DEPARTMENT OF TRANSPORTATION **4910-22-P**

Federal Highway Administration

Docket No. FHWA-2014-0021

Agency Information Collection Activities: Notice of Request for Extension of Currently Approved Information Collection

AGENCY: Federal Highway Administration (FHWA), DOT.

ACTION: Notice of request for extension of currently approved information collection.

SUMMARY: The FHWA invites public comments about our intention to request the Office of Management and Budget's (OMB) approval for renewal of an existing information collection that is summarized below under **SUPPLEMENTARY INFORMATION**. We are required to publish this notice in the **Federal Register** by the Paperwork Reduction Act of 1995.

DATES: Please submit comments by (please insert date 60 days from published date).

ADDRESSES: You may submit comments identified by DOT Docket ID 2014-0021 by any of the following methods:

Web Site: For access to the docket to read background documents or comments received go to the Federal eRulemaking Portal: Go to http://www.regulations.gov.
Follow the online instructions for submitting comments.

Fax: 1-202-493-2251.

Mail: Docket Management Facility, U.S. Department of Transportation, West Building Ground Floor, Room W12-140, 1200 New Jersey Avenue, SE, Washington, DC 20590-0001.

Hand Delivery or Courier: U.S. Department of Transportation, West Building Ground Floor, Room W12-140, 1200 New Jersey Avenue S.E., Washington, DC 20590, between 9 a.m. and 5 p.m., Monday through Friday, except Federal holidays.

FOR FURTHER INFORMATION CONTACT: Craig Thor, Ph.D, Office of Safety Research and Development (HRDS), at (202) 493–3338, Turner-Fairbank Highway

Research Center, Federal Highway Administration, 6300 Georgetown Pike, McLean, VA, 22101, between 7:00 a.m. and 4:30 p.m., Monday through Friday, except Federal Holidays.

SUPPLEMENTARY INFORMATION:

Title: Motorcycle Crash Causation Study

OMB Control #: 2125-0619.

Background: In 2011, there were 4,612 motorcycle crash-related fatalities in the United States—more than twice the number of motorcycle rider fatalities that occurred in 1997. This increase contrasts with a 33% reduction in the number of fatalities in passenger cars and light trucks[1]. In response to this growing concern, the U.S. Congress passed legislation to fund a Federal Highway Administration (FHWA) research effort into the causes of motorcycle crashes in the United States. Congress has recognized this problem and directed the Department of Transportation to conduct research that will provide a better understanding of the causes of motorcycle crashes. Specifically, in Section 5511 of the Safe, Accountable, Flexible, Efficient Transportation Equity Act: A Legacy for Users (SAFETEA-LU) Pub. L. 109-59, Congress directed 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 that employs the common international methodology for in-depth motorcycle crash investigation developed by the Organization for Economic Cooperation and Development (OECD)[2]. The Secretary of Transportation delegated authority to FHWA for the Motorcycle Crash Causation Grants under Section 5511 (71 FR 30831). This study began in June, 2012 and has been successful in completing the necessary data collection.

[1] NHTSA FARS encyclopedia: http://www-fars.nhtsa.dot.gov/Main/index.aspx

[2] The OECD methodology may be obtained by sending a request to jtrc.contact@oecd.org

Proposed Data Acquisition Methodology

Use of Parallel and Complementary Procedures

The OECD describes two complementary procedures to be performed for acquiring the data needed to understand the causes of motorcycle crashes. The first of these is the traditional in-depth crash investigation that focuses on the sequence of events leading up to the crash, and on the motorcycle, rider, and environmental characteristics that may have been relevant to the crash. The second procedure, known as the case-control procedure, complements the first. It requires the acquisition of matched control data to allow for a determination of the extent to which rider characteristics and pre-crash factors observed in the crash vehicles are present in similarly-at-risk control vehicles.

