

**SUPPORTING STATEMENT
FOR**

New Clearance Request under

P.L. 109-59, Section 5511 (71 FR 30831)

Pilot Motorcycle Crash Causes and Outcomes Study

and

Motorcycle Crash Causation Study

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A. JUSTIFICATION

A1. EXPLAIN THE CIRCUMSTANCES THAT MAKE THE COLLECTION OF INFORMATION, NECESSARY. ATTACH A COPY OF THE APPROPRIATE SECTION OF EACH STATUTE AND REGULATION MANDATING OR AUTHORIZING THE COLLECTION OF INFORMATION.

A1.1 Congressional Mandate

Congress directed the Department of Transportation (USDOT) to conduct research that will provide a better understanding of the causes of motorcycle crashes in Section 5511 of the Safe, Accountable, Flexible, Efficient, Transportation Equity Act: A Legacy for Users (SAFETEA-LU) Pub. L. 109-59. The legislation requires the Secretary of Transportation to provide grants to the Oklahoma Transportation Center (OTC) for the purpose of conducting a comprehensive, in-depth motorcycle crash causation study using the common international methodology for in-depth motorcycle crash investigation. (This methodology was developed by the Organization for Economic Cooperation and Development (OECD) to foster uniform procedures in the investigation of motorcycle crashes).

The OECD methodology is a comprehensive approach to investigating motorcycle crashes. The 649 page methodology calls for the investigation of crashes of all severities and the collection of exposure data in the form of controls (two matched non-crash involved vehicles for every similar crash-involved vehicle). Crash investigations specify interviews with motorcycle operators, passengers and the drivers of other-involved vehicles. Human factors topics range from rider experience, licensing and training to fatigue, drug and alcohol use, trip purpose, use of protective clothing, and risk-taking behaviors.

Vehicle inspections specify detailed examinations and judgments of pre-and post-crash condition for every motorcycle component. The type, size and handling characteristics of the motorcycles are also carefully documented. When other motor vehicles (such as cars and trucks) are involved in crashes with motorcycles, data on the points of contact and exterior vehicle damage are recorded.

Roadway features, traffic controls, and environmental factors that could have contributed to crash causation are recorded. In addition, circumstances such as line-of-site and potential visual obstructions are noted.

Control data includes detailed interviews with motorcycle operators, passengers and drivers of other vehicles similarly at risk to those involved in each crash. OECD also requires careful documentation of the condition of motorcycles selected as part of the control population.

The OECD protocol also describes a 12 week training program that covers data collection techniques (interviewing skills, vehicle damage assessments), and the analyses of physical data such as metal fractures. Very limited training materials are available. A database developed in Europe has been used previously to record crash investigation and control data.

A1.2 FHWA Authorization

The Federal Highway Administration (FHWA) was delegated authority to conduct this research by the Secretary under Section 5511 (71 FR 30831). Under 23 USC402 , FHWA has responsibility for highway safety programs, research and development related to highway design, construction and maintenance, traffic control devices, and identification and surveillance of accident locations.

A1.3 NHTSA Authorization

The National Highway Traffic Safety Administration's (NHTSA's) authorization to conduct the motorcycle study derives from the National Traffic and Motor Vehicle Safety Act of 1966 (Public Law 89-563, Title 1, Sections 106, 108, and 112). Under this legislation, NHTSA is charged with the collection of crash data to support the establishment and enforcement of motor vehicle regulations that reduce the severity of injury and property damage caused by motor vehicle crashes.

A1.4 Highway Safety Need

This research on the causes of motorcycle crashes is necessary because the countermeasures currently being used have not been effective in reducing the rate of motorcycle crashes in recent years. The figure below shows how serious the problem of motorcycle safety has become. It compares the occupant fatality rate per 100 million vehicle miles traveled for motorcycles with the same rate for passenger cars over the past 10 years. The information to be acquired in this study is needed to reverse this upward trend.

