

Consent to Take Part in a Research Study

Virginia Tech

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This collection of information is voluntary and will be used for formative purposes only so that we may develop vehicle safety programs designed to reduce the number of traffic-related injuries and deaths. 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. Public reporting for this collection of information is estimated to be approximately 20 minutes per response, including the time for reviewing instructions, completing and reviewing the collection of information. All responses to this collection of information are voluntary. 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., Washington, DC, 20590.

For questions about this study, please contact Andrew Krum at 540-231-0353 or akrum@vtti.vt.edu

For questions about the approval of this research, please contact the Virginia Tech IRB at 540-231-3732 or irb@vt.edu.

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Title of research study: *Field Study of Newer Generation Heavy Vehicle Automatic Emergency Braking System; 16-871*

Principal Investigator: Andrew Krum, akrum@vtti.vt.edu, 540-231-0353

Key Information: The following is a short summary of this study to help you decide whether or not you would like to be a part of this study. More detailed information is included below this summary.

Why am I being invited to take part in a research study?

We invite you to take part in this research study because you are 18 years of age or older, employed at a participating fleet and the driver of a heavy vehicle with a crash avoidance system (CAS).

What should I know about being in a research study?

- Someone will explain this research study to you.
- Participation is optional.
- The video, other data, and additional information that could be used to identify you will be held under a high level of security.
- Your data will not be linked to your name or identity.
- If you decide to take part, you are always free to change your mind and exit the study at any point without penalty.
- You are welcome to ask all the questions you want before you decide

Why is this research being done?

The purpose is to examine how crash avoidance systems perform in the real world.

How long will the research last?

Participation in this study will last approximately three months.

What will I need to do if I choose to participate?

If you choose to participate, you will need to do the following:

1. Talk with a member of the research team after you review this form. The researcher will help you enroll in the study.
2. Complete a short demographic questionnaire to help us get to know you.
3. Complete two short questionnaires about your opinions and past experience with a crash avoidance system.

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4. Allow a technician to install equipment with cameras and sensors in the fleet vehicle you drive for work. We will provide additional details about the equipment later in this form.
5. Drive the instrumented fleet vehicle as you normally would for approximately three months.
6. Agree to not drive into areas where cameras are not allowed such as border crossings and military areas while you are participating in this study.
7. Complete a short questionnaire at the end of the study about your opinions and experience with a crash avoidance system.
8. At the end of your participation, meet with a technician so that the equipment can be removed from the vehicle.

Is there any way being in this study could be bad for me?

The operation or drivability of the vehicle should not be affected by the instrumentation, and thus carries a similar risk as when you operate the vehicle normally. However, if you violate state or local driving laws, the instrumentation could record evidence of these violations. A variety of strategies are in place to reduce the potential of legal harm in these cases.

More detailed information about the risks of this study can be found under ***“Is there any way being in this study could be bad for me? (Detailed Risks)”***.

Will being in this study help me in any way?

There are no benefits to you from your taking part in this research.

What happens if I do not want to be in this research?

Taking part in research is completely up to you. You can decide to participate or not to participate.

Detailed Information: The following is more detailed information about this study in addition to the information listed above.

How many people will be studied?

We plan to include about 175 people in this research study.

What happens if I say yes, I want to be in this research?

How Do I Enroll:

1. **Participate in an Intake Meeting with a member of the research team.**
 - a. Read and sign this consent form. You may take as long as you need to review this document and ask any questions that you would like.

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- b. Complete a W9 form for payment purposes.
- c. Complete a demographics questionnaire.
- d. Complete a pre-study questionnaire.
- e. Allow a member of the research team to take a digital photo of your face to be used to identify you in the data.

Getting the vehicle instrumented:

1. **Meet with a technician.** You will be scheduled to bring your fleet-assigned truck to your fleet location, VTTI, or another convenient location such as a truck stop.
2. **Allow the technician to install data collection equipment with cameras and sensors in the fleet vehicle.** Installing the equipment should take no more than two hours.

After instrumentation is complete:

1. **Drive as you normally would for approximately three months.** We ask that you not drive the vehicle into any areas where cameras are not allowed, including any international border crossings, military bases, or similar facilities.
2. **Inform us if you have repairs done to the windshield** so we can verify that the study equipment is properly calibrated following the repairs.
3. **A VTTI researcher will check in with you monthly by phone.** This is to make sure you still have your reloadable MasterCard and help you get a replacement if needed.
4. **We may need access to the data collection system** for maintenance purposes while you are enrolled in the study. We will work with you to schedule a time and place that is convenient to you, should this be necessary.

