.2	41.8	1,677	3,133
Puerto Rico	115	43.5	56.5	38	77

Note: Percent Helmeted based on fatalities with known helmet use.

An estimated 137,000 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 nearly 3 percent of all registered vehicles in the United States in 2006 and accounted for only 0.4 percent of all vehicle miles traveled.

Per vehicle mile traveled in 2006, motorcyclists were about 35 times more likely than passenger car occupants to die in a motor vehicle traffic crash and 8 times more likely to be injured.

Table 3
Occupant Fatality Rates by Vehicle Type, 1996 and 2006

Fatality Rate		Motorcycles	Passenger Cars	Light Trucks
1996	Per 100,000 Registered Vehicles	55.82	18.06	15.18
	Per 100 Million Vehicle Miles Traveled	21.78	1.50	1.26
2006	Per 100,000 Registered Vehicles	71.94	13.01	12.95
	Per 100 Million Vehicle Miles Traveled	38.79	1.10	1.10
Percent Change, 1996-2006	Per 100,000 Registered Vehicles	28.88	-27.96	-14.69
	Per 100 Million Vehicle Miles Traveled	78.10	-26.67	-12.70

“Per vehicle mile traveled, motorcyclists are about 35 times more likely than passenger car occupants to die in a traffic crash.”

Per registered vehicle, the fatality rate for motorcyclists in 2006 was 5.5 times the fatality rate for passenger car occupants. The injury rate for motorcyclists was 1.2 times the injury rate for passenger car occupants.

In 2006, motorcyclists accounted for 11 percent of total traffic fatalities, 13 percent of all occupant fatalities, and 4 percent of all occupants injured.

Motorcycle Involvement in Crashes

In 2006, 2,537 (51%) of all motorcycles involved in fatal crashes collided with another type of 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 2006, 25 percent of the motorcycles involved in fatal crashes collided with fixed objects, compared to 18 percent for passenger cars, 12 percent for light trucks, and 3 percent for large trucks.

In 2006, there were 2,226 two-vehicle fatal crashes involving a motorcycle and another type of vehicle. In 40 percent (883) 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 582 crashes (26%).

“One out of four motorcycle operators in fatal crashes in 2006 were operating their vehicles with an invalid license.”

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 2006, 37 percent of all motorcyclists involved in fatal crashes were speeding, compared to 23 percent for passenger car drivers, 19 percent for light-truck drivers, and 8 percent for large-truck drivers.

Table 4
Motorcycle Rider Fatalities by Age Group, 1996 and 2006

Year	Age Group				Total
	<30	30-39	40+	Unknown	
1996	965	555	641	0	2,161
2006	1,527	1,002	2,279	2	4,810

Table 5
Motorcycle Riders Fatalities by Engine Size cc, 1996 and 2006

Year	Engine Size “in cc”				Total
	Up to 500	501-1,000	1,001-1,500	Other/Unknown	
1996	243	1,001	654	263	2,161
2006	239	2,054	1,857	660	4,810

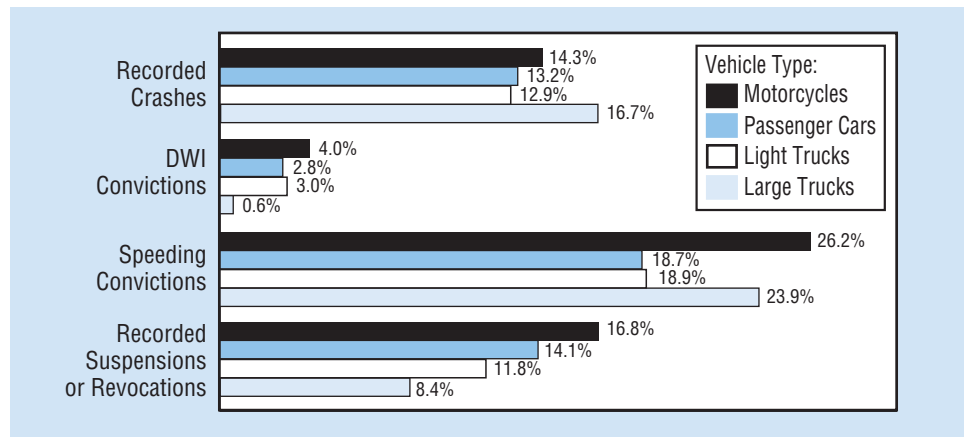
Licensing

One out of four motorcycle operators (25%) involved in fatal crashes in 2006 were operating their vehicles with invalid licenses at the time of the collision, while only 13 percent of drivers of passenger vehicles in fatal crashes did not have valid licenses.

Motorcycle operators involved in fatal traffic crashes were 1.2 times more likely than passenger vehicle drivers to have a previous license suspension or revocation (16% and 13%, respectively).

In 2006, 3.9 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 2.8 percent of passenger vehicle drivers.

