

Summary of Key Motorcyclist Crash Causation Research

Compiled by SMARTER

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1981 Hurt Report

In 1981, the US Department of Transportation published one of the most comprehensive studies of motorcycle crash risk in the United States, *Motorcycle Accident Cause Factors and Identification of Countermeasures*. The study is commonly referred to as the “Hurt Report” after its lead author.

The study data were collected in Southern California within the city of Los Angeles. The data collection methods used in the Hurt Report became the foundation of an in-depth crash investigation technique and have since been formalized as the *Common International Methodology for On-Scene, In-Depth Accident Investigation* for the Organisation for Economic Co-operation and Development (OECD). Until recently, the Hurt Report was one of the only studies of its kind available for analyzing motorcyclist crashes and risk factors in the United States.

Full report: https://smarter-usa.org/wp-content/uploads/2017/06/1.motorcycle-accident-cause-factors-and-identification-of-countermeasures_volume1_technical_report2.pdf

Summary of findings: <https://smarter-usa.org/wp-content/uploads/2017/12/9a.-1981-Motorcycle-Accident-Cause-Factors-and-Identification-of-Countermeasures-Summary-of-Findings.pdf>

2004 MAIDS – Motorcycle Accident In-Depth Study

The Association of European Motorcycle Manufacturers (ACEM) with the support of the European Commission and other partners conducted an extensive in-depth study of motorcycle and moped crashes during the period 1999-2000 in five sampling areas located in France, Germany, Netherlands, Spain and Italy.

The methodology developed by the Organisation for Economic Co-operation and Development (OECD) for on-scene in-depth motorcycle crash investigations was used by all five research groups in order to maintain consistency in the data collected in each sampling area.

A total of 921 accidents were investigated in detail, resulting in approximately 2000 variables being coded for each crash. The investigation included a full reconstruction of the crash; vehicles were inspected; witnesses to the crash were interviewed; and, subject to the applicable privacy laws, with the full cooperation and consent of both the injured person and the local authorities, pertinent medical records for the injured riders and passengers were collected.

Full report: <https://smarter-usa.org/wp-content/uploads/2017/06/5.-in-depth-study-of-motorcycle-accidents-uk.pdf>

Summary of findings: https://smarter-usa.org/wp-content/uploads/2017/06/4a_MAIDS_Summary_of_Findings.pdf

2016 - Motorcycle Crash Causation Study

In 2005, Congress recognized the need for updated information to better understand how motorcycle safety trends might be changing over time and authorized funds for the collection of a new motorcycle crash causation dataset using the OECD methodology. The Federal Highway Administration (FHWA) oversaw the resulting data collection effort and final publication of the 2016 *Motorcycle Crash Causation Study (MCCS)*. The *MCCS* data were collected in Orange County, California, and consist of 1,053 records (351 crashes and 702 controls), with more than 1,900 variables coded for each record (FHWA 2016). The *MCCS* represents the most current data available for studying motorcycle crashes and risk factors.

The goal of this study was to collect data. Very limited data analysis was conducted by FHWA. The contribution of this study was data collection and to help identify which cause and effect studies may be needed in the future. The report DID NOT include recommendations based on statistically significant findings because there were simply not enough participants.

PowerPoint description: <https://smarter-usa.org/wp-content/uploads/2017/11/2017-FHWA-Motorcycle-Crash-Causation-Study-SMSA.pdf>

2018 –Select Risk Factors Associated with Causes of Motorcycle Crashes

In this safety report, the National Transportation Safety Board (NTSB) assesses select risk factors associated with the causes of motorcycle crashes in the United States and makes recommendations for improving motorcycle crash prevention. The Federal Highway Administration (FHWA) provided the data analyzed in this report from its 2016 *Motorcycle Crash Causation Study (MCCS)*. The *MCCS* represents the most recent data available for studying motorcycle crashes and risk factors in the United States since the US Department of Transportation published its comprehensive *Motorcycle Accident Cause Factors and Identification of Countermeasures* report in 1981.

This safety report analyzed select risk factors associated with the causes of motorcycle crashes and evaluated strategies for crash prevention. The *MCCS* data were deemed appropriate for identifying factors associated with an increase or decrease in motorcycle crash risk that warranted further evaluation. These factors were then examined as potential safety issue areas and compared to existing motorcycle safety research and publications to determine the need for safety improvements.

Full report: <https://smarter-usa.org/wp-content/uploads/2018/10/Select-Risk-Factors-Associated-with-Causes-of-Motorcycle-Crashes-NTSB-October-2018.pdf>

Summary of findings: <https://smarter-usa.org/wp-content/uploads/2023/07/Select-Risk-Factors-Associated-with-Causes-of-Motorcycle-Crashes-SMARTER-Summary.docx>