Traffic Safety Facts
2005 Data

NHTSA
www.nhtsa.gov

DOT HS 810 620

Motorcycles

In 2005, 4,553 motorcyclists were killed and an additional 87,000 were injured in traffic crashes in the United States — 13 percent more than the 4,028 motorcyclist fatalities and 14 percent more than the 76,000 motorcyclist injuries reported in 2004.

"NHTSA estimates that helmets saved 1,546 motorcyclists' lives in 2005, and that 728 more could have been saved if all motorcyclists had worn helmets."

Table 1
Motorcyclist Fatalities and Injuries and Fatality and Injury Rates, 1995-2005

Year	Fatalities	Registered Vehicles	Fatality Rate*	Vehicle Miles Traveled (millions)	Fatality Rate**
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	55.3	10,081	20.99
1998	2,294	3,879,450	59.13	10,283	22.31
1999	2,483	4,152,433	59.8	10,584	23.46
2000	2,897	4,346,068	66.66	10,469	27.67
2001	3,197	4,903,056	65.2	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	5,780,870	69.68	10,048	40.09
2005	4,553	–	–	–	–

Year	Injuries	Registered Vehicles	Injury Rate*	Vehicle Miles Traveled (millions)	Injury Rate**
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	9,552	677
2003	67,000	5,370,035	1,250	9,577	701
2004	76,000	5,780,870	1,321	10,048	760
2005	87,000	–	–	–	–

* Rate per 100,000 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.

NCSA
NHTSA's National Center for Statistics & Analysis

Table 2
2005 Motorcycle Rider Fatalities by State, Helmet Use, and Operator Alcohol Use

State	Total Motorcycle Fatalities	Helmeted	Not Helmeted	Rider Fatalities With Operator's BAC*	
				.01+	No Alcohol (.00)
	Number	Percent	Percent	Number	Number
Alabama	61	95.1	4.9	18	43
Alaska	4	75.0	25.0	1	3
Arizona	124	40.7	59.3	41	83
Arkansas	63	49.2	50.8	21	42
California	469	87.7	12.3	125	344
Colorado	87	4.6	95.4	29	58
Connecticut	43	34.1	65.9	13	30
Delaware	21	66.7	33.3	10	11
Dist of Columbia	6	100.0	0.0	2	4
Florida	469	49.3	50.7	182	287
Georgia	144	89.6	10.4	41	104
Hawaii	30	27.6	72.4	13	17
Idaho	26	34.6	65.4	5	20
Illinois	157	19.2	80.8	67	90
Indiana	110	19.0	81.0	44	67
Iowa	45	35.6	64.4	13	32
Kansas	35	22.6	77.4	12	23
Kentucky	89	34.8	65.2	32	57
Louisiana	75	75.3	24.7	28	48
Maine	15	40.0	60.0	8	7
Maryland	85	89.4	10.6	23	62
Massachusetts	55	92.5	7.5	17	38
Michigan	124	79.1	20.9	43	81
Minnesota	58	31.6	68.4	21	37
Mississippi	39	71.8	28.2	10	29
Missouri	91	66.7	33.3	35	56
Montana	28	46.4	53.6	8	20
Nebraska	17	80.0	20.0	8	10
Nevada	56	70.0	30.0	15	41
New Hampshire	44	23.3	76.7	15	29
New Jersey	61	83.1	16.9	21	40
New Mexico	38	16.2	83.8	9	29
New York	161	82.9	17.1	54	105
North Carolina	152	92.8	7.2	42	110
North Dakota	6	16.7	83.3	2	4
Ohio	178	25.8	74.2	76	102
Oklahoma	77	24.7	75.3	18	59
Oregon	48	93.6	6.4	20	28
Pennsylvania	205	53.5	46.5	71	134
Rhode Island	14	57.1	42.9	5	9
South Carolina	106	25.0	75.0	43	63
South Dakota	22	42.9	57.1	3	19
Tennessee	128	84.3	15.7	42	86
Texas	360	40.7	59.3	150	211
Utah	23	21.7	78.3	2	21
Vermont	14	92.9	7.1	6	8
Virginia	69	86.2	13.8	22	47
Washington	74	97.3	2.7	26	49
West Virginia	34	88.2	11.8	10	24
Wisconsin	93	22.6	77.4	44	49
Wyoming	20	25.0	75.0	9	11
U.S. Total	**4,553**	**57.2**	**42.8**	**1,572**	**2,978**
Puerto Rico	90	41.1	58.9	41	49

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

* 3 Fatalities had no associated operator's BAC

An estimated 132,000 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 2004 and accounted for only 0.3 percent of all vehicle miles traveled.

