

Traffic Safety Facts

2007 Data

www.nhtsa.gov

NHTSA

DOT HS 810 990

Motorcycles

"NHTSA estimates that helmets saved 1,784 motorcyclists' lives in 2007, and that 800 more could have been saved if all motorcyclists had worn helmets."

NHTSA has recently redefined their motorcycle terminology. The following terms will be used to define motorcycle occupants: a motorcycle rider is the operator only; a passenger is any person seated on the motorcycle but not in control of the motorcycle; and any combined reference to the "motorcycle rider" (operator) as well as the "passenger" will be referred to as motorcyclists. Prior NHTSA publications may not reflect this terminology.

In 2007, 5,154 motorcyclists were killed—an increase of 7 percent over the 4,837 motorcyclists killed in 2006. There were 103,000 motorcyclists injured during 2007.

Table 1
Motorcyclist Fatalities, Injuries, and Fatality and Injury Rates, 1997–2007

Year	Fatalities	Registered Vehicles	Fatality Rate*	Vehicle Miles Traveled (millions)	Fatality Rate**
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	4,837	6,686,147	72.34	12,401	39.00
2007	5,154	—	—	—	—

Year	Injuries	Registered Vehicles	Injury Rate*	Vehicle Miles Traveled (millions)	Injury Rate**
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
2007	103,000	—	—	—	—

*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

Table 2
Motorcycle Rider Fatalities by State, Helmet Use, and BAC, 2007

State	Total Motorcycle Riders Killed	Helmeted	Not Helmeted	Impaired Motorcycle Riders Killed (BAC=.08+)	BAC=.01+
	Number	Percent	Percent	Percent	Percent
Alabama	80	91%	9%	19%	25%
Alaska	6	100%	0%	30%	35%
Arizona	127	44%	56%	22%	30%
Arkansas	76	38%	62%	23%	36%
California	495	86%	14%	24%	30%
Colorado	84	38%	62%	30%	37%
Connecticut	36	36%	64%	23%	35%
Delaware	15	36%	64%	21%	38%
Dist of Columbia	2	50%	50%	50%	100%
Florida	530	52%	48%	25%	32%
Georgia	156	88%	12%	18%	25%
Hawaii	25	24%	76%	29%	45%
Idaho	26	35%	65%	24%	30%
Illinois	142	19%	81%	38%	46%
Indiana	113	20%	80%	33%	39%
Iowa	54	9%	91%	28%	32%
Kansas	41	28%	73%	21%	30%
Kentucky	105	37%	63%	25%	28%
Louisiana	78	76%	24%	31%	40%
Maine	18	33%	67%	25%	26%
Maryland	88	90%	10%	23%	30%
Massachusetts	59	95%	5%	34%	46%
Michigan	120	90%	10%	22%	28%
Minnesota	58	21%	79%	26%	34%
Mississippi	47	64%	36%	29%	35%
Missouri	84	79%	21%	31%	38%
Montana	33	47%	53%	27%	30%
Nebraska	13	69%	31%	46%	62%
Nevada	48	88%	13%	26%	39%
New Hampshire	23	43%	57%	13%	27%
New Jersey	79	83%	17%	28%	36%
New Mexico	49	18%	82%	41%	49%
New York	158	85%	15%	26%	36%
North Carolina	195	93%	7%	26%	33%
North Dakota	6	17%	83%	20%	40%
Ohio	178	35%	65%	29%	36%
Oklahoma	67	30%	70%	29%	31%
Oregon	47	93%	7%	28%	39%
Pennsylvania	210	46%	54%	34%	43%
Rhode Island	13	25%	75%	58%	72%
South Carolina	119	26%	74%	40%	47%
South Dakota	24	21%	79%	18%	31%
Tennessee	144	87%	13%	27%	34%
Texas	375	40%	60%	39%	46%
Utah	29	50%	50%	10%	14%
Vermont	7	71%	29%	14%	29%
Virginia	126	91%	9%	29%	39%
Washington	65	85%	15%	35%	45%
West Virginia	38	83%	17%	24%	33%
Wisconsin	104	23%	77%	35%	47%
Wyoming	18	44%	56%	28%	32%
National	4,833	59%	41%	28%	36%
Puerto Rico	83	33%	67%	32%	43%

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

An estimated 142,000 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	72.34	13.10	12.99
	Per 100 Million Vehicle Miles Traveled	39.00	1.11	1.10
Percent Change, 1996–2006	Per 100,000 Registered Vehicles	29.61	-27.48	-14.41
	Per 100 Million Vehicle Miles Traveled	79.05	-26.00	-12.66

Note: 2007 registered vehicle and vehicle miles traveled data not available.

