

**PARTICIPANT CONSENT FORM FOR SECONDARY DRIVER  
VARIABLE ENROLLMENT PERIOD**

**IN-VEHICLE DRIVING BEHAVIOR AND CRASH RISK STUDY**  
(*"The SHRP 2 Naturalistic Driving Study"*)

**SPONSORS:** National Academies of Science, Transportation Research Board,  
SHRP 2 Program

**The United States Department of Transportation**

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**WHAT IS THE PURPOSE OF THIS RESEARCH?**

The Naturalistic Driving Study is a large research effort directed at improving Highway Safety in the United States where more than 30,000 people are killed and 2 million are injured every year in highway-related crashes. The study will help researchers gain a deeper understanding of the interaction between the driver, vehicle and roadway and lead to safer roadways, vehicles, and driver training programs. The SHRP 2 Naturalistic Driving Study will look at how people normally drive by installing cameras and sensors in people's own vehicles. The study is being conducted at six locations across the United States with up to 3,100 participants. Length of enrollment varies from eight months to thirty months.

**PARTICIPATION**

**WHAT DO I HAVE TO DO IF I CHOOSE TO PARTICIPATE?**

The owner, co-owner, or lessee of a vehicle you sometimes drive has allowed us to install a data collection system in their vehicle as part of their participation in a study. Data will be collected whenever the vehicle is driven, and some of this data may identify you as the driver. Data that could identify you includes face video and location information (such as your home, work, and school locations). We are inviting you to participate in the study as well and to allow us to use your identifying information for research purposes. There are three options with regard to participation:

1. You may choose to participate fully by reading and signing this consent form and following the steps listed below.
2. You may decline to participate fully but continue to drive the vehicle. If you choose this option, data will be collected whenever you drive the vehicle, but the data will be deleted once it is determined that you were the driver and that you did not sign a consent form.

3. You may decline to participate and choose not to drive the vehicle while it is in the study. In this case, no data would be collected.

The study involves a \_\_\_\_\_ month data collection effort in which a data collection system containing sensors and cameras is installed in the vehicle to record a variety of driving measures. As a fully enrolled secondary participant, you would complete the following activities:

1. Complete the enrollment process, which should take no more than 20 minutes, and return the forms to us in the self-addressed, stamped envelope provided. These forms include:
  - a. This informed consent form
  - b. A brief questionnaire about you and your driving history
  - c. A questionnaire about your driving behaviors
2. Provide us with a digital picture of your face so that we may automatically identify you as a secondary driver. We will provide instructions on how to do this when we talk to you on the phone about your participation.
3. Drive as you normally would.
4. Let the owner, co-owner, or lessee of the vehicle you drive know if you notice any unusual warning light activity, for example, warning lights that go on or off or that indicate the data collection system requires adjustment
5. If you are in a crash while driving the vehicle, we ask that you do these five things in order:
  - a. Seek emergency help the way that you normally would.
  - b. If possible, press an incident button that is located near the rear view mirror to describe the crash. The system will then record your brief description. You will know the button is working if the red light comes on when you press it.
  - c. Call us at 206-528-3267 to notify us as soon as it is safe to do so.
  - d. Allow a member of the research team to interview you about the crash if we decide to investigate it in more detail. We will interview you soon after the crash, but only when you are ready.
  - e. Allow us to have access to any Police Accident Reports that result from the crash.
6. Please do not drive the vehicle into any areas where cameras are not allowed, such as international border crossings, military bases, or similar facilities.

## **RISKS AND BENEFITS**

### **WHAT ARE THE RISKS OF PARTICIPATING IN THIS STUDY?**

The data collection system installed in the study vehicle should not affect its drivability. Thus driving the vehicle with the system installed should be no more risk than when you drive the vehicle normally. However, if you violate state or local driving laws, such as driving under the influence, exceeding posted speed limits, or driving while distracted, the system could record evidence of these violations. This recording has the potential to pose greater than minimal risk of legal harm to you or anyone driving the vehicle. The research team has set up protections to reduce the potential for legal or economic harms. These protections include automatically encrypting the data obtained by sensors and cameras in the vehicle, using only a code number to identify you and keeping the code key in a secure location, and obtaining a Certificate of Confidentiality to protect your data from court subpoena. Details of these protections are provided below.