After the study is over:

1. **Meet with a technician so that the equipment can be removed from your vehicle.** You will be scheduled to meet with a technician to remove the study equipment from your vehicle. The technician will also ask you to complete a post-study questionnaire. This appointment should last no more than two hours.

What happens if I enroll in the study, but I change my mind later?

1. You can leave the study at any time, for any reason, and it will not be held against you.
2. If you decide to leave the study, contact the investigator so that the investigator can schedule a time to remove the study equipment from your vehicle.
3. Should you choose to leave the study, we will not keep any of the data collected after you tell us you want to leave. However, we will keep data collected prior to that point.

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Data Collection

The next section describes the data and information to be collected as part of this research. It explains how the data will be collected and how the data will be stored and used in the future.

What Information and Data Will Be Collected?

Data will be collected to be analyzed in future research efforts. Information is collected about you, where necessary. Both are stored securely and used as described below. There will be two categories of information and three categories of data collected.

INFORMATION

1. **Contact information** includes your name, address, email address, phone numbers, and similar information used to contact you when needed. It will be stored securely in electronic form during the course of the study and destroyed one year after the study is complete. This information will not be linked to your study data and will not be used in any research or analysis.
2. **Auxiliary study information** includes your Social Security Number, the vehicle license plate number, and VIN. This information is used to verify your identity, verify the make and model of the vehicle, and to compensate you for your participation. This information will be stored at VTTI in electronic form and destroyed one year after data collection is complete. This information will not be linked to your study data and will not be used in any research or analysis.

DATA (Used for Research)

1. **Driver data** includes the image of your face taken during the intake meeting and your answers to the demographic, pre- and post-study questionnaires. Questionnaire data will not contain your name or any identifying information and will be used in analyses, both on their own and in combination with the driving data and vehicle data. These data will be stored securely in electronic form indefinitely.
2. **Driving data** includes the data we collect from your vehicle while you are driving, including video data, and sensor data. This information will contain video of your face and GPS coordinates of your trips, and either or both could be used to personally identify you. These data will be stored securely in electronic form indefinitely.
3. **Vehicle data** includes the VIN, vehicle year, make and model. This data will not contain your name or any identifying information and will be used in analyses, both on its own and in combination with the driver data and driving data. VIN will be used for pre-installation preparations only. These data will be stored securely in electronic form indefinitely.

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How Information and Data are Collected

A small data acquisition system containing cameras and sensors will be attached to the windshield such that it does not interfere with your view of the forward roadway. This unit will connect to the J1939 connector in the vehicle.

While driving the vehicle, a camera will record video of your face with some added space around the head to handle any head movements. A second camera will record video of the inside of the cab, including your hands and legs. A third camera will capture the forward road view. Examples of these three images are shown below. All video will be captured and stored in digital format.



How Collected Information and Data Will Be Used

We will use the picture we took of you during the intake meeting for driver identification purposes. This permits us to delete all data collected during any trips in which you are not the driver.

What happens to the information and data collected for the research?

We will make every effort to limit the use and disclosure of your personal information only to people who have a need to review this information. We cannot promise complete confidentiality. Organizations that may inspect and copy your information include the IRB, Human Research Protection Program, and other authorized representatives of Virginia Tech.

We will separate your private information from data that are collected during this research; de-identified data (which cannot be associated with your identity) could be used for future research

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studies or distributed to another investigator for future research studies without your additional informed consent.

During the data collection phase of this study, all data collected from the vehicle will be encrypted (made unreadable) from the time of its creation and then stored in a specific password-protected project folder on a secure server; the driving data will only be decrypted (made readable) once it has been stored in this folder. At the conclusion of the collection phase of this study, the driving data will be housed at the Virginia Tech Transportation Institute. It is possible that, after data collection is complete one copy of reduced and de-identified study data will be transferred to the project sponsor (the U.S. Department of Transportation) for storage and oversight

We expect the driver data and driving data from this study to be useful for many years after the study is over, therefore, we plan to keep and use it indefinitely. It is expected that other researchers beyond the original study team identified in this form as well as industry partners may also find the data and results of this study useful. We will allow these individuals to use the data under the following conditions:

