

Information Collection Request Supporting Statements: Part A
Field Study of Heavy Vehicle Crash Avoidance Systems
OMB Control No. 2127-0741

Abstract:¹

This information collection request (ICR) is for an extension without modification of an ongoing study titled “Field Study of Heavy Vehicle Crash Avoidance Systems” that received OMB approval in 2019. Participation in this information collection is voluntary and respondents will be justly compensated for any participation in the study. Respondents may elect to stop participation at any time during the study but are only compensated for the time they actively participate in the study. The respondent pool consists of individuals who hold a valid Class A commercial driver’s license and are currently employed as a commercial vehicle driver. These respondents are selected through a network of commercial driver fleets that have signed agreements with Virginia Tech Transportation Institute (VTTI). The information collection is for reporting purposes, as data is collected through a pre-field study survey and a post-field study survey. In the first stage, the respondents will complete an Informed Consent Form, a Demographic Questionnaire, and an Initial Crash Avoidance System (CAS) Technology Questionnaire prior to the start of the field study. In the second stage, the field study data is collected through a data acquisition system (DAS) installed in the vehicle and does not impose any additional burden on respondents because data collection through the DAS requires no additional effort from the driver. The DAS is installed during non-work hours and does not require attendance by the driver. The DAS collects data during the respondent’s normal driving for work and does not require any additional driving. After approximately three months of the field study, the final stage of the study involves the participants completing a Final CAS Technology Questionnaire at the end of participation. Each respondent is asked to go through the three stages only one time and each questionnaire is completed only once. The overall study is performed once with a goal of 150 respondents completing the study and questionnaires. Information collected during the study includes demographic information (e.g., age, self-identified gender, driving experience, and experience with CAS technology) and prior experience with crash avoidance technologies. Opinions about crash avoidance technologies are asked in the first and final stages of the study during the pre- and post- field study CAS questionnaires to see if there are changes over time. The DAS will record data from the vehicle and driver in a naturalistic driving environment. VTTI will receive the information from participants. VTTI will de-identify, analyze, and securely store the information. VTTI will provide NHTSA with summary information and analyses that will be used in a final report and presentations available to the general public. The purpose of the collection is to gather demographic information about the drivers and learn whether they trust crash avoidance technology or believe that it will improve their safety. The survey data will be used with naturalistic data from the driver’s vehicle to determine whether a

¹ 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.

driver's experiences with crash avoidance technology affects their opinions regarding that technology (i.e. if drivers who experience more alerts have different opinions of the technology). The information collection has received approval by an Institutional Review Board (IRB) per VTTI protocol. This document is an extension to a currently approved ICR. The extension is necessary due to initial delays due to COVID-19 and resulting difficulties in procuring hardware for the DAS. Those delays have been resolved and the VTTI research team has begun collection. As of December 31, 2021, one respondent has completed the study, three are in the field study portion, and one has completed the informed consent document and the pre-field study surveys but still needs to go through the installation portion of stage one and stages two and three of the study.

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.**

This information collection request is for an extension of a currently approved collection that is gathering information regarding naturalistic driving experience and opinions about crash avoidance systems consisting of Lane Departure Warning, Forward Collision Warning, Impact Alert, and Automatic Emergency Braking for heavy vehicles. The extension is necessary to complete data collection that was delayed due to COVID-19 safety precautions and delays in the ability to procure hardware necessary for the data acquisition system. Those delays have been resolved and the data collection has begun.

Previous Study: From 2012-2016 NHTSA contracted VTTI to investigate the real-world performance of crash avoidance system (CAS) technology. This technology was becoming commercially available on heavy duty commercial vehicles and has the potential to save lives by automatically engaging the brakes to mitigate or prevent a collision. VTTI recruited the drivers of 150 commercial vehicles that were equipped with CAS technology to participate in a naturalistic study for up to 15 months of data collection. Drivers were recruited and their vehicles were installed with data collection equipment in batches from seven different fleets across the United States. In order to accommodate team operations and compensate for dropouts, a total of 169 drivers were recruited, and their data collection spanned a total of 2.5 years from the install of the first participant's vehicle to the completion of the final participant. The data from the study showed that while the technology could prevent collisions, there might be some technical issues that generate false activations and some usability issues with excessive alerts. These issues could lead to resistance in adopting a safety technology or lower safety benefits if drivers do not heed alerts.

