: 4910-59-P]

DEPARTMENT OF TRANSPORTATION

National Highway Traffic Safety Administration

[Docket No. NHTSA-2025-0589]

Agency Information Collection Activities; Notice and Request for Comment; Pulsating Stop Lamps, Flashing Lights, and Distance Perception

AGENCY: National Highway Traffic Safety Administration (NHTSA), Department of Transportation (DOT).

ACTION: Notice and request for comments on a request for approval of a new information collection.

SUMMARY: NHTSA invites public comments about our intention to request approval from the Office of Management and Budget (OMB) for a new information collection. Before a Federal agency can collect certain information from the public, it must receive approval from OMB. Under 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 reinstatement of previously approved collections. This document describes a collection of information for which NHTSA intends to seek OMB approval on Pulsating Stop Lamps, Flashing Lights, and Distance Perception.

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

ADDRESSES: You may submit comments identified by the Docket No. NHTSA-2025-0589 through any of the following methods:

- Electronic submissions: Go to the Federal eRulemaking Portal at http://www.regulations.gov. Follow the online instructions for submitting comments.
- Fax: (202) 493-2251.

- Mail or Hand Delivery: Docket Management, U.S. Department of Transportation, 1200 New Jersey Avenue SE, West Building, Room W58, Washington, DC 20590, between 9 a.m. and 5 p.m., Monday through Friday, except on Federal holidays. To be sure someone is there to help you, please call (202) 366-9826 or (202)366-9317 before coming.

Instructions: All submissions must include the agency name and docket number for this notice. Note that all comments received will be posted without change to http://www.regulations.gov, including any personal information provided. Please see the Privacy Act heading below.

Privacy Act: Anyone is able to search the electronic form of all comments received into any of our dockets by the name of the individual submitting the comment (or signing the comment, if submitted on behalf of an association, business, labor union, etc.). You may review DOT's complete Privacy Act Statement in the *Federal Register* published on April 11, 2000 (65 FR 19477-78) or you may visit https://www.transportation.gov/privacy.

Docket: For access to the docket to read background documents or comments received, go to http://www.regulations.gov or the street address listed above. Follow the online instructions for accessing the dockets via internet.

FOR FURTHER INFORMATION CONTACT: For additional information or access to background documents, contact Dr. Kathryn Lucaites, National Highway Traffic Safety Administration, 1200 New Jersey Ave. SE, Washington, DC 20590; email *Kathryn.lucaites@dot.gov;* phone: 202-366-7409.

SUPPLEMENTARY INFORMATION:

Under the Paperwork Reduction Act of 1995 (44 U.S.C. 3501 et seq.), before an agency submits a proposed collection of information to OMB for approval, it must first 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 regulation (at 5 CFR 1320.8(d)), an agency must ask for public comment on the following: (a) 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; (b) 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; (c) how to enhance the quality, utility, and clarity of the information to be collected; and (d) 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 submission of responses. In compliance with these requirements, NHTSA asks for public comments on the following proposed collection of information for which the agency is seeking approval from OMB.

Title: Pulsating Stop Lamps, Flashing Lights, and Distance Perception

OMB Control Number: New

Form Number(s): NHTSA Form 2150 – Flashing Lights Screening; NHTSA Form 2151 – Flashing Lights Participant Reminders; NHTSA Form 2152 – Flashing Lights Informed Consent; NHTSA Form 2153 – Vision & Hearing Tests; NHTSA Form 2154 – Flashing Lights Surface Street Checklist; NHTSA Form 2155 – Flashing Lights Highway Checklist; NHTSA Form 2156 – Virginia Tech Transportation Institute (VTTI) Post-Drive Questionnaire, Flashing Lights Study; NHTSA Form 2157 – University of Minnesota (UMN) Survey Research Informed Consent; NHTSA Form 2158 – UMN Survey Research One-time Pre-Questionnaires; NHTSA Form 2159 – UMN Survey Research Data Collection and Driver Response; NHTSA Form 2160 – UMN Survey Research One-time Post-Questionnaires; NHTSA Form 2161 – UMN Simulation Screening Questionnaires; NHTSA Form 2162 – Participant Scheduling; NHTSA Form 2163 – UMN Simulation Informed Consent; NHTSA Form 2164 – UMN Simulation Vision Evaluation;

NHTSA Form 2165 – Pre-Simulator Questionnaire; NHTSA Form 2166 – Driving Simulation Checklist; NHTSA Form 2167 – Post-Simulator Drive Questionnaire; NHTSA Form 2168 – Demographics Questionnaire; NHTSA Form 2169 – UMN Simulator Post-Simulator Study Questionnaire.

