RECENT TRENDS IN FATAL MOTORCYCLE CRASHES IN THE U.S.

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1. ABSTRACT

While motorcycles are a means of transportation, they are also a type of vehicle that is more vulnerable to serious or fatal injuries in traffic crashes. According to a National Highway Traffic Safety Administration (NHTSA) report, in 2015 a total of 4,976 people were killed in motorcycle crashes on U.S. roads. Also in that year, motorcycles represented only 3 percent of all registered motor vehicles and less than 1 percent of vehicle miles traveled (VMT) in the U.S.; however, motorcycles represented more than 14 percent of U.S. traffic fatalities. Figure 1 shows the trend of passenger vehicle and motorcycle fatalities in the U.S. between 1980 and 2015. Considering the substantial reduction in passenger vehicle fatalities in the last decade, it is important to explore and understand the trend of motorcycle fatalities which has been rising during the same period.

![Figure 1: Motorcycle and Passenger vehicle occupant fatalities in the U.S. (1980 – 2015) (Source: Fatality Analysis Reporting System, NHTSA)](image)

Understanding the trend and patterns of motorcycle crashes and fatalities is an important but challenging task because, unlike passenger vehicles, trip purpose causes their riding patterns to be irregular and concentrated on weekends. In the U.S., motorcycles are more than just a mode of transportation; they are part of a unique subculture and lifestyle. According to a study in Florida, about two-thirds of motorcyclists ride a motorcycle for recreational purposes; about 20 percent commute by motorcycle; and about half of motorcyclists stated they attended at least one of major bike events during the past 12 months. The study also confirmed that the age of motorcyclists is highly associated with many different aspects of motorcycle riding.
Figure 2 shows motorcycle fatalities by four different age groups. Motorcycle rider fatalities in the U.S. decreased each year from 1980 to 1997, reaching a historic low of 2,116 in 1997. Beginning in 1998, this trend was reversed and motorcycle fatalities have continued to increase each year. Since 1997, motorcycle rider fatalities have increased by 141 percent, from 2,116 to 5,112 in 2008. Between 2008 and 2009, United States observed a significant annual reduction of 16 percent in motorcycle fatalities, but the number is slowly, but steadily on the rise. Interestingly, the total number of U.S. motorcycle fatalities in 2015 is somewhat similar to motorcycle fatalities in 1981, but age distribution of the motorcyclists between the two years is very different. It is notable that the most significant increase in recent years was observed in the aging population.

This study explores the trends and patterns of fatal motorcycle crashes in the U.S. using Fatality Analysis Reporting System (FARS) data from NHTSA. While the increase in the number of fatal motorcycle crashes during the last decade to some extent can be attributed to the increased exposure in number of registered motorcycles, this study aims to identify specific problem areas by looking for trends and calculating rates by analyzing the FARS data with available socio-demographic information and motorcycle registration data including motorcycle type information.

This study is ongoing and scheduled to be completed by the end of October 2017.
REFERENCES
