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Motorcycles

In 2004, 4,008 motorcyclists were killed and an additional 76,000 were injured in traffic crashes in the United States — 8 percent more than the 3,714 motorcyclist fatalities and 14 percent more than the 67,000 motorcyclist injuries reported in 2003.

"NHTSA estimates that helmets saved 1,316 motorcyclists' lives in 2004, and that 670 more could have been saved if all motorcyclists had worn helmets."

Table 1

Motorcyclist Fatalities and Injuries and Fatality and Injury Rates, 1994-2004

Year	Fatalities	Registered Vehicles	Fatality Rate*	Vehicle Miles Traveled (millions)	Fatality Rate**
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	27.67
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	9,539	38.93
2004	4,008	—	—	—	—

Year	Injuries	Registered Vehicles	Injury Rate*	Vehicle Miles Traveled (millions)	Injury Rate**
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	9,552	677
2003	67,000	5,370,035	1,250	9,539	703
2004	76,000	—	—	—	—

*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.

NCSA
NHTSA's National Center for Statistics & Analysis

Table 2
2004 Motorcycle Rider Fatalities by State, Helmet Use, and Operator Alcohol Use

State	Total Motorcycle Rider Fatalities	Helmeted	Not Helmeted	Operators With BAC ≥ .01	Operators With No Alcohol
	Number	Percent	Percent	Number	Number
Alabama	74	90.5	9.5	17	57
Alaska	8	37.5	62.5	3	5
Arizona	119	30.9	69.1	40	79
Arkansas	57	36.8	63.2	14	43
California	432	86.0	14.0	127	305
Colorado	80	23.8	76.3	21	59
Connecticut	57	32.1	67.9	26	31
Delaware	8	37.5	62.5	2	6
Dist of Columbia	8	50.0	50.0	1	7
Florida	432	42.0	58.0	148	284
Georgia	111	92.7	7.3	32	79
Hawaii	21	38.1	61.9	10	11
Idaho	24	37.5	62.5	11	14
Illinois	157	20.4	79.6	70	87
Indiana	108	25.7	74.3	33	75
Iowa	37	27.8	72.2	12	25
Kansas	30	28.6	71.4	9	21
Kentucky	68	36.8	63.2	26	42
Louisiana	72	47.0	53.0	25	47
Maine	22	50.0	50.0	8	14
Maryland	69	82.6	17.4	28	41
Massachusetts	58	85.5	14.5	23	35
Michigan	81	92.2	7.8	29	52
Minnesota	52	28.8	71.2	13	39
Mississippi	40	42.5	57.5	11	29
Missouri	56	77.8	22.2	19	37
Montana	21	42.9	57.1	8	13
Nebraska	21	78.9	21.1	8	13
Nevada	52	78.0	22.0	17	35
New Hampshire	28	51.9	48.1	9	19
New Jersey	73	89.7	10.3	27	46
New Mexico	39	28.2	71.8	11	28
New York	150	85.3	14.7	43	107
North Carolina	134	90.2	9.8	41	93
North Dakota	9	44.4	55.6	4	5
Ohio	134	26.9	73.1	60	75
Oklahoma	78	21.8	78.2	27	51
Oregon	37	91.9	8.1	13	24
Pennsylvania	158	50.3	49.7	66	92
Rhode Island	10	30.0	70.0	7	3
South Carolina	88	18.2	81.8	31	57
South Dakota	26	32.0	68.0	5	21
Tennessee	93	86.0	14.0	27	66
Texas	285	41.5	58.5	126	159
Utah	31	25.8	74.2	5	26
Vermont	11	90.9	9.1	2	9
Virginia	57	64.2	35.8	21	36
Washington	72	91.5	8.5	21	52
West Virginia	27	92.6	7.4	6	22
Wisconsin	80	23.8	76.3	33	47
Wyoming	13	30.8	69.2	7	6
U.S. Total	**4,008**	**55.3**	**44.7**	**1,382**	**2,626**
Puerto Rico	63	33.3	66.7	27	36

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

An estimated 128,000 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 2003 and accounted for only 0.3 percent of all vehicle miles traveled.

Per vehicle mile traveled in 2003, motorcyclists were about 32 times more likely than passenger car occupants to die in a motor vehicle traffic crash and 6 times more likely to be injured.

"Per vehicle mile, motorcyclists are about 32 times more likely than passenger car occupants to die in a traffic crash."