Type of Request: New information collection

Type of Review Requested: Regular

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 conduct 21 voluntary information collections as part of a multi-phase research study involving up to 270 licensed drivers of various ages to evaluate potential safety benefits and disbenefits of implementing pulsating stop lamps on a broader scale across a range of driving contexts and over time. The study involves three different parts that will be executed simultaneously:

Descriptions of the VTTI (Part 1 – Test Track Study) and UMN (Part 2 – Survey Research and Part 3 – Simulator Study) efforts are detailed below.

- Part 1 – Test Track Study:

  The data collection will consist of one driving session with an instrumented vehicle. A group of volunteer participants, each with a valid driving license, will be recruited by VTTI to participate in the study. The participants will drive the instrumented vehicle through controlled driving tests on the Smart Roads facilities (controlled-access test tracks built to Federal Highway Administration standards). The focus is to characterize how pulsating stop lamps affect driver distance perception and time-to-collision judgements under a range of situations with multiple lead vehicles and braking signal types (i.e., steady-burn and flashing). Visual distraction associated with flashing lights will also be assessed by tracking the driver's gaze. Following the presentation of all the

testing conditions, participants will provide feedback about the stop lamp configurations. The entirety of participation in the study is estimated at three hours.

- Part 2 – Survey Research:

The data collection will consist of one online survey. Participants will join the study through a crowdsourced research website and will be directed to the University of Minnesota's Qualtrics.com survey site using their personal computer. Participants will be shown a series of animated videos of car-following scenarios with various stop lamp configurations. For each video, participants will be asked to provide subjective feedback, including their interpretation of each stop lamp configuration and their expected driving response to each scenario. The goal of this collection is to characterize driver's understanding and interpretation of pulsating stop lamps. The entirety of participation in the study is estimated at 0.5 hours.

- Part 3 – Simulator Study:

The data collection will consist of three simulated driving sessions. A group of volunteer participants, each with a valid driving license, will be recruited by UMN to participate in the study. The driving simulation study aims to address a number of research questions relating to the driver response characteristics in response to flashing or pulsating stop lamps during normal and crash imminent scenarios. In addition, the multi-session experiment aims to address questions regarding the effects of repeated exposure to flashing or pulsating stop lamps over time.

Across three sessions, participants will be asked to complete a series of drives in an immersive driving simulator while following vehicles with varied stop lamp configurations and braking events. In addition to participant's brake response characteristics collected from the simulator, participants' demographics, attitudes and interpretations will also be measured with questionnaires.

The driving simulation study aims to quantify driver performance in response to pulsating stop lamps during normal and crash imminent scenarios. In addition, the multi-session experiment aims to address questions regarding the effects of repeated exposure to pulsating stop lamps over time. The entirety of participation in the study is estimated at 3.5 hours.

NHTSA will use the information gathered from both the VTTI and UMN efforts to produce a technical report that presents the results of the study. The report will provide important information needed by NHTSA to develop, implement, and maintain effective countermeasures that meet the agency's mandate to reduce the number of deaths, injuries, and economic losses resulting from motor vehicle crashes on the U.S. highways.

Recruitment of study respondents will be from the area near the testing facilities in Blacksburg, VA, Minneapolis, MN, as well as a digital crowdsourcing component. The target for the study varies based on the part in question (a total of 30 participants for Part 1, a total of 200 participants for Part 2, a total of 40 participants for Part 3); however, the research team has provided sufficient additional recruitment such that the target sample is achieved given expected reductions in respondents due to ineligibility and attrition. The planned data collection activities discussed herein have been approved by an Institutional Review Board.

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

As part of NHTSA's mission to save lives, prevent injuries, and reduce traffic-related health care and other economic costs, the agency conducts research as a foundation for the development of motor vehicle standards and traffic safety programs The House Report accompanying the Departments of Transportation, and Housing and Urban Development, and Related Agencies Appropriations Bill, 2020 (H.R. 116-106) directed NHTSA to study the safety effectiveness of rear-end collision avoidance systems that mitigate and prevent rear-end crashes and specified that the study should include the effectiveness of pulsating light systems in motor vehicles.