1. **Data containing Personally Identifying Information (PII):** These data contain information that could be used to personally identify you. Examples of PII are images of your face or the GPS coordinates of the beginning and ending of your trips. PII will not be released outside the research team. However, other researchers may be granted temporary access to the data in a secure environment.
 - a. VTTI researchers wishing to use data containing PII will be required to submit proof of IRB approval. These researchers will only be allowed access to view these data in a secure environment.
 - b. Researchers outside VTTI will be required to submit proof of IRB approval and sign a data use license assuring that they will extend the same privacy protections to your PII that are outlined in this form. These researchers will only be allowed to access these data in a secure environment or in adherence with National Institutes of Health (NIH) guidelines.
2. **Data not containing PII:** These data do not contain any information that could be used to personally identify you.
 - a. VTTI researchers will have access to this data.
 - b. Researchers outside VTTI may use data that does not contain PII after they sign a data use license.
 - c. This data may also be posted online for public use in the future.

Project personnel, and other qualified, authorized research partners may show specific clips of video at research conferences. Your name and other personally identifying information will never be associated with the showing of these video clips. Identifying location information will not be shared in association with these video clips.

You will not have access to your study data; we will not offer to share your data with you.

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If you would like to view a specific segment of your study data to defend yourself in a criminal or traffic case, or for any other legal or financial matter, you should contact the study coordinator Andrew Krum at 540-231-0353.

Certificate of Confidentiality

Throughout the study, we will take all possible steps to protect your privacy and keep confidential your role in the study and the confidentiality of your personally identifying information. To help us protect your privacy, we have obtained a Certificate of Confidentiality from the U.S. Department of Health and Human Services National Institutes of Health. With this Certificate, neither the researchers nor study sponsors can be forced to disclose information that may identify you, even by a court subpoena, in any federal, state, or local civil, criminal, administrative, legislative, or other proceedings.

Identifying information for the purposes of this study includes your contact information, your auxiliary study information, your driving data (including video of your face and GPS coordinates which may identify your home, work, or school locations), or any information in your driver data, vehicle data, or driving data that could be used to personally identify you.

You should understand that a Certificate of Confidentiality does not prevent you or a member of your family from voluntarily releasing information about your involvement in this research. If you want your research information released to an insurer, medical care provider, or any other person not connected with the research, you must provide written consent to allow the researchers to release it.

This Certificate of Confidentiality does not mean that the Federal government endorses this study. The protections of the Certificate of Confidentiality described herein may not apply to passengers of the vehicle who have not consented to being in this study.

Throughout the study, we will take all possible steps to protect your privacy and keep confidential your role in the study and the confidentiality of your personally identifying information. However, this privacy protection does not prevent the researchers from disclosing voluntarily matters such as child abuse, or a participant's threatened or actual harm to self or others. In terms of a vehicle, this could also include items such as allowing an unlicensed minor to drive the vehicle, or habitually running red lights at high speed. If this type of behavior is observed, we reserve the right to remove you from the study and inform the appropriate authorities of what we have observed.

You, too, are responsible for taking steps to protect your privacy. Do not post or disclose your participation on any public forum including websites, social media, newspapers, radio and television. Protect your role in the study the same way that you protect other personal and private information. If you do not keep confidential your role in the study, there is a risk that some of the data collected during the study, including your personally identifying information, may be used against you in a court case or other legal proceeding. The Certificate of Confidentiality protects you by ensuring that researchers and study sponsors cannot be forced to disclose information that may identify you, even by a court subpoena, in any federal, state, or local civil, criminal, administrative, legislative, or other proceedings.

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If you are involved in a crash while participating in this study, the data collection equipment in the study vehicle will likely capture the events leading up to the event. You are under NO LEGAL OBLIGATION to voluntarily mention the data collection equipment or your participation in this study at the time of a crash or traffic offense.

Except for your visits to the installation/de-installation appointment, we are not asking you to change your daily driving. To minimize risk while driving, all data collection equipment installed in your vehicle will be mounted such that, to the greatest extent possible, it does not pose a hazard in any foreseeable way. None of the data collection equipment will interfere with any part of your normal field of view. In the vast majority of cases, the addition of the data collection systems to your vehicle will in no way affect the operating or handling characteristics of the vehicle.

Is there any way being in this study could be bad for me? (Detailed Risks)

The following table presents potential risks associated with participation in this research and explains steps we have taken to reduce or eliminate these risks.