Figure 1
Previous Driving Records of Drivers Involved in Fatal Traffic Crashes, by Type of Vehicle, 2006



Alcohol

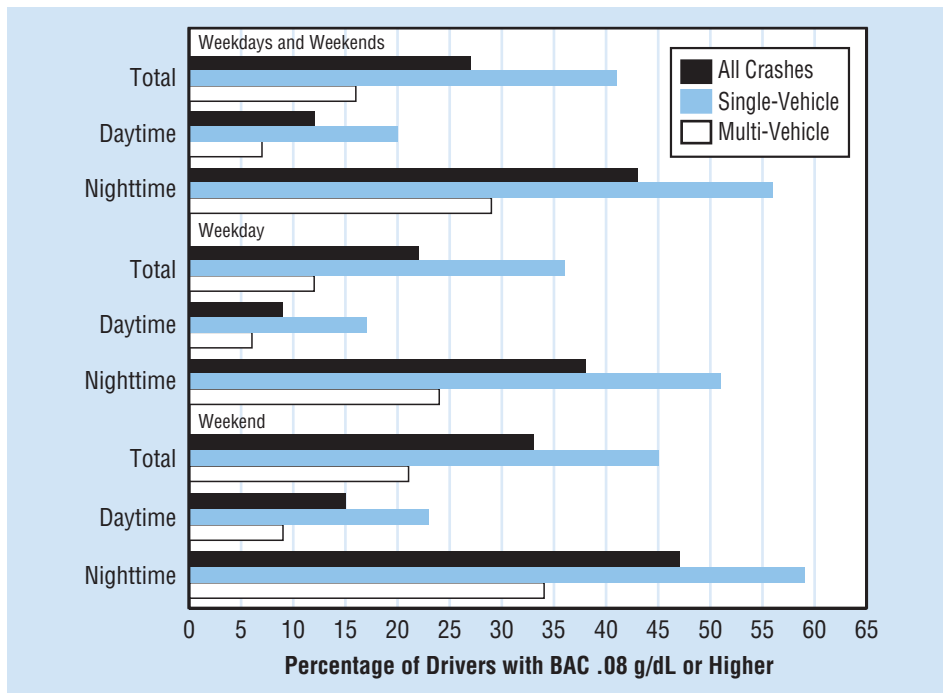
In fatal crashes in 2006 a higher percentage of motorcycle operators had blood alcohol concentrations (BAC) of .08 grams per deciliter (g/dL) or higher than any other type of motor vehicle driver. The percentages for vehicle operators involved in fatal crashes were 27 percent for motorcycles, 23 percent for passenger cars, 24 percent for light trucks, and 1 percent for large trucks.

In 2006, 27 percent of all fatally injured motorcycle operators had BAC levels of .08 g/dL or higher. An additional 7 percent had lower alcohol levels (BAC .01 to .07 g/dL).

The percentage with BAC .08 g/dL or above was highest for fatally injured motorcycle operators among two age groups, 35-39 (41%) and 40-44 (39%) followed by ages 45-49 (34%).

Forty-one percent of the 2,007 motorcycle operators who died in single-vehicle crashes in 2006 had BAC levels of .08 g/dL or higher. Fifty-nine percent of those killed in single-vehicle crashes on weekend nights had BACs of .08 g/dL or higher.

Figure 2
Intoxication Rates for Motorcycle Operators Killed in Traffic Crashes, by Time of Day, 2006



Motorcycle operators killed in traffic crashes at night were more than 3 times more likely to have BAC levels of .08 g/dL or higher than those killed during the day (43% and 12%, respectively).

The reported helmet use rate for motorcycle operators with BAC levels .08 g/dL or higher killed in traffic crashes was 45 percent, compared with 66 percent for those with no alcohol (BAC = .00 g/dL).

“Forty-one percent of motorcycle operators who died in single-vehicle crashes in 2006 had BAC levels of .08 g/dL or higher.”

“In 2006, a higher percentage of motorcycle operators in fatal crashes had BAC levels of .08 g/dL or higher than any other type of driver.”

Helmet Use and Effectiveness

NHTSA estimates that helmets saved the lives of 1,658 motorcyclists in 2006. If all motorcyclists had worn helmets, an additional 752 lives could have been saved.

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

This means for every 100 motorcyclists killed in crashes while not wearing a helmet, 37 of them could have been saved had all 100 worn helmets.

According to NHTSA's National Occupant Protection Use Survey, a nationally representative observational survey of motorcycle helmet, seat belt, and child safety seat use, helmet use declined by 20 percentage points over 5 years, from 71 percent in 2000 to 51 percent in 2006. This drop is statistically significant and corresponds to a striking 70-percent increase in nonuse.

Reported helmet use rates for fatally injured motorcyclists in 2006 were 59 percent for operators and 45 percent for passengers, compared with 58 percent and 50 percent, respectively, in 2005.

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 2006, 20 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. Four States had no laws requiring helmet use.

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For more information:

Information on traffic fatalities is available from the National Center for Statistics and Analysis, NVS-421, 1200 New Jersey Avenue SE., Washington, DC 20590. NCSA can be contacted on 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 www.nhtsa.gov/portal/site/nhtsa/ncsa. To report a safety-related problem or to inquire about motor vehicle safety information, contact the Vehicle Safety Hotline at 888-327-4236.

Other fact sheets available from the National Center for Statistics and Analysis are *Overview, Alcohol, African American, Bicyclists and Other Cyclists (formerly titled Pedalcyclists), Children, Hispanic, Large Trucks, Occupant Protection, Older Population, Pedestrians, Race and Ethnicity, Rural/Urban Comparisons, School Transportation-Related Crashes, Speeding, State Alcohol Estimates, State Traffic Data, and Young Drivers*. 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*. The fact sheets and annual Traffic Safety Facts report can be accessed online at www-nrd.nhtsa.dot.gov/CMSWeb/index.aspx.