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 2007, motorcyclists accounted for 13 percent of total traffic fatalities, 14 percent of all occupant fatalities, and 4 percent of all occupants injured.

Motorcycle Involvement in Crashes

In 2007, 2,641 (50%) of all motorcycles involved in fatal crashes collided with another type of motor vehicle in transport. In two-vehicle crashes, 78 percent of the motorcycles involved were struck 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 2007, 25 percent of the motorcycles involved in fatal crashes collided with fixed objects, compared to 18 percent for passenger cars, 13 percent for light trucks, and 3 percent for large trucks.

In 2007, there were 2,332 two-vehicle fatal crashes involving a motorcycle and another type of vehicle. In 40 percent (939) 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 632 crashes (27%).

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

“One out of four motorcycle riders in fatal crashes in 2007 were riding 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 2007, 36 percent of all motorcycle riders involved in fatal crashes were speeding, compared to 24 percent for passenger car drivers, 19 percent for light-truck drivers, and 8 percent for large-truck drivers.

Table 4
Motorcyclist Fatalities by Age Group, 1997 and 2007

Year	Age Group				Total
	<30	30–39	40+	Unknown	
1997	860	556	699	1	2,116
2007	1,573	1,039	2,537	5	5,154

Table 5
Motorcyclist Fatalities by Engine Size (cc), 1997 and 2007

Year	Engine Displacement				Total
	Up to 500	501–1,000	1,001–1,500	Other/Unknown	
1997	194	957	729	236	2,116
2007	232	2,266	1,826	830	5,154

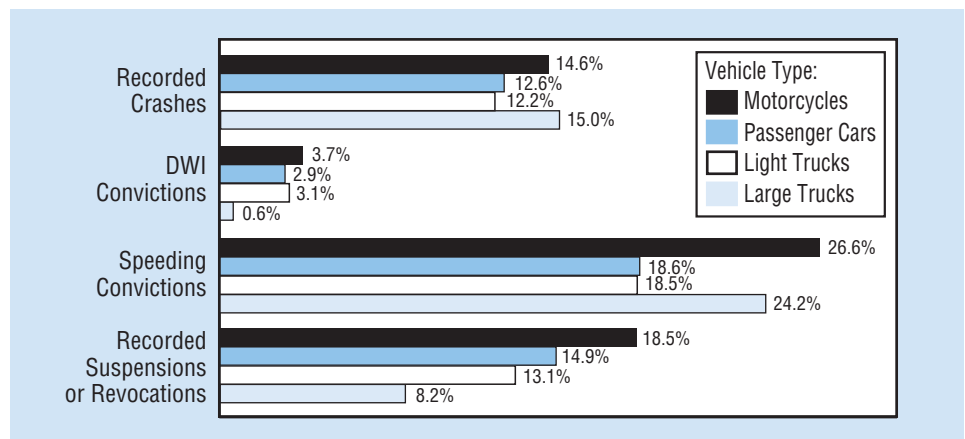
Licensing

One out of four motorcycle riders (26%) involved in fatal crashes in 2007 were riding 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 riders involved in fatal traffic crashes were 1.3 times more likely than passenger vehicle drivers to have a previous license suspension or revocation (18% and 14%, respectively).

In 2007, 3.7 percent of the motorcycle riders involved in fatal crashes had at least one previous conviction for driving while intoxicated on their driver records, compared to 2.9 percent of passenger vehicle drivers.