Table 3
Occupant Fatality Rates by Vehicle Type, 1993 and 2003

Fatality Rate	Motorcycles	Passenger Cars	Light Trucks
1993			
Per 100,000 Registered Vehicles	61.57	17.81	15.04
Per 100 Million Vehicle Miles Traveled	24.72	1.49	1.26
2003			
Per 100,000 Registered Vehicles	69.16	15.05	14.65
Per 100 Million Vehicle Miles Traveled	38.93	1.23	1.19
Percent Change, 1993-2003			
Per 100,000 Registered Vehicles	12.34	-15.53	-2.64
Per 100 Million Vehicle Miles Traveled	57.49	-17.80	-5.26

Note: 2004 registered vehicle and vehicle miles traveled data not available.

Per registered vehicle, the fatality rate for motorcyclists in 2003 was 4.6 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 2004, motorcyclists accounted for 9 percent of total traffic fatalities, 11 percent of all occupant fatalities, and 3 percent of all occupants injured.

Motorcycle Involvement in Crashes

In 2004, 2,105 (51%) 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 than other vehicles to be involved in a fatal collision with a fixed object. In 2004, 26 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 4 percent for large trucks.

Motorcycles are also more likely than other vehicles to be involved in an injury collision with a fixed object. In 2004, 11 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 4 percent for large trucks.

In 2004, there were 1,803 two-vehicle fatal crashes involving a motorcycle and another vehicle. In 39 percent (711) 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 465 crashes (26%).

*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 2004, 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 31 percent higher for motorcyclists than for drivers of passenger vehicles.

Table 4
Motorcycle Rider Fatalities by Age Group, 1994 and 2004

Year	Age Group				Total
	<30	30-39	40+	Unknown	
1994	1,170	608	541	1	2,320
2004	1,291	869	1,847	1	4,008

"Nearly one out of four motorcycle operators in fatal crashes in 2004 were operating the vehicle with an invalid license."

Table 5
Motorcycle Rider Fatalities by Engine Size, 1994 and 2004

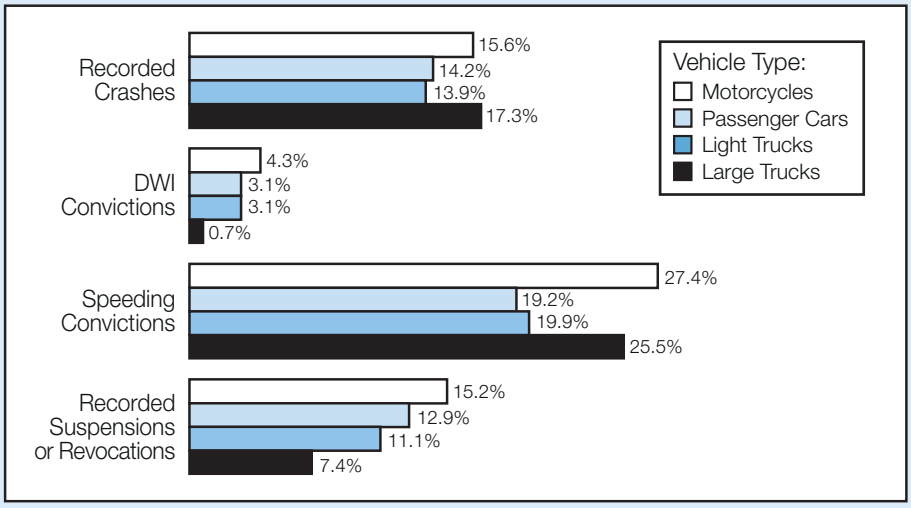
Year	Engine Size				Total
	Up to 500	501-1,000	1,001-1,500	Other/Unknown	
1994	311	1,038	633	338	2,320
2004	212	1,631	1,542	623	4,008

Licensing

In 2004, 24 percent of motorcycle operators involved in fatal crashes were operating the vehicle without a valid license, while only 12 percent of passenger vehicle drivers in fatal crashes did not have a valid license.

Motorcycle operators involved in fatal traffic crashes were 1.3 times more likely than passenger vehicle drivers to have a previous license suspension or revocation (15% and 12%, respectively).

Figure 1
Previous Driving Records of Drivers Involved in Fatal Traffic Crashes, by Type of Vehicle, 2004



"Forty-one percent of the motorcycle operators who died in single-vehicle crashes in 2004 had BAC levels of .08 g/dL or higher."

