

## Miscellaneous Motorcycle Statistics (with sources)

- Victoria Rumble

Motorcycles are listed only once in **Alabama's Comprehensive Highway Safety Plan for Alabama**. Figures are provided on page one of the study, one line, item #12, in a chart entitled: Summary of Crash Severity by Top 20 Crash Types. The study is dated 2004. It reads:

**Motorcycle, Fatal Crashes 46, Fatal Percentage 4.0%, Injury Crashes 748, Injury Percentage 64.8%, PDO Crashes 360, PDO Percentage 63.7%, Total Crashes 1,154.**

The other items listed in that study were: Restraint not used, speeding, EMS: Ambulance greater than 20 minutes, alcohol/drug [not separated by vehicle type], obstacle removal, youth age 16-20, license status deficient, mature age greater than 64, pedestrian/bike/school bus, pedestrian, fail to conform/stop/yield sign, non-pickup truck involved, utility pole, roadway defects – all, vehicle defects – all, fail to conform – signal, construction zone, vision obscured – environment, and child restraint not used.

That report is four pages long and outlines several topics of importance in highway safety to which are attached suggestions for funding. Nowhere in the report, other than the one statistic given above in bold is *motorcycle* mentioned in the study.

Studies were underway at DPH for the Patient Care Report System. Federal funding through NHTSA was being used for collecting trauma treatment and care data from highway crashes.

1. A study at the Center for Rural Vehicular Trauma at the University of South Alabama.
2. Federal funding is being used through FHWA for a study related to crash notifications at the Center for Injury Sciences at UAB. The studies were considered an opportunity to evaluate the EMS performance data for highway crash victims requiring trauma care.

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Data from the National Highway Traffic Safety Administration's Fatality Analysis Reporting System (FARS) indicates:

Fatalities for motorcycle riders increased by 5.1% from 4,576 in 2005 to 4,810 in 2006. Rider fatalities in the past five years (study published 2007) increased by 47% from 3,270 in 2002 to 4,810 in 2006.

Year	Total fatalities	Motorcycle rider fatalities	Motorcycle Rider Fatalities As Percent of total fatalities
2002	43,005	3,270	7.6%
2003	42,884	3,714	8.7%
2004	42,836	4,028	9.4%
2005	43,510	4,576	10.5%
2006	42,642	4,810	11.3%

Of the states with increases in motorcycle rider fatalities: Florida (94), **Alabama** (43), and California (37) had the highest absolute increases. The states with the highest percentage increases in motorcycle rider fatalities from 2005 to 2006 were Alaska (125.0%), Kansas (82.9%), and **Alabama** (69.4%).

Of the states with declines in motorcycle rider fatalities, Illinois (26), New Hampshire (23), and Ohio (20) had the highest absolute decreases. The states with the highest declines in percentages from 2005 to 2006 were New Hampshire (52.3%), Delaware (42.9%), North Dakota (33.3%), and the District of Columbia (83.3%).

In 2005 **Alabama** had 62 motorcycle rider fatalities, in 2006 105, Change: 43, % change 69.4, MC Rider fatalities as percentage of total fatalities: 2005 5.4, 2006 8.7.

-Source: NHTSA's Traffic Safety Facts, Comparison of Motorcycle Rider Fatalities in Traffic Crashes, 2005-2006. DOT HS 810 820. August 2007.

## **Miscellaneous remarks from the NHTSA's National Center for Statistics and Analysis report, June 2006. Study entitled "Recent Trends in Fatal Motorcycle Crashes".**

- \* Studies show an increase in motorcycle ownership in the 40 and over age group, and an increase in rider fatalities in the same age group over the last 10 years.
- \* The number of MC fatalities increased accordingly with the increased size of engines
- \* An increased number of MC fatalities in the 40 and older age group were seen on rural roadways.
- \* Among roadway types, undivided roadways accounted for a majority of rider fatalities.
- \* Speeding is one of the major contributing factors in MC crashes, especially among riders under the age of 30.
- \* Motorcycle operators with a blood alcohol concentration (BAC) of .08 g/dL or higher continue to be a major problem.
- \* Helmet use among fatally injured motorcycle riders has remained constant, at just above 50% in the last 10 years.
- \* About 2/3 (66%) of fatally injured riders in states without universal helmet laws in 2004 were not wearing helmets compared to 15 percent in States with universal helmet laws
- \* Among all riders, MC operator fatalities under the age of 20 had larger percentages of improperly licensed.

