

**Department of Transportation**  
**National Highway Traffic Safety Administration**  
**Information Collection Request Supporting Statements: Part A**  
**Drivers' Use of Camera-Based Rear Visibility Systems Versus Traditional Mirrors**  
**OMB Control No. 2127-0756**

**Abstract:<sup>1</sup>**

This information collection is an extension without change of a currently approved information collection, OMB Control Number 2127-0756, "Drivers' Use of Camera-Based Rear Visibility Systems Versus Traditional Mirrors." The National Highway Traffic Safety Administration (NHTSA) is conducting research as part of a multi-year effort to gather information to aid in determining whether camera-based rear visibility systems can provide the same level of safety as the rearview mirrors currently required under FMVSS No. 111, Rear Visibility. NHTSA published an ANPRM (RIN 2127-AM02) responding to two petitions received from vehicle manufacturers seeking permission to install camera-based systems (sometimes referred to as camera monitor systems (CMS)), instead of outside rearview mirrors, on both light vehicles and heavy trucks.<sup>2</sup> This research will help answer important safety questions posed in the ANPRM and inform NHTSA's response to the petitions, by aiding in determining whether CMS can provide at least the same level of safety as the currently-required mirrors. Research results will be published in the form of one or more technical research reports available via the National Transportation Library and/or future published Federal Register notices.

The research is voluntary and examines the use of camera-based systems versus rearview mirrors for both light vehicles and heavy trucks. Study participants are members of the general public who are licensed car and/or commercial truck drivers aged 25 to 65 who are healthy and able to drive without assistive devices. The research protocols are reviewed by an independent Institutional Review Board.

The full information collection request includes seven information collections: Interest Response Form, Candidate Screening Questions, Participant Informed Consent Form, Experimental Data Collection, Post-Drive Questionnaire: Drive with Camera-Based Visibility System, Post-Drive Questionnaire: Drive with Traditional Mirrors, and Post-Drive Questionnaire: Final Opinions.

This is a revision of a currently approved information collection (IC) to extend the approval period, adjust the number of respondents annually and revise the burden calculations based on completed data collection as of March 14, 2025. The currently approved collection permitted 200 respondents annually across multiple complementary studies within the research taking place over the original approved period. In this extension, NHTSA is requesting 156 respondents

---

<sup>1</sup> The Abstract must include the following information: (1) whether responding to the collection is mandatory, voluntary, or required to obtain or retain a benefit; (2) a description of the entities who must respond; (3) whether the collection is reporting (indicate if a survey), recordkeeping, and/or disclosure; (4) the frequency of the collection (e.g., bi-annual, annual, monthly, weekly, as needed); (5) a description of the information that would be reported, maintained in records, or disclosed; (6) a description of who would receive the information; (7) if the information collection involves approval by an institutional review board, include a statement to that effect; (8) the purpose of the collection; and (9) if a revision, a description of the revision and the change in burden.

<sup>2</sup> 84 FR 54533. Federal Motor Vehicle Safety Standard No. 111, Rear Visibility; Advance notice of proposed rulemaking (ANPRM).

annually over the three-year approval period. This estimate includes 78 annual respondents which are necessary to achieve current research objectives and reflects changes in the number of respondents based on revised response rate information that NHTSA has obtained through the information collected to date. NHTSA also requests approval for an additional 78 annual respondents to permit examination of additional questions critical to the rulemaking effort that may arise, thus requesting 156 respondents annually to complete the research. There are changes to the number of respondents for some individual ICs, time for completion of some individual ICs, wages, and federal wage rates. Additionally, NHTSA has included contractor costs that were not part of the original collection package. As such, there are revisions for burden hours, opportunity costs, and costs to the federal government. This request shows a reduction of 55 burden hours annually and an increase of \$203,094 in cost to the federal government annually.

#### **A. Justification**

- 1. Explain the circumstances that make the collection of information necessary. Identify any legal and administrative requirements that necessitate the collection. Attach a copy of the appropriate section of each statute and regulation mandating or authorizing the collection of information.**

Subchapter V of Chapter 301 of Title 49 of the United States Code (U.S.C.) authorizes the Secretary of Transportation to “prescribe motor vehicle safety standards.”

Subchapter V of Chapter 301 of Title 49 of the United States Code (U.S.C.) authorizes the Secretary of Transportation to conduct “motor vehicle safety research, development, and testing programs and activities, including activities related to new and emerging technologies that impact or may impact motor vehicle safety.” 49 U.S.C. 30182. Pursuant to Section 1.95 of Title 49 of the Code of Federal Regulations (CFR), the Secretary has delegated this authority to the NHTSA.