Such a dual approach offers specific advantages to the understanding of crashes and the development of countermeasures. The in-depth study of the crash by itself allows for analysis of the events antecedent to the crash, some of which, if removed or altered, could result in a change in subsequent events that would have led to a non-crash, or reduced crash severity outcome. The main purpose of acquiring matched data is to allow for inferences to be made regarding risk factors for crash causes. A brief explanation is provided here so that those less familiar with case-control procedures will understand the advantage of acquiring controls. Consider a hypothetical situation where it is observed that the proportion of *older riders* involved in crashes who were unfamiliar with the roadway is the *same as* the proportion of matched (similarly-at-risk) older control motorcycle riders not involved in crashes. Conversely, the proportion of *Younger riders* involved in crashes who were unfamiliar with the roadway is the *greater than* the proportion of matched younger control motorcycle riders not involved in crashes. These hypothetical findings would suggest that a lack of familiarity with the roadway poses a greater crash risk for younger riders than it does for older riders. Other risk factors for crashes (i.e. gender, riding experience, fatigue level) for motorcyclists may also be examined in this manner.

If scaled interval measurements of risk factor levels are obtained (for example, the number of years of riding experience for both crash-involved and control riders), then it becomes possible to calculate functions showing how risk changes with changes in the variable of interest. Such risk functions are highly useful in the development of countermeasures.[3]

Issues Related to Sampling

Characteristics of the Crash Sample

To properly acquire in-depth crash data, it was necessary to find a location in the country that experiences the full range of motorcycle crash types that occur under a wide range of conditions and with a wide range of motorcycle rider characteristics. For this study, Orange County, California was selected as the data collection site. This location resembles a cross-section of motorcycle riding environments. There are both rural and urban regions; flat land and rolling hills; and daily commuters and leisure riders, therefore, the data collected from this region should reflect many of the causative factors that produce motorcycle crashes in these different riding environments. This location also allows for a sufficiently high frequency of motorcycle crashes to allow acquisition of the crash data in a reasonable amount of time. To date, this single location has proven to be sufficient to collect the required number of cases and controls.

It is not necessary that the crash types observed (or other composite indices or parameters of interest) be drawn from a nationally representative sample, because it is not the intent of FHWA to make projections of the national incidence of the causes of crashes involving motorcycles from this study. Rather, the focus will be on identifying the antecedents and risk factors associated with motorcycle crashes. If it is deemed necessary, FHWA and NHTSA may utilize their alternative databases that incorporate certain of the key variables that will be acquired in this

[3] Certainly other outcomes besides the one presented are possible, and other comparisons are of interest.

study, and those databases could be used in conjunction with this study's data to make national estimates of population parameters of interest.[4]

In addition, the crash investigations will be conducted on-scene, and, when possible, while the involved operators and vehicles are still in place. This provides access to physical data that is less disturbed by rescue and clean up activities. It also facilitates the collection of interview data while memories are unaffected. This quick-response approach is most effective when a census of applicable crashes is selected for inclusion.

Characteristics of the Control Sample

While the occurrence of a crash involving a motorcycle in the study site is sufficient for it to be selected into the study, selecting the similarly-at-risk controls requires a different approach. The OECD recommends several options for acquiring matched controls including interviewing motorcyclists who may be filling up at nearby gas stations, taking videos of motorcyclists who pass the crash scenes, and interviewing motorcyclists at the location of the crash location at the same time of day, same day of week, and same direction of travel. The first of these methods suffers from the shortcoming that a rider or motorist filling his fuel tank is not presented with the same risks, in the same setting, as is the crash-involved rider and motorist. Passenger-vehicle motorists and motorcyclists need to be sampled at the location of the crash on the same day of the week, at the same hour, and from the same travel direction.

Using the second method mentioned above, acquiring the risk sample by taking video at the crash scene provides a similarly-at-risk pool and it also allows for many controls to be acquired at low cost. Its chief disadvantage is that it does not allow capture of some of the key risk factors for

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[4] There is a lengthy precedent for studying crashes using case-control methods including the Grand Rapids study, (Borkenstein, R.F., Crowther, F.R., Shumate, R.P., Ziel, W.B. & Zylman, R. (1974). The Role of the Drinking Driver in Traffic Accidents (The Grand Rapids Study). Blutalkohol, 11, Supplement 1), and of course the Hurt study, (Hurt, H.H., Jr., Ouellet, J.V., and Thom, D.R. (1981). Motorcycle Accident Cause Factors and Identification of Countermeasures Volume I: Technical Report).

crashes (e.g., fatigue), while others (e.g., age) may be very difficult to capture. Therefore, this method is not sufficient to support the scope of the current effort.

