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## **DEPARTMENT OF TRANSPORTATION**

### **National Highway Traffic Safety Administration**

**[U.S. DOT Docket No. NHTSA-2018-0050]**

#### **Reports, Forms, and Record Keeping Requirements**

**AGENCY:** National Highway Traffic Safety Administration (NHTSA), DOT.

**ACTION:** Request for public comment on proposed collection of information.

**SUMMARY:** Before a Federal agency can collect certain information from the public, it must receive approval from the Office of Management and Budget (OMB). Under the procedures established by the Paperwork Reduction Act of 1995, before seeking OMB approval, Federal agencies must solicit public comment on proposed collections of information, including extensions and reinstatements of previously approved collections. This document describes one collection of information for which NHTSA intends to seek OMB approval.

**DATES:** Comments must be received on or before [INSERT DATE 60 DAYS AFTER PUBLICATION IN THE FEDERAL REGISTER].

**ADDRESSES:** You may submit comments identified by DOT Docket ID Number NHTSA-2018-0050 using any of the following methods:

Electronic submissions: Go to <http://www.regulations.gov>. Follow the online instructions for submitting comments.

Mail: Docket Management Facility, M-30, U.S. Department of Transportation, 1200 New Jersey Avenue SE, West Building Ground Floor, Room W12-140, Washington, DC 20590.

Hand Delivery: West Building Ground Floor, Room W12-140, 1200 New Jersey Avenue SE, Washington, DC, between 9 a.m. and 5 p.m., Monday through Friday, except Federal holidays.

Fax: 1-202-493-2251.

Each submission must include the agency name and the docket number for this Notice.

Note that all comments received will be posted without changes to

<http://www.regulations.gov>, including any personal information provided.

**FOR FURTHER INFORMATION CONTACT:** Kathy Sifrit, Ph.D., Contracting Officer's Representative, Office of Behavioral Safety Research (NPD-320), National Highway Traffic Safety Administration, 1200 New Jersey Ave, SE, Washington, DC 20590. Dr. Sifrit's phone number is 202-366-0868, and her email address is [kathy.sifrit@dot.gov](mailto:kathy.sifrit@dot.gov).

**SUPPLEMENTARY INFORMATION:** Under the Paperwork Reduction Act of 1995, before an agency submits a proposed collection of information to OMB for approval, it must publish a document in the Federal Register providing a 60-day comment period and otherwise consult with members of the public and affected agencies concerning each proposed collection of information. The OMB has promulgated regulations describing what must be included in such a document. Under OMB's regulations (at 5 CFR 1320.8(d)), an agency must ask for public comment on the following:

i) Whether the proposed collection of information is necessary for the proper performance of the functions of the agency, including whether the information will have practical utility;

(ii) The accuracy of the agency's estimate of the burden of the proposed collection of information, including the validity of the methodology and assumptions used;

(iii) How to enhance the quality, utility, and clarity of the information to be collected; and

(iv) How to minimize the burden of the collection of information on those who are to respond, including the use of appropriate automated, electronic, mechanical, or other technological collection techniques or other forms of information technology, e.g., permitting electronic submissions of responses.

In compliance with these requirements, NHTSA asks public comment on the following proposed collection of information:

**Title:** In-Vehicle Drowsiness Detection and Alerting

**Type of Request:** New information collection requirement.

**OMB Clearance Number:** None.

**Form Number:** NHTSA Forms 1441 through 1449.

**Requested Expiration Date of Approval:** Three years from date of approval.

**Summary of the Collection of Information:** The National Highway Traffic Safety Administration (NHTSA) is seeking approval to collect information from licensed young drivers for a one-time voluntary driving simulator study of the effectiveness of in-vehicle drowsiness detection and alerting systems that aim to reduce drowsy driving. NHTSA proposes to collect information from licensed young drivers to determine (1) their eligibility to participate in a study evaluating systems designed to detect and mitigate drowsy driving, (2) their driving performance during a simulated driving task to measure

drowsiness mitigation system effectiveness, and (3) their opinions about the safety systems and their perceptions of the benefits. NHTSA will collect information about age, sex, driver license status, sleep and caffeine habits, and driving habits from an estimated 120 young drivers who previously indicated interest in participating in simulator studies through a one-time, voluntary telephone interview to determine their eligibility for this study. NHTSA will then invite 85 qualified young drivers to report to the simulator to complete an informed consent form and other screening activities including a ten-minute practice drive in the simulator and an assessment of the propensity for simulator sickness. NHTSA expects that 75 young drivers will pass the screening and will report for the overnight study, which includes a four-hour drive in the simulator. This collection is solely reporting, and there are no record-keeping costs to the respondents. NHTSA will use the information to produce a technical report that presents the results of the study. The technical report will provide aggregate (summary) statistics and tables as well as the results of statistical analysis of the information, but it will not include any personal information. The technical report will be shared with vehicle manufacturers and suppliers as well as other stakeholders interested in improving traffic safety by decreasing drowsy driving.