Current Study: CAS technology has been advancing rapidly since the conclusion of the previous study, with products for heavy commercial vehicles from Bendix[®], Meritor WABCO, and Detroit Diesel becoming commercially available. These systems present opportunities for improving driver awareness and behavior, improving drivers' responses to potential collisions, and mitigating or preventing collisions when drivers do not respond. The newest generation of CAS technology includes several new features, such as multiple sensors, improvements to radar algorithms, and new features such as full braking in response to static objects or pedestrians. However, it is unknown if this newest generation of products has been able to reduce the prevalence of false or nuisance alerts observed in the previous study, if there are any issues with new types of alerts that have been added since the previous study, or whether drivers have negative perceptions of the technology due to these issues. As the technology becomes more popular with fleets it is important to understand its real-world performance and any unintended consequences that may arise from it.

The current study closely mirrors the previous study to examine the real-world performance of 150 tractor trailers equipped with the latest generation of Bendix[®] or Detroit Assurance CAS technology. These systems incorporate Lane Departure Warning, Forward Collision Warning, and Automatic Emergency Braking. The information collection involves collecting demographic information, naturalistic data, and subjective experiences while using CAS technology. Due to the dropout rates experienced in the previous study, the proposed study will only collect three months of naturalistic data per participant. However, it is still expected that up to 175 commercial vehicle drivers may need to be recruited in order to meet the goal of 150 trucks with three months of data each. Like the previous study, recruitment and installation will be staggered into batches as new participants are added and existing participants complete the study over time. Data collection began in August 2021 after delays due to COVID and supply challenges. Some hardware procurement and recruitment difficulties slowed the collection in the beginning but were expected to resolve. The research team anticipates that the entire data collection period will span 25 months from August 2021. Drivers are recruited from fleets across the United States. Recruitment will attempt to balance the number of vehicles using particular brands of CAS technology but will be subject to fleet availability and scheduling constraints. Data collection is set in three stages. The first stage is the pre-field study data collection directly from the consenting respondent. The respondent first signs a consent form prior to any data collection. Subsequently, the respondent is asked for demographic information and subjective questions about CAS technology. The second stage of data collection is through a data acquisition system installed in the vehicle and records during the driver's working hours. The third stage of the study involves post-field study data collection and the respondent is again asked subjective questions about CAS technology. This information will be used to investigate the real-world performance and provide information about the safety benefits of CAS

technologies. The results of the study will help NHTSA understand the real-world safety impacts of the technology and if there are any unintended consequences that might be impacting safety negatively.

Further, 49 U.S.C. 30181, 30182, and 30183 authorize the Secretary of Transportation to conduct research, development, and testing programs, including activities related to new and emerging technologies that impact or may impact motor vehicle safety. This authority has been delegated to NHTSA. NHTSA has initiated regulatory activity on the technology titled “Heavy Vehicle Automatic Emergency Braking,” RIN 2127-AM36 and the timetable on record states a Notice of Proposed Rulemaking is expected in 2022. Additionally, the Bipartisan Infrastructure Law, enacted on November 6, 2021 requires a Final Rule for Automatic Emergency Braking on commercial motor vehicles. This study will inform such regulatory action by NHTSA.

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.

The Virginia Tech Transportation Institute (VTTI) will conduct this study under an Indefinite Delivery Indefinite Quantity (IDIQ) with NHTSA. There are three instruments used for direct information collection from the respondents during the study: one demographic questionnaire, and two instruments to measure participants’ subjective experience using CAS technology (pre-field study questionnaire and post-field study questionnaire). During the field study stage, a DAS is installed on the respondent’s vehicle to collect information during the driver’s regular work hours. No additional burden falls on the respondent during this indirect collection. Participants are recruited from trucking companies that have agreed to participate in the study and allow their drivers to be contacted. Driver recruitment takes place at fleet site locations (i.e., where drivers typically begin and end their route) with VTTI personnel who approach drivers and ask if they would like to participate in the study.