All data collection equipment is mounted such that, to the greatest extent possible, it does not pose a hazard or problem for you when you drive. As installed, none of the data collection equipment will get in the way of your normal field of view. You are not being asked to change the way you drive or where you drive. In most cases, having the data collection system in the vehicle does not affect the operating characteristics of the vehicle. In some cases, the electrical signals from the data collection system may interfere with the vehicle's radio, keyless entry key fob, or other wireless electronic sensors or systems, such as the tire pressure monitoring system. If this happens in the study vehicle, please ask the vehicle's owner, co-owner or lessee to contact us at (206-854-8357). We will try to eliminate or minimize such interference. If you experience persistent tire pressure monitoring system problems, you will be asked to leave the study, while for other problems, you will be given the option to continue participation with the problem unresolved or to leave the study.

Several non-driving risks result from participation. Five cameras are placed in the vehicle. If you drive into an area where cameras are not allowed, such as international border crossings, certain military and intelligence locations, and certain manufacturing plants, you may be detained or arrested or the vehicle may be impounded. For this reason, by signing this Informed Consent and agreeing to participate in the study, you also are agreeing not to drive into any such areas while you are in this study. We have placed a letter in the glove box of the vehicle. You can use the letter to explain the vehicle's role in this study while still maintaining your privacy and keeping confidential your role in the study.

Throughout the study, we will protect your privacy and keep confidential your role in the study and the confidentiality of your personally identifying information to the extent allowed by law. 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, the 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. However, the Certificate of Confidentiality 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 driver behavior, reportable, threatening, or actual

harm to self or others could include driving under the influence of drugs or alcohol, allowing an unlicensed minor to drive the vehicle, or habitually running red lights at high speed. Such behaviors may result in your removal from the study and reporting of your behavior to the appropriate authorities. In the event of a crash, the police or an insurance company may obtain the equipment and the data from this study. However, the data are encrypted, and individuals representing these organizations will not be able to access or read them.

You are responsible for taking steps to protect your privacy. Do not post or disclose your participation on any public forum including websites, Facebook, 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 risk to you of completing the questionnaires is no more than when you are doing activities in your daily life like filling in forms, and working at a computer.

### **WHAT ARE THE BENEFITS OF PARTICIPATING IN THIS STUDY?**

There are no direct benefits to you from this research, but you may find this study interesting. No promise or guarantee of benefits is being made to encourage your participation. We believe that your participation will help to improve the body of knowledge regarding driving behavior and safety. We also believe that your participation may help us design safer vehicles and roadways in future years.

## **PRIVACY AND DATA CONFIDENTIALITY**

### **HOW WILL MY DATA BE KEPT CONFIDENTIAL AND SECURE AND WHO WILL HAVE ACCESS TO MY DATA?**

**We will treat all data collected during this study that personally identifies you or that could be used to personally identify you as confidential.** As soon as you begin participating in this study, we will separate your name and other identifying information from the raw data we collect while you drive the vehicle and replace it with a number. That is, your raw data will not be attached to your name, but rather to a number (for example, Driver 0011). We will encrypt the raw data collected while you drive the vehicle, making it unreadable from the moment we collect it until we transfer it to one or more secure central storage locations. We will also separate your name from any data either provided by you in response to questionnaires or gathered by researchers during the study (including crash investigation data) and we will replace it with your driver number (for example, Driver 0011).

We will collect the following types of information and data about you and the vehicle during the study:

1. **Contact information** includes your name, address, email address, phone numbers, and similar information used to contact you. We will store the information securely in electronic

form during the course of the study and destroy it after the study is complete (unless you specifically grant permission for us to keep your contact information when the study is over). We will not link or mingle this information with your study data, and we will not use it in any research or analyses.