Pulsating stop lamps are not currently permitted on new vehicles under the Federal Motor Vehicle Safety Standards, which require stop lamps to be steady burning (FMVSS No. 108 S7.3). However, there are aftermarket products which alter stop lamps so that they pulsate when the brake is applied. NHTSA has previously conducted research studying the potential of flashing rear-brake lighting to capture attention in crash-imminent scenarios. However, there may be unintended consequences associated with pulsating stop lamps when considering the broader driving context in which they operate. The objective of this NHTSA project is to evaluate potential safety benefits and disbenefits of implementing pulsating stop lamps on a broader scale across a range of driving contexts and over time. NHTSA will use the information collected to produce a technical report containing summary statistics and tables that will be made available publicly through the agency website and the National Transportation Library.

Affected Public:

Respondents to this collection will be members of the public recruited from Blacksburg, VA; Minneapolis, MN, and a national sample. Effort will be made to recruit equal numbers of adult males and females, including participants aged 21 to 65. A representative sample is not necessary to satisfy the objectives of the study and therefore, a convenience sample of individuals meeting eligibility criteria will be sufficient.

Estimated Number of Respondents:

The target for the study is for 270 participants total across all three parts of the study (a total of 30 participants for Part 1, a total of 200 participants for Part 2, a total of 40 participants for Part 3) to complete all sessions with valid data collected for each. However, eligibility and attrition must be accounted for throughout the individual information collections included in this request. As previously stated, there are 21 individual information collections in this request. The number of respondents annually for each collection is as follows: Recruitment Screener – 33; Participant Reminders – 10; Informed Consent – 10; W-9 Form – 10; Vision-Hearing Form – 10; Surface Street Controlled Driving on Smart Roads – 10; Highway Controlled Driving on Smart Roads –

10; Post-Drive Questionnaire – 10; Survey Research – 67; One-time Pre-Questionnaire – 67; Survey Research Data Collection and Driver Response – 67; One-time Post-Questionnaire – 67; Simulator Study Screening Questionnaire – 40; Participant Scheduling – 13; Informed Consent – 13; Vision Evaluation – 13; Pre-Simulator Questionnaire – 13; Driving Simulation Checklist – 13; Post-Simulator Drive Questionnaire – 13; Demographics Questionnaire – 13; and Post-Simulator Study Questionnaire – 13.

Frequency: This is a one-time information collection.

Estimated Total Annual Burden Hours:

The total estimated burden for this one-time information collection is 386 hours total, or 127 annual burden hours (based on a 3-year period of performance). Further details are provided below.

This ICR includes 21 information collections (eight information collections at VTTI and 13 at UMN), which are described below. Total burden estimates for each information collection are provided in Table 1 and annual burden estimates for each information collection are provided in Table 2.

Part 1 – Test Track Study:

1. **Recruitment Screener (Form 2150)**

   An estimated 100 total respondents (33 respondents annually) will answer a Recruitment Screener (Form 2150) over the phone to determine if they qualify for the study. Participants will be screened over the phone to determine eligibility, with recruitment personnel recording responses on a paper form using an anonymized ID. Respondents who meet the inclusion criteria will be individually scheduled for an appointment over the phone to go to the contractor facilities in Blacksburg, VA. Respondents are expected to take an estimated average of 20 minutes to complete the questionnaire and will complete this questionnaire

once, resulting in a total of 33 burden hours (11 annual burden hours) for the screening of potential participants. Recruitment of study respondents is from Southwest Virginia, specifically the New River Valley and surrounding areas (Roanoke, Salem, etc.).

2. Participant Reminders (Form 2151)

Participants will be contacted by phone, text message, and email to confirm their appointment time and offer an opportunity for participants to ask any questions (Form 2151). These activities (the phone contact and the participant reviewing and replying to the text/email content) are expected to take a total of two minutes. For a maximum of 30 participants (10 respondents annually), this results in a total of one burden hour (<1 annual burden hour).