During the initial on-site visit by VTTI personnel, respondents who agree to participate are then asked to provide VTTI with informed consent for their participation through a process approved by Virginia Tech’s IRB, provide responses to the Demographic Questionnaire via pen and paper, and provide responses to the Initial CAS Technology Questionnaire via pen and paper. This first stage of data collection does not occur during potential hours of service for the drivers but does involve the driver’s time and attention. Data collected using the Demographic Questionnaire are used for description of the participant sample (e.g., number of self-identified men and women in the dataset, final

age range for all participants, driving experience range for all respondents). This is necessary to compare the sample collected to the general driving population. The information is also expected to aid in the analysis of specific groups of truck drivers. There is no desired apportionment of gender, age, or driver experience in the respondents, rather these will be used for summary and descriptive statistics.

Once the Demographic Questionnaire is completed subjects provide responses to the Initial CAS Technology Questionnaire. This questionnaire is used to analyze the perceptions and opinions of CAS technology within the participant sample. At the conclusion of data collection, these data will be used to determine which features of the CAS technology participants like or dislike, how much they trust or rely on the technology, and how they perceive any benefits the technology provides. These data are necessary to determine the respondents' initial feelings towards the technology before participating in the field study.

The naturalistic component of the study occurs in the field study. A DAS is installed in the respondent's commercial motor vehicle (having previously established permission from the fleet operator) to record vehicle activity and driver behavior and interaction with the CAS for a maximum of three months. The collection occurs while the respondents are working regular hours and the respondents are not required to complete additional drive time or activity during the field study.

After participants have completed approximately three months of naturalistic data collection, VTTI personnel remove the DAS equipment from their truck. At this time, the subjects complete the Final CAS Technology Questionnaire, with the option of either completing the survey online or in-person at the fleet site location. The Final CAS Technology Questionnaire is used to analyze how each subject's perceptions and opinions of CAS technology may have changed over the course of participation. Final CAS Technology Questionnaire includes a question about the participants' specific experiences using CAS technology within the last three months that affected their opinions.

The information collected from the questionnaires and the naturalistic data collected using the data acquisition systems (DAS) will be combined to understand the full picture of the technology performance and how it assists driver operation of the trucks. The DAS data will be used to identify collision avoidance system alerts, review factors that caused the alert, review surrounding environment at the time of the alert, and review drivers' response to the alert. In summary, the information to be collected directly from the respondents will be used by VTTI to:

- (a) Describe the sample population

- (b) Measure participants' perceptions, attitudes, and opinions of CAS technology
- (c) Measure any changes in participants' perceptions, attitudes, and opinions of CAS technology
- (d) Assess driver performance over time
- (e) Evaluate system reliability

Data collected thus far in the study have not been analyzed. Review and analysis of the data will occur at the conclusion of the data collection.

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.

Informed consent is completed in-person with paper copies to ensure drivers have an opportunity to review the consent form, ask questions regarding the study, and receive satisfactory answers from VTTI personnel before beginning the first-stage questionnaires. After consent, respondents complete a paper version of the Demographic Questionnaire and the Initial CAS Technology Questionnaire. Questionnaires are completed in the presence of the research team after the informed consent form is signed. Paper forms are used during the intake process in order to answer questions drivers have about the surveys. The post-field study questionnaire, however, allows the driver the opportunity to choose to fill out the survey online or in-person on paper. The post-field study questionnaire is very similar to the pre-field study questionnaire, and therefore, the likelihood of a driver having questions is reduced.

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.

This is a one-time collection and while similar information was collected in the study performed from 2012-2016, this study involves advanced safety technologies designed to overcome some of the difficulties found during the previous study. There are no other studies identified that will look at naturalistic driving involving this CAS technology and the information is essential in determining next steps for potential regulatory activity as called for in the BIL legislation.

The information collected by the Demographic Questionnaire, the Initial CAS Technology Questionnaire, and the Final CAS Technology Questionnaire is specific to the particular individuals that will be participating in this study. Similar information collected from other individuals is not applicable.