NHTSA’s mission is to save lives, prevent injuries, and reduce the economic costs of road traffic crashes through education, research, safety standards, and enforcement activity. As automated vehicle technologies advance, they have the potential to dramatically reduce the loss of life each day in roadway crashes. This research supports NHTSA’s mission by examining how drivers interact with camera-based visibility systems compared to traditional rearview mirrors and identifying opportunities to improve the safety of control exchanges between those systems and the driver.

The information collection components for the research and the information collected are listed below. Information collection tools for subsequent research is the same format but will refer to additional CMS features and issues related to using a heavy truck on-road.

This research supports NHTSA’s rulemaking activities (RIN 2127–AM02) responding to two petitions received from vehicle manufacturers seeking permission to install camera-based systems, instead of outside rearview mirrors, to meet FMVSS No. 111 rear visibility requirements on both light vehicles and heavy trucks. These camera-based visibility systems are a type of rear visibility technology designed to replace or supplement required vehicle mirrors with small cameras that transmit video images to electronic visual displays. FMVSS No. 111 currently requires that vehicles be equipped with rearview mirrors to provide drivers with a view of objects to their rear or to their

side and rear.<sup>3</sup> As such, currently CMSs cannot be used to satisfy FMVSS No. 111 rear visibility requirements, but they can be provided as supplemental systems in addition to required mirrors. FMVSS No. 111 does not contain if-equipped requirements for CMSs, which would establish minimum performance requirements for CMSs if a vehicle is equipped with the technology.

On October 10, 2019, NHTSA published an Advanced Notice of Proposed Rulemaking on the topic of CMSs in response to the two rulemaking petitions. The ANPRM sought public comment to aid the agency in deciding whether and how to propose amending FMVSS No. 111 to allow the use of CMSs as an FMVSS No. 111 compliance option alternative. The ANPRM posed questions for which the notice said data are needed to inform the decision. The questions related to whether CMS provide the same level of safety, comparable visual information, and ease of use as currently-compliant mirrors, focusing on CMS performance concerns and human factors issues regarding drivers' ability to safely use CMSs. For example, questions exist regarding whether a CMS's two-dimensional images provided via electronic visual display can provide the driver with equivalent visual information (e.g., depth perception, which affects distance judgement) as the three-dimensional images provided by FMVSS-compliant mirrors, as well as promote similar ease of use. Additionally, while CMSs may have the ability to provide a wider field of view, the image is subject to distortion due to the wider field of view being compressed for presentation on a small display area. The research covered under this collection represents NHTSA's efforts to address these questions in support of the rulemaking activity.

**2. Indicate how, by whom, and for what purpose the information is to be used. Except for a new collection, indicate the actual use the agency has made of the information received from the current collection.**

**BY WHOM:** All information is collected by staff from NHTSA's Vehicle Research and Test Center (VRTC) along with contracted support from Transportation Research Center, Inc.

This research encompasses multiple complementary experiments, each using the same seven information collections detailed below. All experiments focus on camera-based visibility systems but may differ by vehicle class, test location for the experiment, and vehicle maneuver. For instance, research completed under this clearance to date has included a light vehicle test track-based experiment examining driver behavior in lane changes while another experiment examined heavy truck driver behavior in lane changes on a test track. Each experiment within the research that remains to be performed utilize the same seven information collections.

**1. Interest Response Form (NHTSA Form 1553)**

**PURPOSE:** For determining individuals' willingness to participate in the study and initial suitability for study participation based primarily on their demographics and driving qualifications (e.g., annual mileage driven).

---

<sup>3</sup> Regarding a passenger-side outside mirror, FMVSS No. 111 states, "S5.3 Outside rearview mirror passenger's side. Each passenger car whose inside rearview mirror does not meet the field of view requirements of S5.1.1 shall have an outside mirror of unit magnification or a convex mirror installed on the passenger's side."

**HOW:** Individuals observe print or online advertisements and those interested in participation respond to the advertisement or mailing by completing the *Interest Response Form* online via a secure website. Response data are reviewed, and the research team determines whether the individual meets the initial study participation criteria. Those meeting the criteria move on to the next step.

**2. Candidate Screening Questions (NHTSA Form 1554)**

**PURPOSE:** For determining whether individuals meet participation criteria for the research. The purpose of the screening process is to ensure that participants' driving experience is representative of the general public or the average consumer of the vehicle model and system under test and that participants' physical and health conditions allow them to safely drive continuously up to three hours without the use of assistive devices.