3. Informed Consent (Form 2152)

Based on an estimate that 30 percent of those who begin the screening process will be eligible and interested in participating, we anticipate an estimated 30 total participants (10 respondents annually) initiate the consenting process. The visit to the VTTI facility will begin with a consenting process that includes an overview of the study, an explanation of the informed consent form, (Form 2152) and an opportunity for the potential participants to ask questions and get clarification. Those individuals who consent to the study and enroll will complete the Informed Consent form and move on to the next process. This consent process and completion of the Informed Consent form, using the maximum of 30 respondents (10 annually), are expected to take six minutes and will be completed resulting in a total of three burden hours (one annual burden hour). This is a paper form, which participants are required to sign two copies of, keeping one for their records.

4. W-9 Form

After completing the informed consent process, 30 participants will also be required to fill out a W-9 form, in order to receive compensation for their participation. This form is

expected to take two minutes and will be completed once, resulting in a total of 1 burden hour (<1 annual burden hour). This is a paper form.

5. Vision-Hearing Form (Form 2153)

Following the consenting process, the experimenter will administer a brief vision and hearing evaluation (Form 2153) for a maximum of 30 respondents (10 respondents annually). The purpose of this evaluation is to ensure that participants meet the basic vision requirements of driver's licensure in Virginia (20/40), and to confirm that they can hear instructions provided by the experimenter when looking away. The hearing evaluation consists of repeating approximately five statements back to the experimenter. Results will be completed once and will be recorded on paper. This evaluation is expected to take two minutes, resulting in a total of one total burden hour (<1 annual burden hour).

6. Surface Street: Controlled Driving on Smart Roads (form 2154)

To assess reactions to multiple stop lamp configurations and scenarios, study participants will experience a series of controlled driving tests with research vehicle on the Smart Roads Surface Street test track. VTTI anticipates that staged trial scenarios on the Surface Street test track will include 3-lanes of forward traffic (a lead, and two adjacent vehicles on either side of the lead). Participants will be presented with a set of staged car-following trials in which they must respond to lead vehicle braking events. To ensure safety, VTTI will use a dual-control study vehicle that has been specifically modified by moving the primary driving controls to the rear seat (experimenter station) while still maintaining functional driving capabilities from the factory driver’s seat. The modifications allow the experimenter in the rear seat to take control of the vehicle at any time, but still provides the ability to measure driver control inputs in response to staged braking events. Participant drivers will be required to brake as needed and appropriate when they first detect lead vehicle deceleration. Visual occlusion will be used to control the onset of the exposure

interval and mimic a distracted driver, with the drivers' "gaze" opening just prior to the start of the trial. The participant's braking response, deceleration profile, and gaze pattern will serve as key outcome measures during these trials. Not including the questionnaire elements referenced below, this driving session is expected to take 130 minutes, including vehicle familiarization, drive-time, and breaks. For a maximum of 30 participants (10 respondents annually), this results in a total of 65 burden hours (22 annual burden hours).

7. Highway: Controlled Driving on Smart Roads (Form 2155)

The highway portion of the data collection investigates the impact of pulsating/flashing lights on driver brake response characteristics and habituation resulting from repeated exposures. This part of the study will use the Smart Roads Highway section allowing continuous driving interactions and evolving events over a 35-minute period. As with the Surface Street portion, VTTI will use a dual-control study vehicle that has been specifically modified by moving the primary driving controls to the rear seat (experimenter station) while still maintaining functional driving capabilities from the factory driver's seat. Unlike the Surface Street portion, participants will be actively driving the vehicle with the rear-seat experimenter serving as a safety driver intervening to take control of the vehicle if needed. Specific aspects of focus during this portion include: car following, headway maintenance, and braking scenarios under distracted and attentive driving, extended car following situations (over a period of minutes, habituation to flashing/pulsating signals over a single episode where pulsing/flashing signals are de-coupled from meaningful deceleration events (episodic habituation). This driving session is expected to take 35 minutes, including vehicle familiarization, drive-time, and breaks. For a maximum of 30 participants (10 respondents annually), this results in a total of 18 burden hours (6 annual burden hours).

8. Post-Drive Questionnaire (Form 2156)

Following the Highway portion of the VTTI test track scenarios, respondents will be asked to complete a single paper questionnaire (Form 2156) related to their reactions to the stop lamp presentation. Completion of this form will take five minutes per person and is to be completed one time per respondent for a maximum of 30 respondents (10 respondents annually), resulting in a total of three burden hours (1 annual burden hour).