The Motorcycle Industry Council (MIC) statistics annual (2004) – MC registrations accounted for 2.3% of all motor vehicles registered for use on public roads in 2003.

By region, the South had the highest MC population in 2003 with 30% of the total MC’s in use.

This study (62 pages long) has stats on the size of the engine per age group (not broken down by state), comparisons for the years 1990, 1998, and 2003.

For the years 1990, 1998, and 2003 the percentage of motorcycle ownership for ages:

	<b>1990</b>	<b>1998</b>	<b>2003</b>
Under 18 –	8.3%	4.1%	3.7%
18-24	15.5	10.6	10.8
25-29	17.1	10.9	7.6
30-34	16.4	11.5	8.9
35-39	14.3	16.0	10.4
40-49	16.3	24.6	27.9
50 & over	10.1	19.1	25.1

Median age 32.0 years in 1990, 38.0 years in 1998, and 41.0 years in 2003.

Mean age 33.1 years in 1990, 38.1 years in 1998, and 40.2 years in 2003.

Source – MIC stats 2004, reported in the above study.

The number of MC registrations increased from 1995 to 2004 by nearly 48%. Vehicle Miles Traveled (VMT) for MC’s increased 3% from 1995 to 2004.

In each year studied (from 1995 to 2004) 90% of the MC fatalities were operators while only 10% of fatalities were passengers. Note: The number of operator fatalities has increased by nearly 83% from 1995 to 2004 and passenger fatalities increased by 52% for those years, but the proportion of MC operator to passenger fatalities remained the same over that period of time.

<b>YEAR</b>	<b>DRIVER</b>	<b>PASSENGER</b>
1995	2020	2227
1996	1962	2161
1997	1937	2116
1998	2089	2294
1999	2286	2483
2000	2653	2897
2001	2955	3197
2002	3034	3270
2003	3427	3714
2004	3693	4008

- Source NCSA, FARS 1995-2003 as reported in the above study.

For the past ten years about 90% of the motorcycle riders killed were males. The number of female riders more than doubled between 1995 and 2004, but the proportion remained about 10%.

Table 8: Estimate of US Resident Population (100,000) by Year and Age Group

Year	Resident Population Age Group					Total
	< 20	20-29	30-39	40-49	> 49	
1990	718.8	403.7	418.9	316.2	637.0	2,494.7
1991	723.1	398.7	426.9	328.6	644.3	2,521.5
1992	730.7	391.9	433.4	341.7	652.7	2,550.3
1993	740.0	383.6	438.3	351.4	664.6	2,577.8
1994	749.1	375.0	441.1	363.9	674.1	2,603.3
1995	756.8	368.9	441.2	377.2	683.9	2,628.0
1996	764.4	364.4	438.7	392.4	692.4	2,652.3
1997	771.0	363.1	433.8	398.5	711.6	2,677.8
1998	777.0	362.5	427.8	407.4	727.8	2,702.5
1999	781.9	362.4	422.7	416.2	743.7	2,726.9

MC Fatalities by Year and Sex

Year	Motorcyclist Sex						Total
	Male		Female		Unknown		
	Number	Percent	Number	Percent	Number	Percent	
1990	2,988	92	256	8	0	0	3,244
1991	2,579	92	227	8	0	0	2,806
1992	2,211	92	183	8	1	0	2,395
1993	2,238	91	211	9	0	0	2,449
1994	2,111	91	209	9	0	0	2,320
1995	2,024	91	203	9	0	0	2,227
1996	1,966	91	195	9	0	0	2,161
1997	1,926	91	190	9	0	0	2,116
1998	2,088	91	206	9	0	0	2,294
1999	2,247	91	224	9	1	0	2,472

Table 16: Mean Age of Motorcyclist Fatality and Mean Engine Displacement in cc Involved in Fatal Crash by Year

<b>Year</b>	<b>Mean Age of Motorcyclist Killed (Years) (1)</b>	<b>Mean Engine Displacement Involved in Fatal Crash (cc) (2)</b>
1990	29.3	769
1991	29.6	786
1992	30.5	799
1993	31.3	820
1994	31.8	837
1995	32.1	842
1996	33.4	865
1997	34.8	899
1998	34.6	904
1999	36.5	922

Seventy percent of the motorcyclist fatalities occur on undivided roadways, another 20 percent are on roadways that have a median with no median barrier.