**HOW:** Individuals meeting the experiment criteria are sent an e-mail message to access a secure website with the *Candidate Screening Questions*. The website used to administer the questionnaire records responses to individual vehicle and driving-related questions, but records only summary indications (i.e., yes or no) for questions of a sensitive nature. Participants that meet all criteria in the *Candidate Screening Questions* move to the *Experimental Data Collection*.

**3. Participant Informed Consent Form, (NHTSA Form 2044)**

**PURPOSE:** To provide participants with the *Informed Consent Form* that describes the purpose, procedures, possible benefits and risks of the research.

**HOW:** For those individuals that meet criteria to participate in the study, researchers contact them to set up an appointment to come to VRTC according to the respondent's availability. Upon arrival at the study site, participants are asked to review and sign the *Informed Consent Form*. Participants are administered an audio-recorded version of the informed consent form after which the participant **is** given the opportunity to ask questions and then asked to sign an electronic version of the consent form.

**4. Experimental Data Collection, (NHTSA Form 2058)**

**PURPOSE:** To record study participants' driving and eye-glance behavior for later analysis with respect to research questions addressing safety impacts of camera-based rear visibility system use. This data collection is necessary for assessing drivers' use of camera-based visibility systems as compared to traditional outside rearview mirrors and the related safety implications.

**HOW:** Following the *Informed Consent Form* and instructions, study participants drive a government-owned instrumented vehicle on a closed course (test track) and/or public roadways. The NHTSA-provided vehicle instrumentation in the vehicle includes video cameras for recording driver eye glances and the road scene and computer equipment for recording these data. Vehicle position, speed, steering angle, and turn signal status is

also recorded. Video and engineering data are reviewed to extract descriptive information associated with driving behavior and eye-glance patterns.

5. **Post-Drive Questionnaire: Drive with Camera-Based Visibility System (NHTSA Form 1556)**

**PURPOSE:** To understand drivers' opinions regarding camera-based visibility system performance, degree of comfort with system use, and perceptions of safety associated with system use. The questions address participants' experiences during the experimental drive and any safety considerations related to the system.

**HOW:** The post-drive questionnaire is administered using a tablet computer immediately following completion of the *Experimental Data Collection*. Participants' responses to scale-based questions are combined for analysis. Responses to open-ended questions are qualitatively summarized and described in the technical report without reference to individual participants.

6. **Post-Drive Questionnaire: Drive with Traditional Mirrors (NHTSA Form 1557)**

**PURPOSE:** To understand drivers' opinions regarding traditional mirrors. The questions address participants' experiences during the experimental drive and any safety considerations related to the system.

**HOW:** The post-drive questionnaire is administered using a tablet computer immediately following completion of the *Experimental Data Collection*. Participants' responses to scale-based questions are combined for analysis. Responses to open-ended questions are qualitatively summarized and described in the technical report without reference to individual participants.

7. **Post-Drive Questionnaire Final Opinions (NHTSA Form 1558)**

**PURPOSE:** To understand drivers' opinions regarding preference for using CMS or mirrors as well as assessing specific, open-ended opinions regarding CMS.

**HOW:** The post-drive questionnaire is administered using a tablet computer immediately following the completion of *Post-Drive Questionnaire: Drive with Camera-Based Visibility System* and *Post-Drive Questionnaire: Drive with Traditional Mirrors*. Participants' responses to scale-based questions are combined for analysis. Responses to open-ended questions are qualitatively summarized and described in the technical report without reference to individual participants.

3. **Describe whether, and 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, e.g., permitting electronic submission of responses, and the basis for the decision for adopting this means of collection. Also, describe any consideration of using information technology to reduce burden.**

The research uses electronic collection of information from respondents for all forms employed. The *Experimental Data Collection* is primarily observation-based. Computer software (Qualtrics) accessed via a secure website is used for electronic presentation of participant recruitment and screening questions, as well as all post-drive questionnaires. Electronic presentation of these questions avoids the need to administer printed question sets completed by hand and eliminates the need to manually enter questionnaire response data.

In the *Experimental Data Collections*, a computer-based data acquisition system is used to record engineering data and video data of the driving scene and the driver's eyes and manual control inputs while driving. The data obtained by the data acquisition system is processed using a computer program to automatically determine eye glance locations.

**4. Describe efforts to identify duplication. Show specifically why any similar information already available cannot be used or modified for use for the purposes described in Item 2 above.**

Due to the relatively recent introduction of CMS, there are no publications that fully address the research questions regarding CMS ability to provide at least the same level of safety as that afforded by FMVSS No. 111 required rearview mirrors. The observational research will provide information that does not currently exist regarding drivers' ability to safely operate vehicles equipped with camera-based rear visibility systems on roadways and cannot be obtained through other methods.