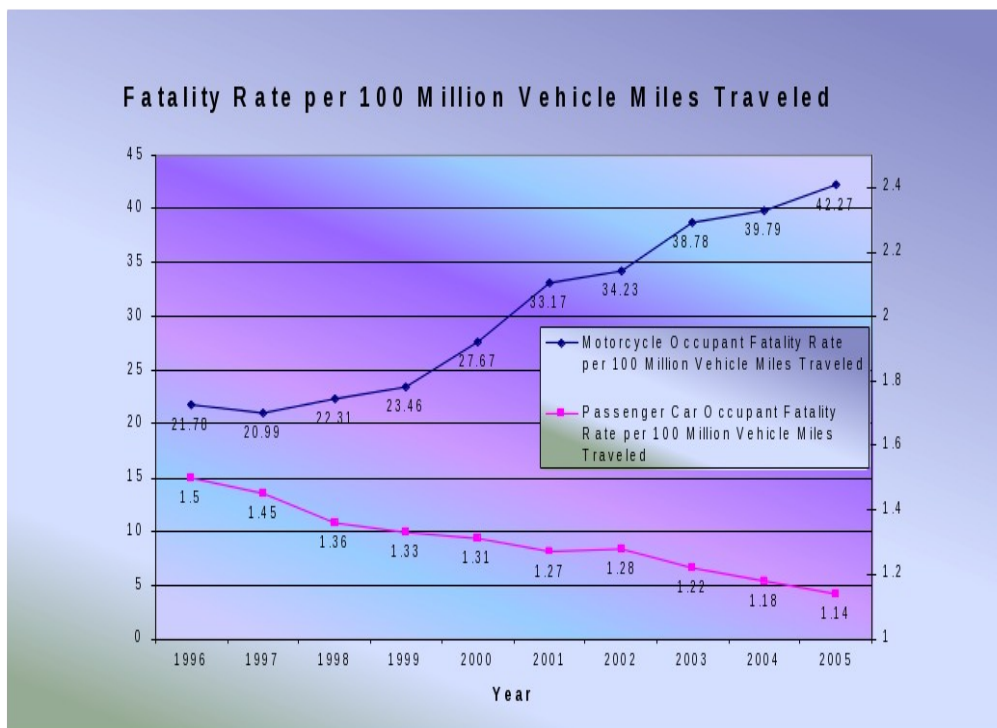


Figure 1. Occupant Fatality Rate per 100 Million Vehicle Miles Traveled by Vehicle Type

A1.5 Circumstances Leading to a Combined Approval Request

Prior to this directive by Congress, NHTSA initiated a pilot study to investigate the causes of motorcycle crashes using the OECD methodology. Given that FHWA was authorized to conduct a main study using the OECD methodology, and that NHTSA had already begun its pilot study, an opportunity was provided for the NHTSA study to seamlessly transition into the main FHWA study. The coordination of these two studies is expected to allow the main study to avoid many start up costs (e.g., site selection, training of personnel, coding manual development, data form development, etc. that will be accomplished by the pilot study). Because the NHTSA and FHWA studies will become a single research effort, and because the methods that will be used are the same, the USDOT decided to request a single clearance from the Office of Management and Budget (OMB) for both studies.

A2. INDICATE HOW, BY WHOM, AND FOR WHAT PURPOSE THE INFORMATION IS TO BE USED .

A2.1 FHWA Data Applications

The data from this study will provide the FHWA with information that will allow determination and development of effective countermeasures to reduce the frequency and severity of motorcycle crashes for the various crash types as determined by the study. Countermeasures may take the form of rulemaking, safety programs, design standards, and recommended practices.

The FHWA can use the information from this study to evaluate and update current roadway design and maintenance guidelines. The information can also be used to make roadways more accommodating to motorcyclists by modifying road delineation and markings, conspicuity of traffic controls, signal timing, intersection design, and vehicle detection.

For example, this research may show that one of the most common motorcycle crash types occurs on sharp curves on arterial roads. A potential countermeasure could be the installation of warning or advisory signs for motorcyclists indicating the approaches to such curves. Another frequent crash type could be automobiles turning left in front of oncoming motorcycles. A potential ITS (Intelligent Transportation System) countermeasure could be an in-vehicle warning to drivers preceding unsignalized intersections or signalized intersections with permissive phasing advising them to watch for oncoming motorcyclists.

A2.2 NHTSA Data Applications

NHTSA can use the data in its development of licensing requirements, rider training programs, and vehicle design standards. Such information is critical to the evaluation of current standards and practices and to the development of improvements that enhance traffic safety.

As an example, if the research were to show that a large proportion of the crashes involved novice riders on motorcycles over 900 cubic centimeters, NHTSA may recommend graduated rider licensing, based on engine displacement. As another example, if the research shows that in many crashes the motorist did not see the motorcyclist, and then increased conspicuity of the motorcycle could be mandated. With the increasing use of daytime running lights on passenger vehicles, a different headlight color for motorcycle daytime use is a remedy that could be considered.