Per vehicle mile traveled in 2004, motorcyclists were about 34 times more likely than passenger car occupants to die in a motor vehicle traffic crash and 8 times more likely to be injured.

"Per vehicle mile, motorcyclists are about 34 times more likely than passenger car occupants to die in a traffic crash."

Table 3
Occupant Fatality Rates by Vehicle Type, 1994 and 2004

Fatality Rate		Motorcycles	Passenger Cars	Light Trucks
1994	Per 100,000 Registered Vehicles	61.76	18.03	14.97
	Per 100 Million Vehicle Miles Traveled	22.66	1.51	1.25
2004	Per 100,000 Registered Vehicles	69.68	14.4	14.09
	Per 100 Million Vehicle Miles Traveled	40.09	1.18	1.16
Percent Change, 1994-2004	Per 100,000 Registered Vehicles	12.82	-20.14	-5.86
	Per 100 Million Vehicle Miles Traveled	76.94	-21.59	-7.57

Note: 2005 registered vehicle and vehicle miles traveled data not available.

Per registered vehicle, the fatality rate for motorcyclists in 2004 was 4.8 times the fatality rate for passenger car occupants. The injury rate for passenger car occupants per registered vehicle was 0.9 times the injury rate for motorcyclists.

In 2005, motorcyclists accounted for 10 percent of total traffic fatalities, 12 percent of all occupant fatalities, and 3 percent of all occupants injured.

Motorcycle Involvement in Crashes

In 2005, 2,347 (50%) of all motorcycles involved in fatal crashes collided with another motor vehicle in transport. In two-vehicle crashes, 78 percent of the motorcycles involved were impacted in the front. Only 6 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 2005, 26 percent of the motorcycles involved in fatal crashes collided with fixed objects, compared to 17 percent for passenger cars, 12 percent for light trucks, and 3 percent for large trucks.

In 2005, there were 2,128 two-vehicle fatal crashes involving a motorcycle and another vehicle. In 38 percent (819) 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 593 crashes (28%).

"Nearly one out of four motorcycle operators in fatal crashes in 2005 were operating the vehicle 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 2005, 34 percent of all motorcyclists involved in fatal crashes were speeding, compared to 26 percent for passenger car drivers, 25 percent for light-truck drivers, and 2 percent for large-truck drivers.

Table 4
Motorcycle Rider Fatalities by Age Group, 1995 and 2005

Year	Age Group				Total
	<30	30-39	40+	Unknown	
1995	1,104	576	547	0	2,227
2005	1,438	971	2,143	1	4,553

Table 5
Motorcycle Riders Fatalities by Engine Size cc, 1995 and 2005

Year	Engine Size "in cc"				Total
	Up to 500	501-1,000	1,001-1,500	Other/ Unknown	
1995	310	1,009	666	242	2,227
2005	255	1,902	1,857	539	4,553

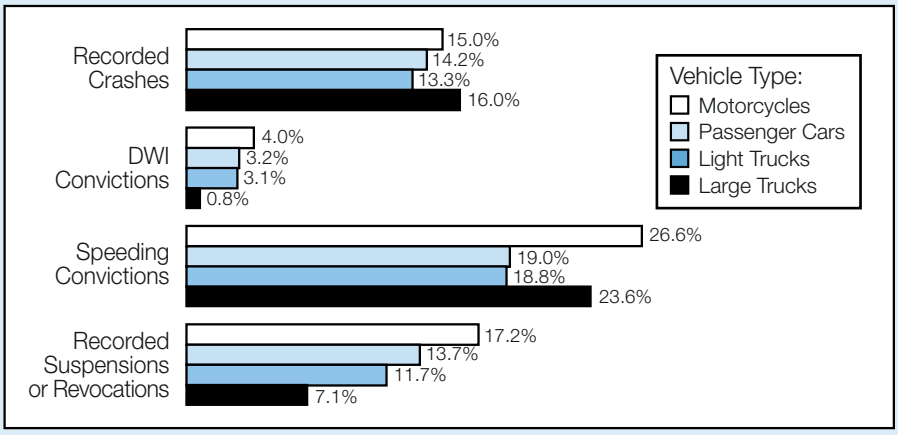
Licensing

Nearly one out of four motorcycle operators (24%) involved in fatal crashes in 2005 were operating their vehicles with invalid licenses at the time of the collision, while only 12 percent of drivers of passenger vehicles in fatal crashes did not have valid licenses.