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

Small businesses may be involved in, although not impacted by, this study. The participants in this study may be employees of trucking fleets that are small businesses, but time involved in participation does not conflict with working hours or even potential working hours. Prior to recruiting any drivers within a trucking fleet, VTTI entered into a signed agreement with that fleet stipulating that VTTI is permitted to install equipment on the truck and that the fleet, in turn, will not tamper with that equipment. The installed equipment is the DAS. This agreement ensures the privacy of drivers' data collected during the study. VTTI works with the fleets to schedule activities so that they do not interfere with the driver's job responsibilities or the fleet's operations. Typically, this means VTTI schedules activities at a fleet's terminal prior to a driver leaving or after a driver returns from a scheduled trip. VTTI coordinates directly with any fleets whose drivers participate in the study to ensure activities do not interfere with operations.

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.

Further, 49 U.S.C. 30181, 30182, and 30183 authorize the Secretary of Transportation, with authority delegated to NHTSA, to conduct research, development, and testing programs, including activities related to new and emerging technologies that impact or may impact motor vehicle safety. NHTSA has initiated regulatory activity on the technology titled "Heavy Vehicle Automatic Emergency Braking," RIN 2127-AM36. Additionally, BIL, enacted on November 6, 2021, requires a Final Rule for Automatic Emergency Braking on commercial motor vehicles. This study will provide input into the development of any rulemaking efforts if the Department determines that is the appropriate and necessary action.

The information collection is a one-time collection and therefore cannot be conducted less frequently to reduce burden. Burden is at a minimum with the current study design, ensuring that the survey instruments are administered during times when the drivers are not scheduled for work.

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). This collection will not be conducted in a manner that:

- Requires respondents to report information to the agency more often than quarterly;
- Requires respondent to prepare a written response to a collection of information in fewer than 30 days of receipt of it;
- Requires respondents to submit more than an original and two copies of any document;
- Requires respondents to retain records, other than health, medical, government contract, grant-in-aid, or tax records for more than three years;
- Is not designed to produce valid and reliable results in connection with a statistical survey that can be generalized to the universe of study;
- Requires the use of a statistical data classification that has not been reviewed and approved by OMB;
- 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

- Requires 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.

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.

For the extension request, a Federal Register notice with a 60-day comment period soliciting public comments was published on May 10, 2022 (87 FR 28099). Two comments were received in response to the Notice, both in support of the extension of information collection.

The Texas Department of Transportation expressed their support in the collection as "inherent to NHTSA's role in understanding and establishing standards for vehicle safety." The Texas DOT further stated that "[i]t is critical that NHTSA complete its studies to capture the most effective and valuable advanced driver assistance systems (ADAS) available." The second comment was submitted by the National Association of Mutual Insurance Companies (NAMIC) and stated its support for the data collection in order to further assess the efficacy of the systems and the human interaction with them. NAMIC states, in direct response to comment about the burden estimates in the Notice, "the burdens estimated by NHTSA for the collection seem accurate and appropriate to obtain the quality and quantity of information sought by NHTSA for this valid purpose."

In addition to the comments received, an article titled "*NHTSA Seeks OK to Extend Data Collection for Safety Tech Study*" was published on May 10, 2022 on a website titled Transport Topics (<https://www.ttnews.com/articles/nhtsa-seeks-ok-extend-data-collection-safety-tech-study>). The article discussed information in the 60-day Notice and the Agency's efforts to seek an extension to the information collection. Subsequent to that publication, another reporter inquired with NHTSA's Office of Communications and Consumer Information requesting details; however, NHTSA is not aware of any there additional publications regarding the collection.

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

Study participants will receive compensation in three stages. First, participants will receive \$100 after completion of the Demographic Questionnaire and completion of the Initial CAS Technology Questionnaire. Both of these conditions must be met to receive the first \$100. Second, the participants will receive \$100 per month for keeping the naturalistic data collection equipment in their vehicle, up to a total of three months and \$300. Participants will receive separate payments of \$100 for each month the equipment is on their vehicle. Participants who choose to leave the study early will receive prorated payments equal to the portion of the last month completed and full payments for any full months completed. Finally, participants will receive \$100 for completing the Final CAS Technology Questionnaire and allowing authorized VTTI personnel to remove the naturalistic data collection equipment from their truck. Both conditions must be met to receive payment, and participants who choose to leave the study early will not be asked to complete the Final CAS Technology Questionnaire or be eligible to receive the last \$100 compensation. This payment structure is to encourage participants to complete the study and is comparable with other studies involving naturalistic data collection from commercial vehicle drivers².