The percent of motorcyclist fatalities, where speeding was recorded as driver contributing factor remains about 42 percent and has not changed significantly in the past ten years.

Fifty four percent of the 20-29 age group motorcyclist fatalities were related to speeding as a factor in the crash. The number of motorcyclist fatalities reduced where speeding was on the police accident report for operators over the age of 30 with just 19 percent of the over 49 age group fatalities related to speeding as a factor. These numbers indicate that speeding is a greater problem among motorcyclists under the age of 30.

Seventy-one percent of all motorcyclist fatalities are on undivided roadways with another 19 percent on roadways with no median barrier. Eighty seven percent of motorcyclist fatalities in rural areas occur on undivided roadways and another 9 percent occur on rural roadways with no median barrier. In fact, 42 percent of all motorcyclist fatalities occur on rural, undivided roadways.

The larger the motorcycle engine size more likely the operator is to have a proper license. This is shown in the statistics for fatally injured motorcycle operators. Proper license status for operator fatalities in the 1,001-1,500 cc engine displacement category is 1.7 times higher than the engine displacement category up to 500 cc and 1.3 times higher than the 501-1,000 cc engine displacement group. These numbers fall in line with Table 30 showing proper license status by age group where over 40 age groups had highest percentages of proper licenses. This reflects the use of motorcycles with larger engine by operators over the age of 40. Over half (51 percent) of fatally injured operators in the

engine displacement category up to 500 cc were improperly licensed.

On undivided roadways overall 59 percent of the operators killed in the 30-39 age group were drinking. Among the 30-39 age group operators killed who had alcohol (487+1,892=2,379), 80 percent (1,892) were intoxicated. Similarly, overall, 50 percent of the 40-49 age group operators killed were drinking. Among the 40-49 age group, operators killed with alcohol as a contributing factor, (270+964=1,234), 78 percent (964) were intoxicated. These numbers indicate a high use of alcohol by operators over the age of 30 on undivided roadways. Overall, 45 percent of the operators killed on undivided roadways were using alcohol with 34 percent intoxicated with BAC 0.10+.

## Fatal Motorcycle Crash Facts

Data from the Fatality Analysis Reporting System and the *Traffic Safety Facts 1999: Motorcycles* provided the following information that served as a basis for the formulation of the hypotheses shown on the next page:

- Almost half (42 percent) of all motorcyclist fatalities in 1999 resulted from crashes in seven states: 236 in California, 182 in Texas, 177 in Florida, 120 in Ohio, 111 in Pennsylvania, 107 in New York, and 106 in North Carolina;
- In 1999, 41 percent of all motorcyclists involved in fatal crashes were speeding, approximately twice the rate for drivers of passenger cars or light trucks.
- In 1999, the percentage of alcohol involvement was more than 50 percent higher for motorcyclists than for drivers of passenger vehicles;
- Almost half of the motorcycle operators who died in single-vehicle crashes in 1999 were intoxicated;
- Intoxication rates for drivers in fatal crashes in 1999 were highest for motorcycle operators (28 percent) compared to drivers of large trucks (1 percent), light trucks (20 percent) and passenger cars (17 percent);
- More than 5 percent of the motorcycle operators involved in fatal crashes in 1999 had at least one previous conviction for driving while intoxicated on their driver records, compared to less than 4 percent for passenger car drivers;
- Nearly one out of six motorcycle operators (15 percent) involved in fatal crashes in 1999 were operating the vehicle with an invalid license (license suspended, revoked, expired, canceled or denied) at the time of the collision, while fewer (11 percent) drivers of passenger vehicles in fatal crashes did not have a valid license;
- Motorcycle operators involved in fatal traffic crashes were more than 1.5 times as likely as passenger vehicle drivers to have a previous license suspension or revocation (20 percent and 13 percent respectively);
- More than one half of all motorcycles involved in fatal crashes in 1999 collided with another motor vehicle in transport. In two-vehicle crashes, 76 percent of motorcycles involved were hit in the front. Only 3 percent were struck in the rear;
- In 1999 and 1998 more motorcyclists were killed on rural roads than urban roads reversing the trend from 1990 to 1997;
- Per vehicle mile, motorcyclists were about 16 times as likely as passenger car occupants to die in a traffic crash in 1998;
- Motorcycles are more likely to be involved in a fatal collision with a fixed object than are other vehicles. In 1999, 27 percent of the motorcycles involved in fatal crashes collided with a fixed object, compared to 17 percent for passenger cars, 11 percent for light trucks, and 3 percent for large trucks;
- Occupant fatality rates for motorcycles are much higher than those for passenger cars and light trucks. Table 9 gives the occupant fatality rates by vehicle type for 1988 and 1998 and percent change between 1988 and 1998.