Part 2 – Survey Research:

1. Informed Consent (Form 2157)

An estimated 200 participants (67 respondents annually) will be recruited via prolific.com and initiate the consenting process. Using the maximum 200 respondents (67 annually), the consent process, including reading the information sheet and agreeing to participate, is expected to take five minutes and will be completed one time per respondent, resulting in a total of 17 burden hours (six annual burden hours). This is a digital form, which participants digitally indicate their agreement and consent and are then free to download a copy for their records.

2. **One-time Pre-Questionnaires (Form 2158)**

After the informed consent process, respondents will complete a series of online forms filled on Prolific, comprising a demographics questionnaire and a request to participants to provide their Prolific ID's to allow the research team to validate responses and provide payment via Prolific payment system. Respondents are expected to take an estimated average of one minute to complete the one-time questionnaires and will complete this questionnaire once. This data collection, using the maximum of 200 respondents (67 annually), results in a total of three burden hours (1 annual burden hour) for participants.

3. Survey Research Data Collection and Driver Response (Form 2159)

Participants using an online crowdsourcing platform (prolific.com) will then observe a series of animated images in an imagined vehicle-following scenario and respond with their

interpretations of the behavior of the vehicle in the animated image, as well as their likely responses in the vehicle-following scenario. 54 experimental trials will be presented in random order. Each video will play for six seconds. Along with each video, participants will be asked to answer questions related to potential signal interpretations, potential driving responses, and subjective ratings. Using the maximum of 200 respondents (67 annually), each trial (viewing the video and responding to the associated survey questions) is anticipated to take no more than 0.5 minutes and will be completed 54 times per respondent, resulting in a total of 90 burden hours (30 annual burden hours).

4. **One-time Post-Questionnaires (Form 2160)**

A post-study questionnaire is included at the end of the study, which is a set of three questions asking about their experience with pulsating or flashing stop lamps, requiring a response on multiple choice entries. Respondents are expected to take an estimated average of one minute to complete the one-time questionnaires and will complete this questionnaire once. This data collection, using the maximum of 200 respondents (67 annually), results in a total of three burden hours (1 annual burden hours) for participants.

Part 3 – Simulator Study:

1. **Screening Questionnaire (Form 2161)**

An estimated 120 participants (40 respondents annually) will complete a screening questionnaire to determine study eligibility. Respondents are expected to take an estimated average of three minutes to complete the questionnaire and will complete this questionnaire one time per respondent, resulting in a total of six burden hours (two annual burden hours).

2. **Participant Scheduling (Form 2162)**

Participants who pass the screening are potential candidates for scheduling. Participants must be at least 18 years of age, have a driver's license for at least one year, have adequate visual acuity and normal color vision and hearing, and not have conditions that leave them

susceptible to simulation sickness (e.g., issues with dizziness, motion sickness, sea sickness, migraines, etc.). There will also be natural attrition from participants who lose interest after they've filled out the screening form. This will restrict the number of participants who are eligible for scheduling, from 120 who complete the screening survey to those who are scheduled and take the consent form in the next line item. For scheduling participants for the first simulator driving session, along with the informed consent and vision evaluation, the research team will reach out to the participant with their preferred method (e.g., email or phone) and coordinate the best available time for both the research team and the participant. Participant Scheduling for First Session, using the maximum of 40 respondents (13 annually), is expected to take two minutes and will be completed three times per respondent resulting in a total of four burden hours (one annual burden hour).

3. Informed Consent (Form 2163)

While NHTSA estimates that 120 respondents will begin the screening process, NHTSA estimates that only 40 (13 respondents annually) will complete informed consent, anticipating that either some respondents may choose not to proceed with the study or that the experimenter may determine that they should not participate (uncooperative, impaired, etc.). The visit to the UMN facility will begin with a consenting process that includes an overview of the study, an explanation of the consent form, and an opportunity for the potential participants to ask questions and get clarification. Those individuals who consent to the study and enroll will complete the Informed Consent form (Form 2163) and move on to the next process. This consent process and completion of the Informed Consent form, using the maximum of 40 respondents (13 annually), are expected to take five minutes and will be completed one time per respondent, resulting in a total of three burden hours (one annual burden hour). This is a digital form, which participants are required to sign digitally and are able to download a copy if desired.