**5. If the collection of information impacts small businesses or other small entities, describe any methods used to minimize burden.**

The collection of information does not involve small businesses. Respondents are individuals who meet certain research participation criteria and who volunteer to participate in the research.

**6. Describe the consequence to Federal program or policy activities if the collection is not conducted or is conducted less frequently, as well as any technical or legal obstacles to reducing burden.**

The information collection covered herein is collected once only and, therefore, less frequent collection is not feasible. This research includes multiple complementary experiments, each using the same seven information collections and involving different participants. This research is necessary to inform NHTSA's response to two rulemaking petitions submitted by vehicle manufacturers interested in introducing camera-based systems as a replacement for FMVSS No. 111 required rearview mirrors in U.S. market light and heavy vehicles. Without the data collected through this research, NHTSA would not be able to make a fully informed decision regarding whether camera-based systems can afford the same level of safety as that associated with currently required rearview mirrors.

As the agency responsible for prescribing and maintaining the standards for motor vehicle safety in the United States, NHTSA is constantly seeking objective data for use in basing decisions about how to best protect the road-traveling public and minimize deaths and injuries associated with car crashes. Timely, accurate information on driver behavior

and performance considering modern-day vehicle equipment and driver habits is essential to NHTSA's determining the most appropriate recommendations and requirements for vehicle equipment and driving safety.

- 7. Explain any special circumstances that would cause an information collection to be conducted in a manner:**
- a. requiring respondents to report information to the agency more often than quarterly;**
  - b. requiring respondents to prepare a written response to a collection of information in fewer than 30 days after receipt of it;**
  - c. requiring respondents to submit more than an original and two copies of any document;**
  - d. requiring respondents to retain records, other than health, medical, government contract, grant-in-aid, or tax records, for more than three years;**
  - e. in connection with a statistical survey, that is not designed to produce valid and reliable results that can be generalized to the universe of study;**
  - f. requiring the use of a statistical data classification that has not been reviewed and approved by OMB;**
  - g. that includes a pledge of confidentiality that is not supported by authority established in statute or regulation, that is not supported by disclosure and data security policies that are consistent with the pledge, or which unnecessarily impedes sharing of data with other agencies for compatible confidential use; or**
  - h. requiring respondents to submit proprietary trade secrets, or other confidential information unless the agency can demonstrate that it has instituted procedures to protect the information's confidentiality to the extent permitted by law.**

There are no special circumstances that would cause this collection to be collected in a manner inconsistent with 5 CFR 1320.5(d)(2).

- 8. If applicable, provide a copy and identify the date and page number of publication in the Federal Register of the agency's notice, required by 5 CFR 1320.8(d), soliciting comments on the information collection prior to submission to OMB. Summarize public comments received in response to that notice and describe actions taken by the agency in response to the comments. Specifically address comments received on cost and hour burden. Describe efforts to consult with persons outside the agency to obtain their views on the availability of data, frequency of collection, the clarity of instructions and recordkeeping, disclosure, or reporting format, and on the data elements to be recorded, disclosed, or reported.**

In compliance with 5 CFR 1320.8(d), NHTSA published a 60-day notice on May 15, 2025 in the Federal Register (90 FR 21109) requesting public comment on the proposed collection of information. NHTSA received no comments.

- 9. Explain any decision to provide any payment or gift to respondents, other than remuneration of contractors or grantees.**

For respondents who complete only the *Interest Response Form* and the *Candidate Screening Questions* but not moved on to the *Experimental Data Collection*, no payment

or gift is provided. Respondents who become participants in the full data collection are compensated for their time spent completing the *Experimental Data Collection* and the post-drive questionnaires. Compensating participants for their participation is consistent with normal experimental practices to reimburse participants for their time and participation in research studies.

For this research, NHTSA provides cash payment to participants upon completion of study participation at a rate of \$65 per hour. This rate was determined from the average wage rate of the population in the Columbus, OH area as well as study compensation hourly rates from recent research conducted at VRTC that successfully met recruitment timing needs, overall research program schedule, and rulemaking support timeline needs. The participation compensation amount has been reviewed by an independent Institutional Review Board.