The final method, the voluntary safety research interview, involves setting up a safety zone at or near the crash location, one week later at the same time of day, and asking those motorcyclists who pass through to volunteer in a study. With this method, Certificates of Confidentiality are presented to each interviewed driver and rider and immunity is provided. The main advantage of this method is that the key variables that are thought to affect relative crash risk can be acquired from riders who are truly similarly-at-risk. This is the method used in the current effort.

Information Proposed for Collection

The data collection protocol includes the following number of variables for each aspect of the investigation:

Data Collection Form	No. of Questions
Administrative log	43
Crash Form	22
Motorcycle Rider Form	105
Motorcycle Passenger	65
Motorcycle Mechanical	91
Motorcycle Dynamics	43
Environment Form	51
Helmet Form	77
Other Vehicle Form	26
Injury Form	160

Note that multiple copies of various data forms will be completed as the data on each crash-involved vehicle and person and each control vehicle and person are acquired. This increases the number of variables above the sum of what is presented above. There are also diagrams and photographs that are essential elements of each investigation that are entered into the database. Up to 1,600 data elements may be collected for each case, including the control rider data.

Estimated Burden Hours for Information Collection

***Frequency*:** Annually.

Respondents: This study will be based on all crashes occurring within the sampling area. This burden estimate is based on the distribution of crash types seen in the study to date. The plan calls for data to be captured from *up to 1,200* crashes with motorcycle involvement, and for all surviving crash-involved riders and drivers to be interviewed. Two control riders will be interviewed for each crash-involved motorcyclist. Passengers accompanying crash-involved riders and passenger-vehicle drivers will also be interviewed. The following table shows the sampling plan and estimated number of interviews assuming 1,200 crashes are investigated.[5] Maximum total crashes to be investigated is 1,200.

Crash Interviews	
Single vehicle motorcycle crashes	252
Multi-vehicle (2-vehicle) motorcycle crashes (840*2)	1680
Passenger interviews motorcycle (.07* 252 + .07*1680)	136
Passenger interviews cars (.19*235)	319
Total Crash Interviews	**2387**

Control interviews	
Controls for single vehicle motorcycle crashes (2*252)	504
Controls for multi-vehicle motorcycle crashes (1*840 + 1*840)	1680
Passenger Interviews	0
Total Control Interviews	**2184**
Grand Total Crash plus Control Interviews	**4571**

Estimated Average Burden per Interviewee: Crash interviews are estimated to require about 30 minutes per individual interviewed. To the extent possible, crash interviews will be collected at the scene, although it is likely that some follow-ups will be needed to get completed interviews from crash involved individuals. Control individuals' interviews will be completed in a single session and are expected to require about 15 minutes per individual.

[5] The final crash sample size will depend on the rate at which crashes can be acquired in thhe selected site(s) and other matters related to logistics and the final budget.

***Estimated Total Annual Burden Hours*:** Burden hours estimates are based on the total of 2,387 crash interviews to be conducted at an average length of 30 minutes each and 2,184 control interviews to be conducted at an average length of 15 minutes each for a total one-time burden on the public of 1,770 hours.

Public Comments Invited: You are asked to comment on any aspect of this information collection, including: (1) Whether the proposed collection is necessary for the FHWA's performance; (2) the accuracy of the estimated burdens; (3) ways for the FHWA to enhance the quality, usefulness, and clarity of the collected information; and (4) ways that the burden could be minimized, including the use of electronic technology, without reducing the quality of the collected information. The agency will summarize and/or include your comments in the request for OMB's clearance of this information collection.

Authority: The Paperwork Reduction Act of 1995; 44 U.S.C. Chapter 35, as amended; and 49 CFR 1.48.

Issued On: May 29, 2014.

Michael Howell,
Information Collection Officer.

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