

## Motorcycle Safety Studies

A primary approach to motorcycle safety is to study the causes of motorcycle accidents and seek measures to mitigate these causes. This article cites some previous and ongoing safety studies. As riders, we have an interest in the origins and nature of the advice that we receive through rider courses and other sources of safety information.

Perhaps the most significant study in the United States was the *Motorcycle Accident Cause Factors and Identification of Countermeasures* study, the results of which were published in 1981. The study was conducted by the University of Southern California Traffic Safety Center under contract with the National Highway Traffic Safety Administration (NHTSA). The principal author was USC professor Harry Hurt and the study is now generally referred to as the “Hurt Report.”

The study took place throughout the Los Angeles area. The research team conducted detailed on-scene investigations of 900 accidents, with approximately 1000 data elements covered for each incident. They also studied 3,600 police reports, and interviewed 2,310 riders, including those involved and not involved in accidents.

The Hurt study resulted in 55 individual findings which significantly advanced the state of knowledge of the causes of motorcycle accidents. Noted author Pat Hahn, in his book *Ride Hard Ride Smart*, devotes a chapter to discussing the Hurt Report and its current applicability to motorcycle safety. He said, “The facts are still very useful today. Even some of the dated items, at their root, are still meaningful.”

The Hurt Study is now over three decades old and motorcycle safety experts acknowledged the need for a subsequent study. The need was formalized in 2000 with the publication of the *National Agenda for Motorcycle Safety* prepared by NHTSA and the Motorcycle Safety Foundation (MSF). This report cited changes that have occurred since the Hurt Report that may affect its current validity, including motorcycle engineering changes, user population changes, automobile engineering changes, and roadway environmental changes.

In 2005, Congress passed the *Safe, Accountable, Flexible, Efficient Transportation Equity Act: A Legacy for Users*, Public Law 109-59, which mandated and provided partial funding for a new motorcycle crash study. In this regard, the NHTSA awarded a contract for a Pilot Study to develop methodology for in-depth motorcycle crash investigations. The final report, *Motorcycle Crash Causes and Outcomes: Pilot Study* was published in June 2010.

The pilot study findings will be included in the *Motorcycle Crash Causation Study*, which is sponsored by the Federal Highway Administration and is being conducted by Oklahoma State University, in the Los Angeles area, and has a completion date of March 2015. Because of funding concerns, this study will investigate only 300

crashes instead of the recommended 900 to 1200 crashes. There is some question as to how well this “abbreviated” study will be able to accomplish its intended purpose.

While the US was laying the groundwork for a sequel to the Hurt Report, the Association of European Motorcycle Manufacturers (ACEM) and the European Commission conducted the *Motorcycle Accident In Depth Study* (MAIDS) during 1999-2000. It is comparable in scale to the Hurt study in that it conducted detailed investigations of 921 crashes from five locations in France, Germany, Netherlands, Spain and Italy. There is much in the MAIDS study that is applicable to riders in the US.

Another ongoing study is the *MSF 100 Motorcyclists Naturalistic Study* which began in 2011, and is sponsored by MSF and conducted by the Virginia Tech Transportation Institute (VTTI). This study takes a different approach from traditional crash-causation research. Approximately 100 motorcyclists in Virginia, California, and Florida will participate. For approximately one year, their motorcycles will be fitted with an impressive array of small video recorders and other instrumentation. As they ride, all aspects related to the roadway, other roadway users, the riding environment, the riders’ actions, and the motorcycles’ movements will be continuously recorded. These data, combined with post-incident interviews, will provide comprehensive information on everyday riding, on how accidents are avoided and, in the event of a crash or near-crash, a clear record of the circumstances involved. The findings of this study would seem directly applicable to MSF’s rider training and other rider safety efforts.

Information on these and several other motorcycle safety studies and statistical analyses are readily available on the internet. Reviewing some of them can be rewarding from two perspectives. We may find some satisfaction in seeing that NHTSA, MSF, and other organizations are continually seeking ways to improve motorcycle safety. Also, our review of the findings of these studies contributes to our own safety awareness and helps us become better and safer riders. That’s worth doing.

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