VRTC is located in a low population density area (East Liberty, OH) located approximately 30 miles outside of Columbus, Ohio. The closest cities having populations of at least 14,000 are at least approximately 14 miles away from the study site. As such, study participants travel at least 20 miles on average both to and from the study site. This remote study site location has historically made recruitment of participants for studies at this site challenging. Therefore, to further assist successful recruitment and full participation, respondents are reimbursed at the current IRS mileage rate for miles traveled to and from the test site.

**10. Describe any assurance of confidentiality provided to respondents and the basis for the assurance in statute, regulation, or agency policy. If the collection requires a systems of records notice (SORN) or privacy impact assessment (PIA), those should be cited and described here.**

The agency has received an adjudicated Privacy Threat Assessment (PTA). Additionally, participants are provided with the *Informed Consent Form* that describes the purpose, procedures, possible benefits and risks of the research.

**11. Provide additional justification for any questions of a sensitive nature, such as sexual behavior and attitudes, religious beliefs, and other matters that are commonly considered private. This justification should include the reasons why the agency considers the questions necessary, the specific uses to be made of the information, the explanation to be given to persons from whom the information is requested, and any steps to be taken to obtain their consent.**

The *Interest Response Form* and the *Candidate Screening Questions* are used to ensure that individuals meet study eligibility requirements prior to their enrollment. These questions are prefaced with a statement clarifying that responding is voluntary and this information is only used for the purposes of study participant recruitment. Some *Candidate Screening Questions* ask about topics that are considered sensitive information, such as age and other demographic information. Age and other demographic information are collected to assign participants to the experimental conditions in a balanced manner. The *Candidate Screening Questions* involve collection of information that some individuals may deem of a sensitive nature, such as general health information that may affect driving ability and criminal activity. The questionnaire administration website is secure and presents the questions and record responses to individual vehicle



and driving-related questions, while recording only a summary indication of whether an individual meets the participation health criteria. Response data from the screening questions is downloaded from the website and maintained only on secure computers and/or file directories that are password protected. There is a screening question relating to criminal activity that asks whether the individual has "...had any criminal convictions in the past 3 years?" with the response options as 'yes' and 'no.' This is collected as a precaution due to the equipment costs associated with the study and the safety of the researcher riding with the respondent. If the respondent replies, 'yes,' to the question about recent criminal convictions, a "thank you for completing the questionnaire" message is displayed and no responses to the *Candidate Screening Questions* are retained.

**12. Provide estimates of the hour burden of the collection of information on the respondents and estimates of the annualized labor cost to respondents associated with that hour burden.**

Burden has been adjusted from the currently approved collection using the response/eligibility rates for the most recent experiment in this research. The table below shows completion numbers and rates for different stages of collection. The last row of the table shows the number of respondents who completed the experiment and the data were usable. Some respondents' data was identified as not usable after the conclusion of the experiment due to issues such as technical difficulties with the installed equipment or time constraints on the test track. As the final usable data are that which will be used to accomplish the goals, this collection extension and revision requests the number of respondents needed to collect enough usable data.

**Table 1. Response/Eligibility Rate Data**

Information Collection	Completed	Response/Eligibility Rate
Interest Response Form	275	-
Candidate Screening Questionnaire	200	73%
Experimental Data Collection	53	27%
Usable Data	24	45%

The *Interest Response Form* is the initial information collection and is a response to the solicitation for potential research participants. Interested individuals respond to a study recruitment advertisement by completing the *Interest Response Form*. This is an electronic collection, is only collected once, and is estimated to take approximately 5 minutes. Using the most recent experiment associated with the current collection and calculating response rates, NHTSA requests approval for 792 respondents annually for this collection.

The *Interest Response Form* submissions are reviewed manually by research staff to select eligible participants. Individuals whose responses meet participation requirements (recent eligibility rate was calculated to be 73%) are selected to take the *Candidate Screening Questions*. Candidate participants are e-mailed a link to the electronically presented question set hosted on a secure website. NHTSA estimates that 578 individuals will receive the *Candidate Screening Questions*. This information is collected once and

will take approximately 7 minutes. The respondents completing the *Interest Response Form* and the *Candidate Screening Questions* will be using their personal electronic device. There is no compensation for individuals who complete these information collections.