Table 9: Occupant Fatality Rates by Vehicle Type 1988 and 1998

### Fatality Rate Motorcycles Passenger Cars Light Trucks

#### 1988

Per 10,000 Registered Vehicles 8.0 2.1 1.9

Per 100 Million VMT 36.5 1.9 1.7

## 1998

Per 10,000 Registered Vehicles 5.9 1.7 1.5

Per 100 Million VMT 22.4 1.4 1.2

### Percent Change, 1988-1998

Per 10,000 Registered Vehicles -26% -19% -21%

Per 100 Million VMT -39% -26% -29%

Based on the data from FARS, MIC, Federal Highway, US Census Bureau and *Traffic Safety Facts 1999: Motorcycle*, the following hypotheses were formulated for testing in further analysis of fatal motorcycle crashes:

- Alcohol involvement among operators is a major factor;
- Over 40 age groups are more frequently involved;
- Motorcycle with larger engines will be involved;
- More crashes are now occurring on rural roadways;
- Speeding is a factor;
- Drivers involved are less likely to wear helmets; and,
- License status is still a concern for motorcycle operators.

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### 3.4 Analytical Tools

Review of the data from FARS, MIC, FHWA and the US Census Bureau indicate that further in-depth analysis is required using either data individually or by combining data to calculate rates and look for trends. This report focuses on the following three major areas:

- Age groups among motorcyclists;
- Motorcycle engine displacement in Cubic Centimeters (cc) in fatal crashes; and,
- Land use in motorcyclist fatalities (rural/urban).

Several data variables have been used in the analysis relating to the above three areas either individually or as a combination. The data variables used are:

- Alcohol involvement among operators (drivers);
- License status with license compliance among operators;
- Helmet use among occupants (motorcyclists, which includes operator and passenger);
- Speeding as a factor in crashes;
- Crash type (single vehicle/multiple vehicle); and,
- Roadway type (undivided/divided).

Fatality rates have been calculated using FARS data in conjunction with MIC, FHWA, and US Census Bureau data. Also, individual data from MIC, FHWA and Census Bureau have been analyzed for trends in the use of motorcycles, resident population, motorcycle registrations, and vehicle miles traveled:

- Motorcyclist fatality rate per 100,000 registered vehicles by year;
- Motorcyclist fatality rate per 100 million VMT by year;
- Motorcyclist fatality rate per 100,000 US resident population by age group; and,
- Ratio of fatality percentage (numerator) to ownership percentage (denominator) by age group.



## STUDY ON IMPAIRED DRIVING

On a report entitled **Traffic Safety Facts Research Note**, published by NHTSA (National Highway Traffic Safety Admin.) dated December 2009 motorcycles are given a very brief mention.

The report shows fatalities and fatality rates in alcohol-impaired-driving crashes by State, 2007-2008. Unfortunately, motorcycles and other vehicles are lumped together and the study does not indicate the number of such incidences for motorcycles.

The overall fatality rate declined in 2008 from 1.36 to 1.25 recorded in 2007 per million vehicle miles of travel (VMT) and the alcohol-impaired driving fatality rate declined from 0.43 to 0.40 fatalities per 100 million VMT. From 2007 to 2008 the alcohol-impaired-driving fatality rate declined in 40 States, the District of Columbia, and Puerto Rico and remained the same or increased in the remaining 10 states. In that study, “an alcohol-impaired-driving crash was defined as a crash involving at least one driver or motorcycle rider (operator) with a blood alcohol concentration (BAC) of 0.08 grams per deciliter (g/dL) or higher”.