Potential Non-Driving Risks:

Potential Risk:	Steps Taken to Reduce or Eliminate Potential Risk
Driving into an area where cameras are not allowed	<p>If you or someone else who uses your vehicle drives into an area where cameras are not allowed, including international border crossings, certain military and intelligence locations, and certain manufacturing facilities, there is a risk that you may be detained or arrested or that the vehicle may be impounded.</p> <ul style="list-style-type: none">• For that reason, we are asking you not to drive into areas where cameras are not allowed while you are in the study and to advise others who use the vehicle not to do so.
Capturing incriminating evidence from continuous video	<p>Because the vehicle camera system is storing continuous video, it is likely that it may capture some incriminating evidence if an at-fault collision should occur.</p> <ul style="list-style-type: none">• For that reason, we are obtaining a Certificate of Confidentiality. With this Certificate, neither the researchers nor study sponsors can be forced to disclose information that may identify you, even by a court subpoena, in any federal, state, or local civil, criminal, administrative, legislative, or other proceedings.

Additionally, there is the risk that cameras may capture illegal activities such as child abuse, or a participant's threatened or actual harm to self or others. In terms of the vehicle, this could include allowing an unlicensed minor to drive the vehicle, or habitually running red lights at high speed.

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Can I be removed from the research without my OK?

The person in charge of the research study or the sponsor can remove you from the research study without your approval. Possible reasons for removal include the study ending early, being uncooperative (not following instructions) or habitually driving in an unsafe manner. If you cease to be employed by the fleet that owns the vehicle, your enrollment in the study will also end.

What else do I need to know?

This research is being funded by the National Highway Traffic Safety Administration. The National Surface Transportation Safety Center for Excellence is funding the Incentives pre-study questionnaire.

Study Compensation

If you agree to take part in this research study, you will receive compensation for your time and effort. After you sign the consent form, we will provide you with a ClinCard MasterCard, and funds will be loaded onto the card as follows:

- You will be compensated \$120 at the beginning of the study after completing the demographics questionnaire, two pre-study questionnaires, and installation of the fleet vehicle.
- You will be compensated \$100 per month while participating for approximately three months.
- You will be compensated \$100 at the end of the study after completing the post-study questionnaire, and deinstallation of the fleet vehicle.

You will be compensated up to \$520 if you complete the entire study. If you withdraw from the study early, you will be compensated for your time up until withdrawal, prorated to the nearest week. You may be asked if you would like to extend your participation. Extending participation is strictly voluntary. If you participate for more than three months, you will be compensated up to the point of de-installation, prorated to the nearest week – rounded up (i.e., \$25 per week).

At the beginning of the study, please allow one full business day for the MasterCard to be activated. Once activated, this card cannot be used past its expiration date. As stated in the ClinCard FAQ documentation you receive, the issuing bank will begin subtracting a monthly service fee of \$4.50 after three months of inactivity.

Participants in a study are considered volunteers, regardless of whether they receive compensation for their participation. Under state law, worker compensation does not apply to volunteers; therefore, the participants are responsible for their own medical insurance for bodily injury. Appropriate health insurance is strongly recommended to cover these types of expenses.

If you get hurt in a crash, whether in or out of an automobile, the medical treatment available to you would be that provided to any person by emergency medical services in the vicinity where the accident occurs.

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The participant agrees that this agreement should be construed in accordance with the laws of the Commonwealth of Virginia, notwithstanding any conflicts of law provisions. Further, any and all claims and/or actions against Virginia Tech or the Commonwealth of Virginia shall be brought in a court of the Commonwealth of Virginia.

Who can I talk to?

If you have questions, concerns, or complaints, or think the research has hurt you, you can talk to Andrew Krum at 540-231-0353 or you can email him at akrum@vtti.vt.edu.

This research has been reviewed and approved by the Virginia Tech Institutional Review Board (IRB). You may communicate with them at 540-231-3732 or irb@vt.edu if:

- You have questions about your rights as a research subject.
- Your questions, concerns, or complaints are not being answered by the research team.
- You cannot reach the research team.
- You want to talk to someone besides the research team to provide feedback about this research.

By signing below, you affirm that:

1. You will not remove, change, or tamper with any of the installed components.
2. You will not block the forward or driver's face cameras and not hang decorative ornaments on study components.
3. You will tell research staff if you have any problems with the study vehicle or if you have questions.
4. You understand that we will not share your data with you.

Signature of subject

Date

Printed name of subject

Signature of researcher obtaining consent

Date

Printed name of researcher obtaining consent