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.

Survey responses do not contain personally identifiable information and data obtained from surveys are only released in aggregate form.

The Virginia Tech Institutional Review Board (IRB) has approved the collection of facial videos is necessary to see driver's eye and head movement which is used to document their glances during the data reduction process. This is also agreed to by each driver who signs an informed consent form prior to participation. The use of this video will be controlled and limited to the uses defined in the informed consent form. Examples include blurred and non-blurred demonstration in project meetings and conferences. Participants' names or other identifying information such as addresses will never be associated with the showing of such video clips. Additionally, fleet identifying information will be blurred.

² <https://www.federalregister.gov/documents/2017/10/27/2017-23350/agency-information-collection-activities-approval-of-a-new-information-collection-request-flexible>

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 questionnaires do not contain questions related to matters that are commonly considered sensitive or private. The questions focus on demographic information; drivers’ beliefs related to CAS technologies; perceived benefits or issues; and attitude towards the CAS technologies equipped on their vehicles.

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.

This study can be separated into three stages, with burden and opportunity cost associated with direct information collection from participants during the first and the third stages of the study. The second stage of the study is the naturalistic driving study with data collected through a DAS and is not associated with any burden to respondents. The DAS requires no input from the participants and participants are not asked to drive more or differently than they normally would.

The study aims to collect naturalistic driving information and questionnaire data from 150 commercial truck drivers. It is expected that, in order to obtain data from 150 drivers for the full 3-month data collection period, the research team will initially recruit 175 drivers. The research team anticipates drop-out may occur during the three-month naturalistic driving phase of the study.

Table 1 shows the estimated burden hours for 175 respondents during stage one and two with 150 respondents during the third stage involving the final questionnaire. This accounts for the estimated drop-out while achieving 150 respondents through completion. Table 1 is the table provided in the ICR for the currently approved collection.

Table 1: Estimated Burden Hours

Instrument	Number of Respondents³	Frequenc y of Responses	Number of Question	Estimated Individua l Burden	Total Estimate d Burden	Salary Cost of Respondents⁴
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³ The number of respondents in this table includes anticipated drop-out rates. Additional participants will be recruited as necessary in order to reach 150 who complete a full three months of data collection and complete the Final CAS Technology Survey.

			s		Hours	
Informed Consent Form	175	1	N/A	10 minutes	29 hours	\$ 584.64
Demographic questionnaire	175	1	14	10 minutes	29 hours	\$ 584.64
Initial CAS Technology Survey	175	1	33	25 minutes	73 Hours	\$ 1,471.68
Final CAS Technology Survey	150	1	34	25 minutes	62.5 hours	\$ 1,260.00
TOTAL					193.5 hours	\$3,900.96

COVID-related delays require the request for an extension of the ICR. While data collection has begun, shortages in chip availability necessary for the DAS created challenges in starting the collection. These were also subsequent to delays in human-subject studies while safety protocols were instituted. As of December 31, 2021, the research team completed collection with one respondent, three respondents were in the naturalistic driving stage of the study, and one respondent is in the stage one of questionnaire completion and DAS installation.

This extension request updates the burden to reflect the numbers of respondents that are needed to complete the study, an update in the completion time for the informed consent and the demographic questionnaire, and an update in the mean hourly rate for Heavy and Tractor-Trailer Truck Drivers. Additionally, the burden hours and cost provided in Table 1, was the *total* burden rather than the *annual* burden. A total of 193.5 hours and \$3,900.96 in associated opportunity cost over a 15-month study should have been an annual burden of 154.8 hours and \$3120.77 in opportunity costs.

⁴ Estimated based on the mean hourly rate nationwide for Heavy and Tractor-Trailer Truck Drivers of \$20.16 as reported in the May 2014 Occupational Employment and Wage Estimates, Bureau of Labor Statistics.
http://www.bls.gov/oes/current/oes_nat.htm#35-0000

Table 2 provides an updated table for burden calculation and opportunity costs. These estimates of time for completion reflect experience with current respondents and have been adjusted since the original estimation of time.