**Background:** The mission of the National Highway Traffic Safety Administration (NHTSA) is to save lives, prevent injuries and reduce economic costs due to motor vehicle crashes. In support of this mission, NHTSA's Office of Behavioral Safety Research studies behaviors and attitudes in highway safety, focusing on drivers, passengers, pedestrians, and motorcyclists, and it uses the results to develop and refine countermeasures to deter unsafe behaviors and promote safe alternatives. One of the

unsafe behaviors we aim to prevent is drowsy driving. NHTSA estimates that drowsy driving is involved in 2.4% of fatal crashes resulting in 824 fatalities per year from 2011 through 2015, but the agency also acknowledges that drowsy driving is likely to be underreported in police reports and investigations. A 2012 study by Tefft published in *Accident Analysis and Prevention* used a multiple imputation methodology to analyze NHTSA's crash data and estimated 16.5% of fatal crashes involved drowsy driving. If this estimate is accurate, it suggests that more than 6,000 people die in drowsy-driving-related motor vehicle crashes each year. Furthermore, a significant proportion of drivers report drowsy driving. According to the 2017 AAA Foundation Traffic Safety Culture Index survey, 31% of drivers reported driving “when they were so tired they had a hard time keeping their eyes open” in the previous month, and the Centers for Disease Control’s 2009 through 2012 Behavioral Risk Factor Surveillance System surveys found that 4% admitted falling asleep at the wheel within the past 30 days.

**Description of the Need for the Information and Proposed Use of the Information:**

Given the significant safety risk posed by drowsy driving, NHTSA released its Drowsy Driving Research and Program Plan in 2016. The document outlines a comprehensive program that involves six broad focus areas, and one of these areas is vehicle technology. The development and refinement of driver state detection systems promises the ability to detect drowsiness and prevent crashes, and previous NHTSA research has demonstrated that various approaches to driver state detection show promise. However, the problem of how the vehicle should respond when drowsy driving is detected remains unanswered. To assess the efficacy of different vehicle-based countermeasures, it is necessary to develop experimental methods that replicate the motivational conditions associated with drowsy

driving while keeping drivers in a controlled and safe environment. The objective of this study is to determine the effect of in-vehicle drowsiness countermeasures on driver behavior. Drivers will be randomly assigned to one of three experimental groups: no warnings or mitigation (baseline), lane departure warning, and drowsiness mitigation, which includes a warning as well as a navigation aid that appears to inform the driver of the distance to the next rest area. The study will compare driver performance and behavior under the two countermeasures with baseline drowsy driving. The results will add to the state of knowledge by systematically comparing the effect of different in-vehicle drowsiness countermeasures on driver performance and decision-making in a high-fidelity driving simulator. The results will be disseminated through a technical report that will be shared with vehicle manufacturers and suppliers as well as other stakeholders interested in improving traffic safety by decreasing drowsy driving.

**Data Collection Plan:** The University of Iowa will solicit drivers between the ages of 21 and 30 to participate in a driver simulator study from a registry of approximately 7,000 individuals who have already expressed interest in participating in driving research studies. Respondent are likely to be from Eastern Iowa because they must drive to the National Advanced Driving Simulator (NADS) at the University of Iowa Research Park to participate. The agency proposes to conduct one-time voluntary 15-minute phone surveys with up to 120 potential subjects to collect information about driving experience, sleeping and circadian rhythm, and general health to determine eligibility. The expected burden of qualifying 120 participants is 30 hours. Based upon past studies, the agency expects that 85 potential subjects will be eligible and will report to the NADS for the study. The 85 potential subjects will spend up to one hour reading and signing a consent

form, watching a simulator training presentation, completing a short driving task in the simulator to screen for simulator sickness, complete a brief wellness survey to screen for simulator sickness, and, if appropriate, schedule a future study drive session. The expected burden of screening 85 potential subjects is about 85 hours. It is expected that of the 85 screened, 75 will pass the simulator screening and opt to participate in the study. The study participants will spend up to nine hours providing information about activities, including sleeping, in the previous 24 hours, waiting to begin the simulator drive, completing the four-hour drive and completing a post-drive questionnaire about the experience. During the waiting period and immediately after the simulator drive, study participants will complete the Stanford Sleepiness Scale ten times. During the simulator drive, participants may take breaks. Participants will complete a brief questionnaire during the expected two (voluntary) breaks in the drive to evaluate participants' rationale for resting. In addition to the nine hours for the study, participants also will complete an activity log covering the 24 hours before study, which will take an estimated 30 minutes to complete. The expected burden of 75 participants completing the study is about 713 hours.

**Estimate of the Total Annual Reporting and Recordkeeping Burden Resulting from**

**the Collection of Information:** The total estimated burden for qualifying 120 participants (30 hours), for screening 85 participants (85 hours) and for 75 participants to complete the study (713 hours) is 828 total hours.

**Authority:** 44 U.S.C. Section 3506(c)(2)(A).

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**Jeff Michael,**

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