In 2004, 4.3 percent of motorcycle operators involved in fatal crashes had at least one previous conviction for driving while intoxicated on their driver records, compared to 3 percent of passenger vehicle drivers.

Alcohol

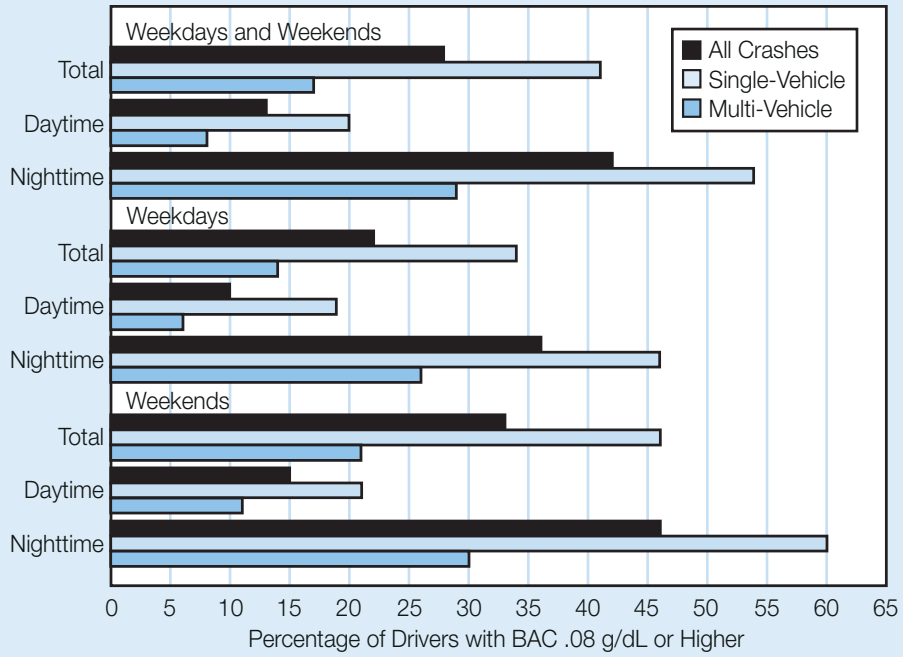
In fatal crashes in 2004, a higher percentage of motorcycle operators had blood alcohol concentration (BAC) levels of .08 grams per deciliter (g/dL) or higher than any other type of motor vehicle driver. The percentages for vehicle operators involved in fatal crashes were 27 percent for motorcycles, 22 percent for passenger cars, 21 percent for light trucks, and 1 percent for large trucks.

In 2004, 28 percent of all fatally injured motorcycle operators had BAC levels of .08 g/dL or higher. An additional 6 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 operators between the ages of 35 and 39 (39%), followed by ages 40 to 44 (38%) and ages 45 to 49 (34%).

"In fatal crashes in 2004, a higher percentage of motorcycle operators had BAC levels of .08 g/dL or higher than any other type of driver."

Forty-one percent of 1,672 motorcycle operators who died in single-vehicle crashes in 2004 had BAC levels of .08 g/dL or higher. Sixty percent of those killed in single-vehicle crashes on weekend nights had BAC levels of .08 g/dL or higher.

Figure 2
Intoxication Rates for Motorcycle Operators Killed in Traffic Crashes, by Time of Day, 2004



Motorcycle operators killed in traffic crashes at night were 3 times more likely than those killed during the day to have BAC levels of .08 g/dL or higher (42% and 13%, respectively).

The reported helmet usage rate for motorcycle operators with BAC levels of .08 g/dL or higher killed in traffic crashes was 41 percent, compared with 63 percent for those with no alcohol (BAC = .00 g/dL).

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

Helmet Use and Effectiveness

NHTSA estimates that helmets saved the lives of 1,316 motorcyclists in 2004. If all motorcyclists had worn helmets, an additional 671 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 a helmet.

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 4 years, from 71 percent in 2000 to 58 percent in 2004. This drop is statistically significant and corresponds to a striking 45-percent increase in nonuse.

Reported helmet use rates for fatally injured motorcyclists in 2004 were 56 percent for operators and 47 percent for passengers, compared with 53 percent and 50 percent, respectively, in 2003.

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 2004, 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*, *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*.