That BAC and anything higher is considered illegal to drive a vehicle or operate a motorcycle.

The figures given in the report were taken from the 2007 Final File and 2008 Annual Report File of NHTSA’s Fatality Analysis Reporting System (FARS) as well as 2008 State VMT data that were provided to NHTSA by the Federal Highway Administration (FHWA).

In that study Alabama:

2007

Fatalities: Total Crashes: 1,110, Rate 1.81.

Alcohol-Impaired crashes involving at least one driver/MC Rider with BAC=.08+:

Fatalities 377, Rate 0.61

2008

Fatalities: Total Crashes: 966, Rate 1.63

Alcohol-Impaired crashes (involving at least one driver/MC Rider with BAC=.08+):

Fatalities 315, Rate 0.53

Percentage Change in Alcohol-Impaired Driving Fatality Rate from 2007 to 2008: -13.1%.

**NHTSA's Blood Alcohol Concentration Reporting Rates for Drivers/Motorcycle Riders  
(Operators) Involved in Fatal Crashes: Alabama, U.S. and Best State**

Motorcycles are still not listed separately in this study.

2005

Alabama: 758 total surviving drivers/motorcycle riders  
118 with blood alcohol concentration results reported to FARS, Percent 16  
795 killed drivers/motorcycle riders  
442 with blood alcohol concentration results reported to FARS, Percent 56  
1,553 total drivers/motorcycle riders  
560 with blood alcohol concentration results reported to FARS, Percent 36

2006

Alabama: 742 total surviving drivers/motorcycle riders  
114 with BAC results reported to FARS, Percent 15  
841 killed drivers/motorcycle riders, with BAC results reported to FARS 344, 41%  
1,583 total drivers/motorcycle riders, with BAC results reported to FARS 458, 29%

2007

Alabama: 695 surviving drivers/motorcycle riders  
89 with BAC results reported to FARS, percent 13  
775 killed drivers/motorcycle riders, with BAC results reported to FARS 460, 59%  
1,470 total drivers/motorcycle riders, with BAC results reported to FARS 549, 37%

2008

Alabama: 587 surviving drivers/motorcycle riders  
86 with BAC results reported to FARS, percent 15  
702 killed drivers, with BAC results reported to FARS 449, 64%  
1,289 total drivers/motorcycle riders, with BAC results reported to FARS 535, 42%

2009

Alabama: 527 surviving drivers/motorcycle riders  
74 with BAC results reported to FARS, percent 14  
610 killed drivers/motorcycle riders, BAC results to FARS 346, percent 57  
1,137 total drivers/motorcycle riders, BAC results reported to FARS 420, 37%

REPORT OF THE ALABAMA DEPARTMENT OF PUBLIC SAFETY TO THE AASHTO  
STANDING COMMITTEE ON HIGHWAY TRAFFIC SAFETY

This report deals with a variety of highway safety issues and campaigns the Alabama Dept. of Public Safety has participated in. I did not find a date of publication or posting. The last paragraph of the report reads:

“Motorcycle safety is an area of concern due to the increase in motorcycle related crash fatalities. Programs such as that of the New York State Police have had an impact on reducing motorcycle fatalities. The success of this program and others will be a feature article in the Police Chief’s magazine. The program involved enforcement as well as educational components.”

SECTION 2010 GRANT SAFETEA-LU FOR MOTORCYCLE SAFETY defined by NHTSA:

“Establishes a new program of incentive grants to encourage states to adopt and implement effective programs to reduce the number of single and multi-vehicle crashes involving motorcyclists. A state may use these grant funds only for motorcyclist safety training and motorcycle awareness programs, including improvement of training curriculum, delivery of training, recruitment or retention of motorcyclist safety instructors, and public awareness and outreach programs”.

Motorcycle Safety Program Expands Thanks to Grant: May, 2010  
by Caitlin Myles

Motorcyclists will have a better opportunity to learn motorcycle safety and defensive driving techniques thanks to a \$114,238 grant Governor Bob Riley authorized last week.

This grant will fund the expansion of the existing Motorcycle Safety Program under the Alabama Traffic Safety Center. Operated by the University of Montevallo, classes are currently administered at various locations in the state several times per year.