Figure 1
Previous Driving Records of Drivers Involved in Fatal Traffic Crashes, by Type of Vehicle, 2007



Alcohol

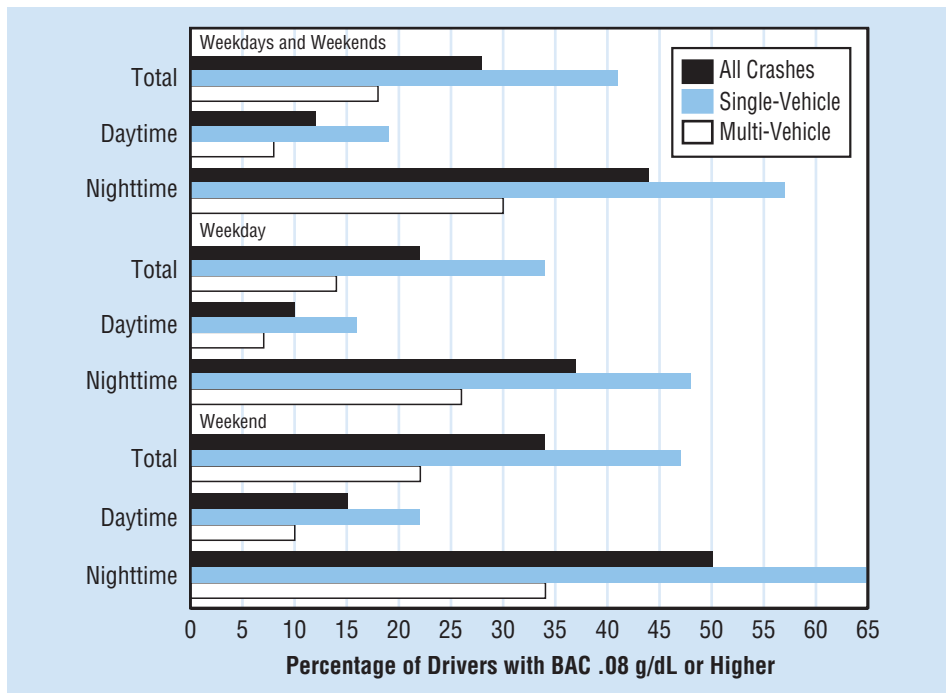
In fatal crashes in 2007 a higher percentage of motorcycle riders had blood alcohol concentration (BAC) of .08 grams per deciliter (g/dL) or higher than any other type of motor vehicle driver. The percentages for vehicle riders involved in fatal crashes were 27 percent for motorcycles, 23 percent for passenger cars, 23 percent for light trucks, and 1 percent for large trucks.

In 2007, 28 percent of all fatally injured motorcycle riders had BAC levels of .08 g/dL or higher. An additional 8 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 riders among two age groups, 45–49 (41%) and 40–44 (37%) followed by ages 35–39 (35%).

Forty-one percent of the 2,182 motorcycle riders who died in single-vehicle crashes in 2007 had BAC levels of .08 g/dL or higher. Sixty-five 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 Riders Killed in Traffic Crashes, by Time of Day, 2007



Motorcycle riders killed in traffic crashes at night were nearly (3.667) 4 times more likely to have BAC levels of .08 g/dL or higher than those killed during the day (44% and 12% respectively).

The reported helmet use rate for motorcycle riders 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 riders who died in single-vehicle crashes in 2007 had BAC levels of .08 g/dL or higher.”

“In 2007, a higher percentage of motorcycle riders 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 1,784 motorcyclists in 2007. If all motorcyclists had worn helmets, an additional 800 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 13 percentage points from 71 percent in 2000 to 58 percent in 2007.

Reported helmet use rates for fatally injured motorcyclists in 2007 were 59 percent for riders and 47 percent for passengers, compared with 59 percent and 45 percent, respectively, in 2006.

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 2007, 20 States, the District of Columbia, and Puerto Rico required helmet use by all motorcyclists. Other States either required only a subset of motorcyclists to use helmets (such as those under age 18), or had no helmet requirement.

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

For more information:

Information on traffic fatalities is available from the National Center for Statistics and Analysis, NVS-424, 1200 New Jersey Avenue SE., Washington, DC 20590. NCSA can be contacted at 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/Cats.