Upon review and determination that the respondent is eligible and that sample specifications are met, that participant is contacted by e-mail or phone to schedule their participation. Individuals scheduled for study participation are asked to appear at NHTSA's Vehicle Research and Test Center in East Liberty, OH for the *Experimental Data Collection*. The *Experimental Data Collection* begins with a pre-briefing, *Participant Informed Consent Form*. The pre-briefing consists of greeting the participant and administering an audio-recorded version of the *Participant Informed Consent Form* after which the participant is given the opportunity to ask questions and then asked to sign an electronic version of the consent form on a computer. Following consent, the participant receives instructions on the study protocol. For driving data collection, the participant is shown the vehicle, seated in the driver seat, and an eye tracking system calibration will be performed. Driving then commences while data are recorded to document vehicle performance and driver behavior. This *Experimental Data Collection* is conducted once and takes approximately 245 minutes. This includes scheduling, instruction, and the drive. From the data collected thus far, 245 minutes is an appropriate maximum time. Using the recent response rate of 27 percent, NHTSA estimates 156 respondents annually will participate in the Experimental Data Collection.

Respondents complete the *Post-drive Questionnaire: Drive with Camera-Based Visibility System* and/or the *Post-drive Questionnaire: Drive with Traditional Mirrors* depending on which system is used in the respective experiment. While some respondents may only take one of these questionnaires based on the study design, NHTSA has included both questionnaires for each respondent in the burden calculation to develop a maximum burden calculation. This electronic collection is estimated to take 10 minutes for each questionnaire. As the same number of respondents that participate in the *Experimental Data Collection* will complete these questionnaires, NHTSA estimates 156 respondents will complete each of these annually.

Each respondent completes the *Post-Drive Questionnaire: Final Opinions*. This electronic collection will be administered once to each participant and is estimated to take 5 minutes to complete. All 156 respondents are expected to complete this questionnaire.

Table 2 shows the annual burden hours and opportunity costs for the research. The opportunity cost is calculated per hour based on Bureau of Labor Statistics Average Hourly Earnings data for "Total Private," \$30.17 (Accessed March 4, 2025, at [https://www.bls.gov/regions/midwest/news-release/occupationalemploymentandwages\\_columbusoh.htm](https://www.bls.gov/regions/midwest/news-release/occupationalemploymentandwages_columbusoh.htm)).

**Table 2. Annual Burden Hours and Opportunity Cost**

<b>Information Collection</b>	<b>Annual Number of Respondents</b>	<b>Frequency of Response</b>	<b>Annual Responses</b>	<b>Time per Response (min)</b>	<b>Cost Per Response (\$34.55/Hour)</b>	<b>Annual Estimated Burden Hours (Rounded)</b>	<b>Annual Opportunity Costs (rounded)</b>
Interest Response Form	792	1	792	5	\$2.88	66	\$2,281
Candidate Screening Questions	578	1	578	7	\$4.03	67	\$2,329
Participant Informed Consent Form	156	1	156	30	\$17.28	78	\$2,696
Experimental Data Collection	156	1	156	215	\$123.80	559	\$19,313
Post-drive Questionnaire: Drive with Camera-Based Visibility System	156	1	156	10	\$5.76	26	\$899
Post-drive Questionnaire: Drive with Traditional Mirrors	156	1	156	10	\$5.76	26	\$899
Post-Drive Questionnaire: Final Opinions	156	1	156	5	\$2.88	13	\$449
<b>Total Burden</b>						<b>835</b>	<b>\$28,866</b>

The change reflected in this revision is a reduction in annual burden from 890 hours per year to 835 hours per year.

- 13. Provide an estimate of the total annual cost burden to respondents or record keepers resulting from the collection of information. Do not include the cost of any hour burden already reflected in the response provided in question 12.**

There are no additional costs to respondents beyond the time spent completing the recruitment screening questionnaires and travel costs for visits to the study site, which are reimbursed to participants at the current IRS mileage reimbursement rate.

Respondents for the *Interest Response Form* and the *Candidate Screening Questions* use their own electronic device to complete the questionnaires. They are not responsible for purchasing additional equipment nor software for this completion.

Respondents selected and who agree to participate in the study will need to provide or obtain their own transportation to and from the study site. However, they are reimbursed for the cost of mileage driven to and from the study site and, therefore, incur no additional costs. The costs are minimal and are expected to be offset by the compensation that will be provided to the research participants. NHTSA estimates that each participant will travel on average 30 miles one-way to the research location (approximately 60 miles round trip). Using the IRS standard mileage rate of \$0.67 per mile<sup>4</sup>, each respondent is expected to incur approximately \$40.20 in transportation costs. Therefore, NHTSA estimates that the total costs to all respondents for the one-time study will be approximately \$4,020 ( $\$40.20 \times 100$  participants). NHTSA estimates the total annual costs based on an average of 33 respondents a year. Accordingly, NHTSA estimates the total annual cost to be approximately \$1,326.6 per year ( $\$40.20 \times 33$  respondents). All equipment required for conduct of the research will be provided by NHTSA. The respondents will be fairly compensated for their participation without being coercive.