4. Vision Evaluation (Form 2164)

In order to ensure that the participants in the study have comparable visual capabilities, they will be evaluated on their visual acuity and color vision, due to the UMN simulator study having significant visual requirements. The evaluation will comprise a combination of the typical Snellen test for visual acuity, as well as Ishihara's Concise Color Vision Test. The former requires participants to read rows of letters in progressively smaller font sizes, and the latter requires participants to identify numbers and lines in colored plates. This vision evaluation, using the maximum of 40 respondents (13 annually), is expected to take 10 minutes and will be completed one time per respondent, resulting in a total of seven burden hours (two annual burden hours).

5. Pre-Simulator Questionnaire (Form 2165)

Before the simulation drive, participants are administered the pre-drive Short Stress State Questionnaire (SSSQ), which assesses the change in task stress experienced by the participant during the simulator drive. This Pre-Simulator Questionnaire, using the maximum of 40 respondents (13 annually), is expected to take two minutes and will be completed three times per respondent, resulting in a total of four burden hours (one annual burden hour).

6. Driving Simulation Checklist (Form 2166)

The simulated world will consist of a roughly 10 miles stretch of a four-lane or six-lane divided highway at dusk or nighttime conditions, i.e., to maximize the visibility of stop lamp indications in the projection system-based simulation environment. Participants will be presented with a brief urban driving scenario featuring a series of city blocks and signalized intersections. Participants will be given an indication of which lane they should travel in and, depending on beta and pilot testing results, may be prompted to reach a set speed and set their cruise control to maintain this speed. Distractor and target vehicles will be presented in the roadway and will be programmed to travel at an independent speed or a

speed which maintains a constant distance from the participant's vehicle. Participants are expected to perform four 10-mile drives during each test session. The Simulator Driving Session 1, using the maximum of 40 respondents (13 annually), is expected to take 50 minutes and will be completed three times per respondent, resulting in a total of 100 burden hours (33 annual burden hours).

7. Post-Simulator Drive Questionnaire (Form 2167)

After completing the four drives, participants will complete the Post-Simulator Drive Questionnaire (Form 2167. This includes a set of questions assessing respondents' understanding of the meaning of the flashing stop lamps, along with the sense of urgency, usefulness, ease of interpretation, and annoyingness, distractibility, and discomfort of the stop lamps in the driving scenario. Other questions include Rating Scale Mental Effort (RSME) and the post-drive version of the Short Stress State Questionnaire (SSSQ). The RSME assesses how mentally demanding the drive was for the participant, and the SSSQ assesses the change in task stress experienced by the participant during the simulator drive by measuring the participant's self-reported stress before (Pre-Questionnaire) and immediately after (Post-Questionnaire) the drive. The Post-Stimulator questionnaire also has a set of questions examining symptoms of simulation sickness (Wellness Questionnaire), to ensure the health and well-being of participants after the drive. This set of questionnaires, using the maximum of 40 respondents (13 annually), is expected to take 10 minutes and will be completed three times per respondent, resulting in a total of 20 burden hours (seven annual burden hours).

8. Demographics Questionnaire (Form 2168)

After the first set of drives, a set of questionnaires is administered, which includes demographic questions asking about age, sex, education level, racial background, region of habitation (urban, suburban, rural), and area the participant drives. This set of questionnaires, using the maximum of 40 respondents (13 annually), is expected to take one

minute and will be completed onetime per respondent, resulting in a total of one burden hour (0.43 annual burden hours).

9. Post-Simulator Study Questionnaire (Form 2169)

After completing all three simulation sessions, participants will complete the post-simulator study questionnaire. These include questions about participant experience with pulsating stop lamps and whether they've encountered, driven, or owned a vehicle with pulsating stop lamps. This will also include a brief debriefing period where the participant will verbally communicate their experiences with the simulated drives. The Post-Simulator Study Questionnaire, using the maximum of 40 respondents (13 annually), is expected to take five minutes and will be completed once per respondent, resulting in a total of three burden hours (one annual burden hour).

For ease in understanding the calculations for burden and opportunity cost, Tables 1, 2, and 3 summarize the estimated annual burden hours for each of the study-related activities and forms, based on a 3-year period. Note: For Tables 1-3, Annual Number of Respondents is rounded to the nearest 1, Cost per Response is rounded to the nearest $.01, Annual Burden Hours are rounded to the nearest hour, Annual Opportunity Cost is rounded to the nearest $1, and Loaded Annual Opportunity Cost is rounded to the nearest $1. There may be some discrepancies in the tables due to rounding. The annual information will be entered into ROCIS.