According to the Alabama Traffic Safety Center, the goal of the program is to provide quality training for riders of all levels. Beginner riders as well as those with more experience may benefit from the Basic Rider Course or the Skills Plus Course respectively.

Increased funding will allow for greater outreach and opportunity for motorcyclists at every level to be educated on safety precautions and driving tips.

Jim Plott, a public information specialist for the Alabama Department of Economic and Community Affairs, explained this grant is important because more individuals in the state are choosing to drive motorcycles, for fuel-related reasons or otherwise.

“Consequently, we are having more fatalities, more crashes,” Plott said.

Auburn has had approximately 11 accidents in the past year involving motorcycles, said Capt. Tom Stofer, Auburn Police Division. Most often, drivers of larger vehicles claim they did not see the other individual involved on the motorcycle.

According to the Governor’s Highway Safety Association, the state has seen a steady rise in the number of accidents involving motorcycles since 1999. In 1998 there were 2,106 motorcycle related accidents resulting in 98 fatalities. There were only 633 recorded instances of this type of accident in 1999.

“It is extremely important for motorcycle drivers to be visible,” Stofer said.

Visibility is a key issue for motorcyclists and drivers must take on defensive driving techniques in order to abate the problem.

The Motorcycle Safety Foundation suggests drivers pump their brakes when stopping because the human eye is able to detect the flashing light faster than a solid brake light. Other safety measures for visibility can include making sure the brake lights are completely visible and the wearing of reflective clothing, especially at night.

It is imperative to motorcycle safety that drivers be well educated, Stofer said, because motorcycles are “inherently dangerous.”

He said anything in favor of strengthening this education will be supported by law enforcement.

Keith Jones, service manager at Big Swamp Harley-Davidson in Opelika, rides motorcycles for a living, test driving different ones on the roads around this area.

“Motorcycle safety classes are the only way to start out and the best way for getting a good foundation,” Jones said.

Jones further explained it is also important to raise awareness about motorcycle safety among drivers of larger vehicles. He said there is almost never a test ride he performs that does not involve larger vehicles pulling out in front of him.

“You are a smaller target, and you are harder to see,” Jones said.

Montgomery will be the closest location to Auburn for the Motorcycle Safety Program’s course offerings. Classes will be offered several times this summer in June, July and August and will be held at the Alabama Department of Transportation located on Coliseum Boulevard.

For more information, visit the program's official website,  
<http://www.montevallo.edu/atsc/motorcycle>.

Read more: [The Auburn Plainsman - Motorcycle Safety Program Expands Thanks to Grant](#)

By: Caitlin Myles, Writer



Tennessee volunteer group posts "Watch for Motorcycles" signs

Publish date: May 2, 2011

Riders in Blount County, Tenn., are getting a little extra attention in the hope of preventing accidents.

New "Watch for Motorcycles" signs have been cropping up around the area as part of a recent campaign by the Motorcycle Awareness Foundation of Tennessee (MAFT) to heighten public awareness of the motorcycle riders.

Future plans include posting signs in Maryville, Alcoa and Knox County as well, says MAFT member and Blount resident Mark Stepp.

"This is the first that I know of in East Tennessee, that type of road sign," Stepp told the Blount County [Daily Times](#). "We're targeting high motorcycle density areas, like for instance out by the U.S. Highway 411 and U.S. Highway 129 junction."

So far the signs are only posted on unincorporated property. But MAFT is working on gaining permission from the cities of Maryville, Alcoa and possibly Knoxville to post them within the city limits.

Formed five years ago, the all-volunteer MAFT has chapters across the state and offers educational classes in an effort to raise public roadway awareness. These Tennessee Department of Safety approved courses have been dubbed the "Campaign Save a Life Motorcycle Awareness Program."

"We have a Powerpoint presentation that we do on driving safety ... we go into Drivers Ed. classes, churches—any classes they want us to. Our main focus is to try to make the public to be aware while driving," Stepp says.

MAFT will host a "Share the Road Festival" May 21 in Nashville. The Governor's Highway Safety Office and the Tennessee Department of Safety will co-organize with MAFT to provide the free gathering to educate drivers on simple driving habits to reduce traffic fatalities in Tennessee.

*Posted by Holly Wagner*