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

In 2005, 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 3.1 percent of passenger vehicle drivers.

Figure 1
Previous Driving Records of Drivers Involved in Fatal Traffic Crashes, by Type of Vehicle, 2005



Alcohol

In fatal crashes in 2005 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, 22 percent for passenger cars, 21 percent for light trucks, and 1 percent for large trucks.

In 2005, 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).

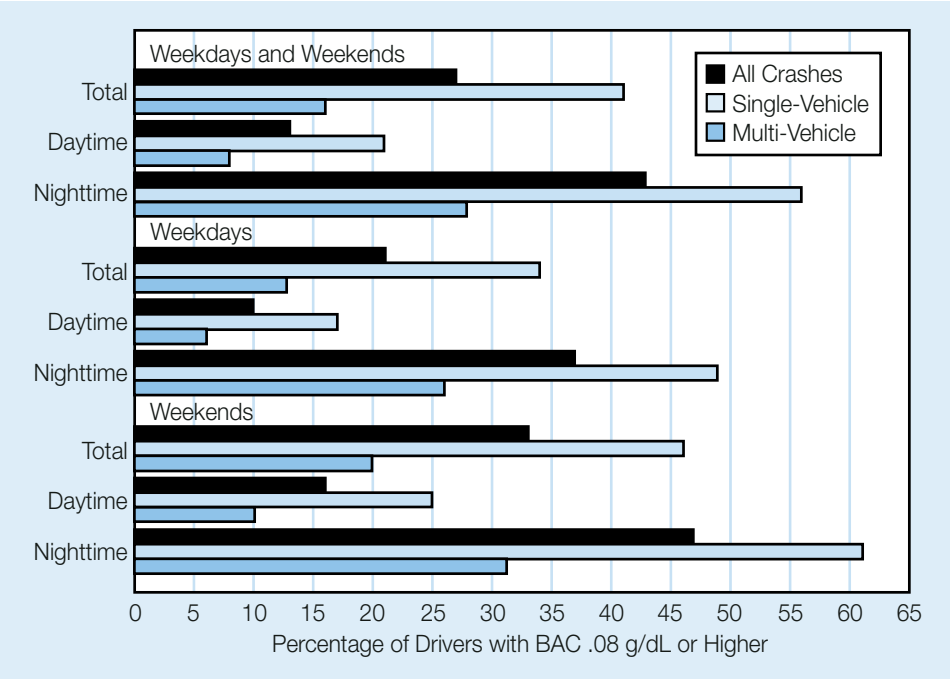
The percentage with BAC .08 g/dL or above was highest for fatally injured motorcycle operators among two age groups, 35-39 and 40-44 (39%) each followed by ages 45-49 (34%).

Forty-one percent of the 1,878 motorcycle operators who died in single-vehicle crashes in 2005 had BAC levels of .08 g/dL or higher. Sixty-one percent of those killed in single-vehicle crashes on weekend nights had BAC .08 g/dL or higher.

"Forty-one percent of the motorcycle operators who died in single-vehicle crashes in 2005 had BAC levels of .08 g/dL or higher."

"In 2005, a higher percentage of motorcycle operators in fatal crashes had BAC levels of .08 g/dL or higher than any other type of driver."

Figure 2
Intoxication Rates for Motorcycle Operators Killed in Traffic Crashes, by Time of Day, 2005



Motorcycle operators killed in traffic crashes at night were 3 times more likely to have BAC levels .08 g/dL or higher than those killed during the day (43% and 13%, respectively).

The reported helmet use rate for motorcycle operators with BAC levels .08 g/dL or higher killed in traffic crashes was 42 percent, compared with 65 percent for those with no alcohol (BAC = .00 g/dL).

Helmet Use and Effectiveness

NHTSA estimates that helmets saved the lives of 1,546 motorcyclists in 2005. If all motorcyclists had worn helmets, an additional 728 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.

"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 23 percentage points over 5 years, from 71 percent in 2000 to 48 percent in 2005. This drop is statistically significant and corresponds to a striking 79 percent increase in nonuse.

Reported helmet use rates for fatally injured motorcyclists in 2005 were 58 percent for operators and 50 percent for passengers, compared with 56 percent and 47 percent, respectively, in 2004.

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 2005, 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 SW., Washington, DC 20590. NCSA information can also be obtained by telephone or by fax-on-demand 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.dot.gov/people/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, Bicyclists and Other Cyclists* (formerly titled *Pedalcyclists*), *Children, Large Trucks, Occupant Protection, Older Population, Pedestrians, 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.nhtsa.dot.gov/people/ncsa**.