A2.3 National Transportation Safety Board (NTSB) Potential Uses

The NTSB sponsored a Forum on motorcycle safety on September 12-13, 2006 to raise awareness of the increasing rate of motorcycle crash-related fatalities and injuries. NTSB submitted a statement to the Docket in support of this study. It is possible that NTSB will make use of the findings to support recommendations on motorcycle safety.

A2.4 Other Users of Project Data (e.g. state governments, manufacturers)

This information could also be used by State highway engineers for road design and maintenance changes, and by State highway safety officers in their development of highway safety initiatives. The motorcycle industry could use this information as it develops safer vehicle designs. User organizations, (e.g., American Motorcyclists' Association) could use findings from this study as they develop recommendations for their constituencies. Other potential users include insurance companies, safety research organizations, and universities that have an interest in improving transportation safety.

A3. DESCRIBE WHETHER, OR TO WHAT EXTENT, THE COLLECTION OF INFORMATION INVOLVES THE USE OF AUTOMATED, ELECTRONIC, MECHANICAL, OR OTHER TECHNOLOGICAL COLLECTION TECHNIQUES OR OTHER FORMS OF INFORMATION TECHNOLOGY.

Vehicle and scene data will be collected mainly using photographic equipment and electronic and mechanical measuring devices. These include digital cameras and Total Stations (surveying devices that measure distance and elevation). However, data describing rider, passenger, and motor vehicle operator characteristics and behaviors will be collected through in-person and telephone interviews using paper data collection forms in the Pilot study, however, the plan is to convert these to electronic forms when the Main study is conducted.

A4. DESCRIBE EFFORTS TO IDENTIFY DUPLICATION. SHOW WHY ANY SIMILAR INFORMATION ALREADY AVAILABLE CANNOT BE USED OR MODIFIED.

This study does not duplicate any US National study on motorcycle crashes. The last federally sponsored study focused on MC crashes was performed by researchers at the University of Southern California, for NHTSA, in the 1970s. Some information is available on motorcycle crashes in the U.S. from state databases using widely different protocols; however, these do not conform to the OECD methodology. Both FHWA and NHTSA currently collect a limited amount of data on motorcycle crashes; however, again, the data do not conform to the OECD methodology and moreover, do not capture exposure data, and are not focused on antecedents to such crashes. The application of the OECD guidelines results in a more complete collection of data and also allows this study to be compared to recent research conducted in Thailand and Europe.

A5. IF THE COLLECTION OF INFORMATION IMPACTS SMALL BUSINESSES OR OTHER SMALL ENTITIES, DESCRIBE ANY METHODS USED TO MINIMIZE BURDEN.

There are no planned interactions with small businesses in this study. Crash investigations may take place in the general vicinity of small businesses, but steps will be taken to avoid placing any burden on small businesses.

A6. DESCRIBE THE CONSEQUENCE TO FEDERAL PROGRAM OR POLICY ACTIVITIES IF THE COLLECTION IS NOT CONDUCTED OR IS CONDUCTED LESS FREQUENTLY.

The upward trend in motorcycle crashes and fatalities is likely to continue or worsen if the collection is not conducted. The reason for this is that the existing countermeasures currently being used have not been as effective as hoped. This research will allow new countermeasures to be developed and tested.

Regarding the matter of collection frequency, FHWA and NHTSA do not see a need to repeat this study in the near term. The vehicle mix and crash environment are expected to remain fairly stable for the next 5-10 years.

A7. EXPLAIN ANY SPECIAL CIRCUMSTANCES THAT REQUIRE THE COLLECTION TO BE CONDUCTED IN A MANNER INCONSISTENT WITH THE GUIDELINES SET FORTH IN 5CFR 1320.6.

There are no special circumstances that require an inconsistency with the subject guidelines. The Code of Federal Regulations, 5CFR 1320.6, addresses public protection regarding the conduct of surveys. It describes provisions such as: displaying a valid OMB control number, informing potential participants that the survey is voluntary, complying with OMB directives to modify survey plans, and not imposing penalties on persons who choose not to participate. The OECD procedures to be used in this study are consistent with those guidelines.

A8. Compliance with 5 CFR 1320.8:

A Federal Register notice was published on May 19, 2010, which solicited public comments on the intention of the FHWA to seek renewal of this information collection. No comments were received.

A9. PAYMENT OR GIFT TO RESPONDENTS.

No payment or gift will be provided to any respondent.

A10. ASSURANCE OF CONFIDENTIALITY PROVIDED TO RESPONDENTS.