Table 2. Updated Annual Burden Hours and Opportunity Costs

	Instrument	No. of Respondents	Estimated Time for Completion	Total Estimated Burden Hours [†]	Hourly Rate	Estimated Total Burden Cost
Stage One	Informed Consent Form	170	20 min	57 hours	\$23.42	\$1,334.94
	Demographic questionnaire	170	5 min	15 hours	\$23.42	\$351.30
	Initial CAS Technology Questionnaire	170	25 min	71 hours	\$23.42	\$1,662.82
Stage Two	Naturalistic Driving Study	171	N/A	N/A	N/A	N/A
Stage Three	Final CAS Technology Questionnaire	149	25 min	63 hours	\$23.42	\$1,475.46
			Total Burden Remaining	206 hours		\$4,824.52
			Months Remaining	20		
			Annual Burden Remaining	123.6 hours		\$2,894.71

[†] All estimates for burden hours have been rounded to the next full hour.

To calculate the opportunity cost associated with completing the consent form and three subsequent survey instruments, NHTSA looked at wage estimates for the type of personnel involved with compiling and submitting the documents. NHTSA estimates the total opportunity costs associated with these burden hours by looking at the average wage for Heavy and Tractor-Trailer Truck Drivers. The Bureau of Labor Statistics (BLS) estimates that the average hourly wage for Heavy and Tractor-Trailer Truck Driver (BLS Occupation code 53-3032) in the Motor Vehicle Manufacturing Industry is \$23.42.⁵ These estimates are opportunity costs rather than labor costs as they are individual time rather than industry time.

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.

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.

The full costs of this information collection are included in a contract awarded to the VTTI which includes analysis and report preparation. The initial contract was awarded at \$2,581,075 with additional costs incurred over the years due to COVID delays and updated technologies during those delays. Thus, the total cost of the project over the full performance period at this time is \$2,954,970. This information request anticipates future contract modifications in order to complete the information collection; however, those modifications are not processed at this time. The estimate for completion of the data collection and report development and processing is through December 31, 2023. If that occurs, at the current cost, the total performance period for this study is 88 months, thus an annualized cost to the government of \$402,950.

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 entire burden cost and number of burden hours reported in response to questions 12 and 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.

This extension request updates the burden to reflect the numbers of respondents that are needed to complete the study, an update in the completion time for the informed consent

⁵ https://www.bls.gov/oes/current/oes_nat.htm#53-0000

form and the demographic questionnaire, and an update in the mean hourly rate for Heavy and Tractor-Trailer Truck Drivers. Updates in the completion time are based on experience gathered as of December 31, 2021. Additionally, the burden hours and cost provided in the original ICR was the *total* burden rather than the *annual* burden.

The total burden hours changed from 193.5 hours from the initial request to 206 hours for this extension request. Total opportunity cost changed from a total of \$3,900.96 in the initial request to \$4,824.52 for this extension request.

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.

The research team will provide NHTSA with a full Research Report upon conclusion of the study. No personal information regarding respondents will be published. An exact publication date has not been established and may be linked to rulemaking proceedings. Dependent upon association with rulemaking proceedings, the Research Report may be submitted to the National Transportation Library or submitted to the Docket associated with any rulemakings.

The study was initially expected to be completed within 15 months. However, due to COVID restrictions, COVID-related safety protocol establishment, and a shortage in chips necessary for the DAS, the study was delayed. As of December 31, 2021, five people had been recruited and/or completed the study. Now that the challenges have been addressed the research team expects the remainder of the data collection to be completed within 20 months. This places the full data collection period at 25 months, from August 2021 through the end of August 2023. Report development and publication will occur after data analysis.

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 and VTTI are not seeking such 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 1320.9.⁶

⁶ 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

There are no exceptions. The expiration date is displayed, and the following Paperwork Reduction Act Statement is included on the front page of the survey instruments:

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 2127-0741. The information collected in this study is necessary to collect data regarding Crash Avoidance Systems currently available for heavy trucks. We estimate that it will take approximately 75 minutes to complete the all the forms necessary in this study. 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.

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.