**14. Provide estimates of annualized costs to the Federal government. Provide a description of the method used to estimate cost, which should include quantification of hours, operational expenses (such as equipment, overhead, printing, and support staff), and any other expense that would not have been incurred without this collection of information.**

NHTSA is asking for a three-year approval for this one-time information collection request, thus, the annual cost to the federal government is estimated to be \$315,867. This is comprised of Contracting Officer's Representative time, contractor time, and compensation to respondents.

The estimated annual cost in terms of the Federal government's research study contract management time is approximately 40 hours for the Contracting Officer's Representative (COR) for the relevant contract task order and 8 hours for the supervisor. Using an example COR GS pay scale level of GS-14 Step 1 and Supervisor GS pay scale rate of GS-15 Step 1, NHTSA estimates that the cost associated with those hours to be \$3,016.48 ( $\$61.05 \times 40$  hours = \$2,442.00;  $\$71.81 \times 8$  hours = \$574.48;  $\$2,442.00 + \$574.48 = \$3,016.48$ ). (GS locality COLUMBUS-MARION-ZANESVILLE, OH and pay rates for year 2025). The estimated costs incurred by the Federal government relating to the administration and technical support for this information collection are based on the number of minutes needed to for the contractor to administer and process each question set and the number of respondents.

The estimated costs incurred by the Federal Government relating to the administration and technical support for this information collection are summarized below. The number

---

<sup>4</sup> From Internal Revenue Service's 2024 standard mileage rates for self-employed and business.  
<https://www.irs.gov/tax-professionals/standard-mileage-rates>, last accessed May 14, 2024.

of respondents and time to administer and process each question set across the data collection are estimated as shown in the table.

**Table 3. Estimated Annual Contractor Costs to Federal Government**

Information Collection Step	Number of Responses	Time Per Respondent/ Participant (Minutes)	Total Time per Question Set (Hours)	Labor Cost (\$) Per Hour	Estimated Time Cost (\$)
Interest Response Form Administration	792	0	0	\$96.00	\$0.00
Interest Response Form Data Processing	792	5	66	\$96.00	\$6,336.00
Screening Questions Administration	578	7	67	\$96.00	\$6,473.60
Screening Questions Data Processing	578	20	193	\$136.00	\$26,202.67
Participant Informed Consent Form	156	30	78	\$136.00	\$10,608.00
Experimental Data Collection Administration	156	215	637	\$154.50	\$86,365.50
Experimental Data Collection Processing	156	245	637	\$154.50	\$98,416.50
Post-drive Questionnaire: Drive with Camera-Based Visibility System Administration	156	10	26	\$154.50	\$4,017.00
Post-drive Questionnaire: Drive with Camera-Based Visibility System Processing	156	20	52	\$154.50	\$8,034.00
Post-drive Questionnaire: Drive with Traditional Mirrors Administration	156	10	26	\$154.50	\$4,017.00
Post-drive Questionnaire: Drive with Traditional Mirrors Processing	156	20	52	\$154.50	\$8,034.00
Post-Drive Questionnaire Final Opinions Administration	156	5	13	\$154.50	\$2,008.50
Post-Drive Questionnaire Final Opinions Data Summary	156	10	26	\$154.50	\$4,017.00
<b>TOTAL:</b>					<b>\$264,529.77</b>

\*Note: *Candidate Screening Questions* will be administered electronically via a secure website. However, the step of referring individuals with acceptable *Interest Response Form* responses to complete *Candidate Screening Questions* will be accomplished by a contractor sending the candidate an e-mail asking them to complete *Candidate Screening Questions* online. Administration time consists of the time it will take for an individual to send the candidate participant a scripted e-mail response.

Costs incurred by the Federal Government for compensation of study participants and mileage reimbursement are estimated below. It is planned that participants will be recruited from an area covering an approximately 60-mile radius surrounding the test site. For the purposes of estimating mileage reimbursement cost, it is assumed that participants' residences will be located an average of 30 miles from the test site. Study participants will be reimbursed for mileage driven for both outbound and return trips between their residence and the test site, which gives an average of 60 miles reimbursed at the current IRS standard mileage rate of \$0.67<sup>5</sup> per participant.

Monetary payment will be provided at an hourly rate determined via an internal, standardized pay rate determination calculation. The hourly rate of pay is based on the federal government general schedule pay rate corresponding to GS-8, Step 1 for the locality of the research site. NHTSA anticipates that the hourly rate for study participation will be approximately \$65 per hour. Participants are expected to spend approximately a total of 4 hours participating in the research. Anticipated total costs incurred by the Federal Government for compensation of research participants and mileage reimbursement are summarized in the table 4 below.