No personal identifiers will be included in any of the databases; the data on individual cases is not discoverable. However, Certificates of Confidentiality will be obtained from the Department of Health and Human Services and provided to each participant. An Informed Consent Document will be prepared by FHWA's and NHTSA's legal departments and will be provided to each participant. Examples of Certificates of Confidentiality and Informed Consent documents are provided in the Appendix.

A11. JUSTIFICATION OF COLLECTION OF SENSITIVE INFORMATION.

Information will be requested on rider behavior, training history, license type and status, health status, alcohol consumption, and blood alcohol levels (using preliminary breath testers). This information is necessary to determine risk factors for crashes. However, NO identifying

information will be associated with this private information, and respondents will be advised that they may refuse any and all questions, as well as the breath test.

A12. ESTIMATE OF THE HOUR BURDEN OF THE COLLECTION OF INFORMATION ON THE RESPONDENTS.

The following table shows the sampling plan and estimated number of interviews assuming a maximum of 1200 crashes are investigated in the combined studies.

Crash Interviews:

Operators of motorcycles in single vehicle crashes =	540
Motorcycle operators and other drivers in Multi-vehicle crashes (660 crashes*2 persons) =	1320
Motorcycle Passenger interviews (0.10(of single vehicle crashes) *540 crashes + 0.10 (of multi-vehicle crashes)*660) =	120
Car passenger interviews cars (.68*660) =	449
<i>Total Crash Interviews (540 + 1320 + 120 + 449) =</i>	<i>2429</i>

Control interviews:

Controls for single vehicle motorcycle crashes (2 controls *540 crashes) =	1080
Controls for multi-vehicle crashes (1 motorcyclist * 660 crashes + other vehicle driver * 660 crashes) =	1320
Passenger Interviews =	0
<i>Total Control Interviews (1080+1320) =</i>	<i>2400</i>

Grand Total Crash plus Control Interviews (2429 + 2400) = 4829

The Estimated Average Burden per Interviewee is calculated as 25 minutes for crash interviews and 25 minutes for control individuals' interviews. The Estimated Total (Not Annual) Burden Hours estimates are based on the total of 2,429 crash interviews to be conducted at an average length of 25 minutes each and 2,400 control interviews to be conducted at an average length of 25 minutes each for a total one-time burden on the public of 120,725 minutes or 2012 hours.

A13. ESTIMATE OF THE TOTAL COST BURDEN TO RESPONDENTS RESULTING FROM THE COLLECTION OF INFORMATION.

This collection of information will impose no costs to participants beyond the time they voluntarily provide.

A14. ESTIMATES OF ANNUALIZED COSTS TO THE FEDERAL GOVERNMENT.

N/A

A15. EXPLAIN THE REASONS FOR ANY PROGRAM CHANGES OR ADJUSTMENTS.

There are no changes to the program.

A16. FOR COLLECTIONS OF INFORMATION WHOSE RESULTS WILL BE PUBLISHED, OUTLINE PLANS FOR TABULATION AND PUBLICATION.

A 16.1 Motorcycle Crash Causes and Outcomes – Pilot Study

The Pilot Study will test the methodology on about 35 crashes. No conclusions will be drawn from these data because the sample is too small. All collected data from the 35 crashes will, however, be encoded into ASCII files, and summary statistics will be available on broad categories such as the age and gender of involved motorcyclists, types of motorcycles, crash configurations, etc. These data will be pooled with the main study master file data (see A16.2) that will follow directly. Procedures used in conducting this pilot study and any adjustments to the OECD Methodology that were adopted will be described in detail in the pilot final report which will be available from NHTSA.

A16.2 Motorcycle Crash Causation Study- Main Study

This study will produce an FHWA-owned master data file with all personal identifiers removed. A series of summary reports describing these types of topics are planned: precipitating antecedents to the crashes, identification of risk factors for crashes such as age, gender, alcohol use, motorcycle size, motorcycle type, road conditions, time of day, etc.; estimates of the relative importance of these risk factors in predicting crashes. A final report will be published that will describe the major crash types, the most frequent antecedent events that if altered would have resulted in a reduced severity or no-crash outcome, and the variables that are most over-involved in crashes when compared with their overall incidence in the sample. These antecedent events and risk factors will form the basis for recommending countermeasures. Such recommendations will also be included the final report.

A17. APPROVAL FOR NOT DISPLAYING THE EXPIRATION DATE OF COLLECTION.

There are no reasons this display would be inappropriate. OMB approval will be shown on all collection instruments.

A18. EXCEPTION TO THE CERTIFICATION STATEMENT.

No exceptions are requested.