

Motorcycle Accident Statistics (More every year)

by webBikeWorld.com staff

The mission of the U.S. National Highway Traffic Safety Administration (NHTSA) is straightforward: "Save lives, prevent injuries, reduce vehicle-related crashes."

Although every Federal government agency seems overly politicized lately, and NHTSA quite often gets beaten up by various interest groups, the agency does publish some technical information which is relevant. It's too bad they haven't taken their mission just a little more seriously and spent the few million bucks it would take to update the "[Hurt Report](#)", which would have the potential of saving the lives of motorcyclists.

In any case, NHTSA has recently updated their "[Recent Trends in Fatal Motorcycle Crashes](#)" study. The 63-page .pdf file contains some interesting information for students of motorcycle accidents that we'll summarize here.

The updated report uses NHTSA's *Fatality Analysis Reporting System*, or "FARS" data. The FARS was developed in 1975 by the National Center for Statistics and Analysis (NCSA) "to assist the traffic safety community in identifying traffic safety problems and evaluating both motor vehicle safety standards and highway safety initiatives".

Data in FARS includes motor vehicle traffic crashes that result in the death of an occupant of a vehicle or a non-motorist within 30 days of the crash. FARS is used by researchers and other interested parties to run analyses on traffic, vehicle safety and road safety. No personal information is kept in the FARS database.

Some have criticized the FARS database because it depends heavily on the methods used by the "first responders" at the accident scene to report the incident. The quality control standards for entering this information can vary.

Report Summary

The NHTSA report shows that there is a greater involvement of riders in the 40 and above age group and larger (1,001-1,500 cc) engine motorcycles in fatal crashes. This has been criticized by some who say that it only states the obvious; more riders over 40 are involved in fatal crashes because the rates of motorcycle ownership for riders over 40 have increased since the last time the report was issued. But not many people have actually seen the chart that is the cause of the controversy:

Ownership of Motorcycles by Age Group			
Age	Year		
	1990	1998	2003
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 and Over	10.1%	19.1%	25.1%
Not Stated	2.0%	3.2%	5.6%
Median Age	32.0 Years	38.0 Years	41.0 Years
Mean Age	33.1 Years	38.1 Years	40.2 Years
Source: Motorcycle Industry Council statistics, 2004 webBikeWorld.com			

As the chart above shows, motorcycle ownership for riders between the ages of 40 and 49 grew from 16.3% to nearly 28% from 1990 to 2003 (the latest year for which statistics are available). Motorcycle ownership also increased by about 25% in the 50 and over age group during the same period. The median age (50% over and 50% under) rose from 32 to 41 years old during the same period, and the average jumped from 33.1 years old to 40.2. Overall, between 1995-2004, the number of registered motorcycles rose by 1,883,679, an increase of 48%.

So the criticism has some validity, because it makes sense that, as older riders come to represent a larger proportion of overall riders, a greater percentage of accidents will occur among older riders.

Thus, many motorcycle writers have discounted the NHTSA data as a "sky is falling" mentality. It has been said that analysts who should know better are claiming all sorts of reasoning for why the motorcycle accident rate for over-40 riders is increasing.

But here's another chart from the NHTSA report that gives a better picture of the story. It is the "normalized" data, showing the number of registered motorcycles, the miles traveled per year and the corresponding fatality rates. In essence, it takes the age data out of the equation (although each age group still contributes to the rates):

Motorcycle Rider Fatalities and Fatality Rates by Year and Per Registered Vehicle and Vehicle Miles of Travel					
Year	Registered Motorcycles	Vehicle Miles Traveled (Millions)	Motorcycle Rider Fatalities	Fatality Rate per 100,000 Registered Motorcycles	Fatality Rate per 100 Million VMT
1995	3,897,191	9,797	2,227	57.14	22.73
1996	3,871,599	9,920	2,161	55.82	21.78
1997	3,826,373	10,081	2,116	55.30	20.99
1998	3,879,450	10,283	2,294	59.13	22.31
1999	4,152,433	10,584	2,472	59.53	23.46
2000	4,346,068	10,469	2,897	66.66	27.67
2001	4,903,056	9,639	3,197	65.20	33.17
2002	5,004,156	9,552	3,270	65.35	34.23
2003	5,370,035	9,577	3,714	69.16	38.78
2004	5,780,870	10,048	4,008	69.33	39.89

Source: NCSA, FARS 1995-2003 (Final), 2004 (ARF).
VMT, Registered Motorcycles – FHWA webBikeWorld.com

The key figure here is the "Fatality Rate per 100 Million" (miles traveled), which has nearly doubled from 22.73 to 39.89 fatalities per 100 million miles traveled during the period of 1997 to 2004 (See Note 1 below). This is the chart that should be the focus of concern, because the numbers are sobering.

Compiling the rates as a "per 100 million miles traveled" normalizes the data (somewhat) by removing the age effect and the increase in numbers of registered motorcycles to make the comparisons relatively equal across the years. When you consider that motorcycle technology, tires (radial tires were rare in 1995, for example), brakes, helmets, clothing and even rider knowledge improve each year, it's obvious that motorcyclists have a serious problem.

The bottom line? Forget about the age issue, it's a non sequitur. The real issue is immutable: regardless of age categories, the motorcycle fatality rate has increased dramatically since 1997 and shows no signs of moderating in the future. What are we as motorcyclists going to do about it?

Summary Findings of the NHTSA Report

NHTSA reported it correctly, if only the scribes would interpret the results. The report states that "Motorcycle rider fatalities decreased each year from 1995 to 1997, reaching a historic low of 2,116 in 1997. Beginning in 1998 this trend was reversed and motorcycle rider fatalities have increased each year.

Since 1997 motorcycle rider fatalities have increased by 89 percent from 2,116 to 4,008 in 2004. NHTSA previously released a comprehensive report in 2001 based on increases in motorcycle rider fatalities for two consecutive years (1998 and 1999). The latest 2004 data show that motorcycle rider fatalities increased for the seventh year in a row since 1997. This report is an update to the previously released report in 2001 along with more recent data from 1995 to 2004.

If the patterns seen in the analyses continue as seen from the combination of data sources, there is the likelihood that the increase in motorcycle rider fatalities will continue in the future years also."

These findings could aid in the design of crash prevention programs:

- Motorcycle Industry Council (MIC) data show an increase in the number of on highway motorcycles and motorcycle registration data from the Federal Highway Administration (FHWA) also show an increase in the number of registered motorcycles.
- MIC data show an increase in motorcycle ownership in the 40 and above age group and FARS data show an increase in motorcycle rider fatalities in the age group of 40 and above in the last 10 years.
- According to MIC, sales of motorcycles with larger engine sizes have increased over the past years, corresponding to FARS data where an increased number of motorcycle rider fatalities involve a motorcycle with a larger engine size.
- An increased number of motorcycle rider fatalities in the 40 and above age group were seen on rural roadways.
- Among roadway types, undivided roadways accounted for a majority of motorcycle rider fatalities.
- Speeding is one of the major contributing factors in motorcycle crashes especially among motorcycle 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 percent in the last ten years.
- About two-thirds (66%) of the fatally injured motorcycles 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, motorcycle operator fatalities under the age of 20 had larger percentages of improperly licensed riders.