Table 1: Annual Burden Estimates by Information Collection (Part 1 – Test Track Study)

Information Collection	Annual Number of Respondents	Frequency of Response	Time per Response (minutes)	Cost per Response	Annual Burden Hours	Annual Opportunity Cost (AHE = $36.16)	Loaded Annual Opportunity Cost
Screening questionnaire (Form 2150)	33	1	20	$12.05	11	$398	$517
Participant Reminders (Form 2151)	10	1	2	$1.21	0	$12	$16
Informed Consent (Form 2152)	10	1	6	$3.62	1	$36	$47
IRS Form W-9	10	1	2	$1.21	1	$12	$16
Vision/Hearing evaluation (Form 2153)	10	1	2	$1.21	0	$12	$16
Surface Street: Controlled driving on the Smart Roads (orientation, drive-time) (Form 2154)	10	1	130	$78.35	22	$783	$1,019
Highway: Prescribed driving on public roads (orientation, drive-time) (Form 2155)	10	1	35	$21.09	6	$211	$274
Post-Drive Questionnaire (Form 2156)	10	1	5	$3.01	1	$30	$39
Total					**41**	**$1,494**	**$1,944**

Table 2: Annual Burden Estimates by Information Collection (Part 2 – Survey Research)

Information Collection	Annual Number of Respondents	Frequency of Response	Time per Response (minutes)	Cost per Response	Annual Burden Hours	Annual Opportunity Cost (AHE = $37.01)	Loaded Annual Opportunity Cost
Informed Consent (Form 2157)	67	1	5	$3.08	6	$207	$269
One-time Pre-Questionnaires (Form 2158)	67	1	1	$0.62	1	$41	$54
Survey Research Data Collection and Driver Response (Form 2159)	67	54	0.5	$0.31	30	$1,116	$1,451
One-time Post-Questionnaires (Form 2160)	67	1	1	$0.62	1	$41	$54
Total					**38**	**$1,405**	**$1,828**

Table 3: Annual Burden Estimates by Information Collection (Part 3 – Simulator Study)

Information Collection	Annual Number of Respondents	Frequency of Response	Time per Response (minutes)	Cost per Response	Annual Burden Hours	Annual Opportunity Cost (AHE = $40.09)	Loaded Annual Opportunity Cost
Screening questionnaire (Form 2161)	40	1	3	$2.00	2	$80	$104
Participant Scheduling (Form 2162)	13	3	2	$1.34	1	$52	$68
Informed Consent (Form 2163)	13	1	5	$3.34	1	$43	$56
Vision evaluation (Form 2164)	13	1	10	$6.68	2	$87	$113

Information Collection	Annual Number of Respondents	Frequency of Response	Time per Response (minutes)	Cost per Response	Annual Burden Hours	Annual Opportunity Cost (AHE = $40.09)	Loaded Annual Opportunity Cost
Pre-Simulator Questionnaire (Form 2165)	13	3	2	$1.34	1	$52	$68
Driving Simulation Checklist (Form 2166)	13	3	50	$33.41	33	$1,303	$1,694
Post-Simulator Drive Questionnaire (Form 2167)	13	3	10	$6.68	7	$261	$339
Demographic Questionnaire (Form 2168)	13	1	1	$0.67	0	$9	$11
Post-Simulator Study Questionnaire (Form 2169)	13	1	5	$3.34	1	$43	$56
Total					**48**	**$1,930**	**$2,509**

Estimated Total Annual Burden Cost: $0

The only cost burdens respondents will incur are costs related to travel to and from the research location. The costs are minimal and are expected to be offset by the honorarium that will be provided to the research participants.

PUBLIC COMMENTS INVITED: You are asked to comment on any aspects of this information collection, including (a) whether the proposed collection of information is necessary for the proper performance of the functions of the Department, including whether the

information will have practical utility; (b) the accuracy of the Department's estimate of the burden of the proposed information collection; (c) ways to enhance the quality, utility and clarity of the information to be collected; and (d) ways to minimize the burden of the collection of information on respondents, including the use of automated collection techniques or other forms of information technology.

AUTHORITY: The Paperwork Reduction Act of 1995; 44 U.S.C. Chapter 35, as amended; 49 CFR 1.49; and DOT Order 1351.29A.

Cem Hatipoglu,
Associate Administrator,
Vehicle Safety Research.

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