**Table 4. Estimated Total Costs to Federal Government for Participant Compensation**

Compensation	N	Quantity	Cost Rate	Cost (\$)
Participant Pay	156	4 (hours)	65	\$40,560.00
Mileage Reimbursement	156	60 (miles)	\$0.67	\$6,318.00
<b>TOTAL:</b>				\$46,878.00

- 15. Explain the reasons for any program changes or adjustments reported on the burden worksheet. If this is a new collection, the program change will be the number of burden hours reported in response to question 12 and the entire burden cost reported in response to question 13. If this is a renewal or reinstatement, the change is the difference between the new burden estimates and the burden estimates from the last OMB approval.**

The currently approved collection was approved for 890 burden hours annually and the cost to the federal government was \$112,773.

This revision and extension are necessary to continue data collection, as planned experiments were delayed due to technical difficulties and additional permutations of the vehicle classifications, location of the experiments, and vehicle maneuver utilizing the approved collection materials were developed to accomplish research objectives. The

<sup>5</sup> See

From Internal Revenue Service's 2024 standard mileage rates for self-employed and business. <https://www.irs.gov/tax-professionals/standard-mileage-rates>, last accessed Sept. 6, 2024.

changes in number of respondents and resulting burden changes are based on recent response/eligibility rates. Changes to the cost to the federal government are due to changes in number of respondents, the inclusion of the *Experimental Data Collection* that, after further review and consideration, were included in this collection request but were not included in the currently approved collection and increase in wages and mileage rates.

This request is for 835 burden hours and a cost to the federal government of \$315,867. This reflects a decrease of 55 burden hours and an increase of \$198,635 for the federal government.

**16. For collections of information whose results will be published, outline plans for tabulation and publication. Address any complex analytical techniques that will be used. Provide the time schedule for the entire project, including beginning and ending dates of the collection of information, completion of report, publication dates, and other actions as applicable.**

Research results will be published in the form of one or more technical research reports. NHTSA may publish in aggregate the results of these experiments through research reports via the National Transportation Library and/or future published Federal Register notices.

Only descriptive and inferential statistical analysis methods will be used. Personal information will not be published in the technical reports.

Data collection is planned to begin immediately upon receipt of PRA approval. All data collection will be completed over an anticipated period of approximately 24 months. Data reduction and analysis will follow data collection. Completion of technical reports is anticipated within 12 months of the end of data collection. Therefore, the full approval request is for three years.

**17. If seeking approval to not display the expiration date for OMB approval of the information collection, explain the reasons that display would be inappropriate.**

NHTSA will display the expiration date for OMB approval.

**18. Explain each exception to the topics of the certification statement identified in "Certification for Paperwork Reduction Act Submissions." The required certifications can be found at 5 CFR 1320.9.<sup>6</sup>**

There are no exceptions to the certifications statement.

In accordance with the requirement at 5 CFR 1320.9(g), the following statement will be provided to respondents:

---

<sup>6</sup> Specifically explain how the agency display the OMB control number and expiration date and will inform potential respondents of the information required under 5 CFR 1320.8(b)(3): the reasons the information is planned to be and/or has been collected; the way such information is planned to be and/or has been used to further the proper performance of the functions of the agency; an estimate, to the extent practicable, of the average burden of the collection (together with a request that the public direct to the agency any comments concerning the accuracy of this burden estimate and any suggestions for reducing this burden); whether responses to the collection of information are voluntary, required to obtain or retain a benefit (citing authority), or mandatory (citing authority); the nature and extent of confidentiality to be provided, if any (citing authority); and the fact that an agency may not conduct or sponsor, and a person is not required to respond to, a collection of information unless it displays a currently valid OMB control number.

Paperwork Reduction Act Statement: A federal agency may not conduct or sponsor, and a person is not required to respond to, nor shall a person be subject to a penalty for failure to comply with, a collection of information subject to the requirements of the Paperwork Reduction Act unless that collection of information displays a current valid OMB Control Number. The OMB Control Number for this information collection is 2127-0756. We estimate that it will take approximately 5 minutes to complete the form. The information collected is mandatory under 49 CFR 591.5. Send comments regarding this burden estimate or any other aspect of this collection of information, including suggestions for reducing this burden to: Information Collection Clearance Officer, National Highway Traffic Safety Administration, 1200 New Jersey Ave, S.E., Room W45-205, Washington, DC, 20590.