2. **Driver data** include your answers to questionnaires. These data will not contain your name or any identifying information. We will use these data in analyses, both on their own and in combination with driving data, vehicle data, and any crash data. We will store these data securely in electronic form throughout the lifetime of the data (defined below).
3. **Driving data** include the data we collect from the 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, both of which could be used to personally identify you. These data will be encrypted (stored in an unreadable format) from the moment of their creation until they are downloaded from the vehicle, transferred to a secure data storage facility, and verified. From this point on they will be decrypted (made readable) on an as-needed basis for each analysis. We will use these data for analyses, both on their own and in combination with driver data, vehicle data, and any crash data. We will use only the driver number (e.g., Driver 0011) that is not linked to your identity to determine which data belong together. We will also treat the digital picture you send us as driving data. These data will be stored securely in electronic form throughout their lifetime (defined below).
4. **Crash data** include items we may collect after a crash, including answers to interview questions with one of our researchers and the Police Accident Report resulting from the crash. These data will not contain your name or any identifying information. We will use the data in analyses, both on their own and in combination with driver data, vehicle data, and driving data. We will destroy the Police Accident Reports once non-identifiable information about the crash has been added to the data set. These data will be stored securely in electronic form throughout their lifetime (defined below).

An authorized Institutional Review Board (IRB) or a government regulatory agency that oversees human subjects research may view this study's collected data for auditing purposes. An IRB is responsible for the oversight of the protection of human subjects involved in research. All persons reviewing your records will be obligated to protect your identifiable information from public disclosure, except as otherwise required by law.

If study sponsors or investigators view the driver and driving data for quality control or administrative purposes, they will be required to maintain the security and confidentiality of any data that personally identifies study participants or that could be used to personally identify study participants.

While you are driving the vehicle, a camera will videotape your face and some space around your head to handle your head movements. An example is shown below. Also, video cameras will capture the forward view, the rear view, an external view to the right of the vehicle, and a dashboard/lap-belt view of the inside of the vehicle. A camera will also periodically take a permanently blurred snapshot of the vehicle interior, which will allow researchers to count the number of passengers and make rough estimates of age, gender, and seatbelt use. We will not be

able to identify passengers from these blurred snapshots. All video will be captured and stored in digital format (no tape copies will exist).



There will also be an ambient atmospheric analyzer that can detect the presence of alcohol in the passenger compartment under certain conditions. This instrument is passive and will not impact operation of the vehicle in any way (e.g., it won't lock out the vehicle). The ambient atmospheric analyzer cannot currently tell whether the alcohol was drunk by an occupant of the vehicle or applied (as in hand sanitizer), but future analyses may be able to do so. Also, the atmospheric analyzer will not be able to determine whether the alcohol detected is coming from the driver or a passenger. Future techniques may be able to tell whether alcohol was drunk or applied, but will never be able to determine the amount of alcohol present. However, the instrument will flag the data for possible indications of impaired driving.

If a safety-related incident or crash occurs, we ask you to press a button on the equipment mounted near the rearview mirror. You will know this button is working if a red light appears when you press it. Pressing the button will allow researchers to find the incident in the database after the data have been collected. Also, pressing the button starts a microphone for 30 seconds. During these 30-seconds, you can tell us what happened. No audio will be captured except when you press this button. Unlike OnStar™, pressing this button will NOT make a phone call. It simply records your voice in an audio file that remains in the vehicle until the data are collected.

During the data collection phase of this study, we will encrypt (make unreadable) all data collected from the vehicle from the time of its creation. We will then store it in a password-protected project folder on a secure computer server. We will decrypt (make readable) the driving data only after it has been stored in this folder. At the end of data collection for this

study, we will permanently store the driver data, driving data, and additional crash data at one or more secure data storage facilities. One set of data will be permanently stored at Virginia Tech under the supervision of the Virginia Tech Transportation Institute, the organization overseeing the data collection for the entire study. It is possible that, after data collection is complete, one copy of the study data will be transferred to the U.S. Department of Transportation (or other secure facilities as determined by the Transportation Research Board) for permanent storage and oversight.

Only authorized project personnel and authorized employees of the research sponsors will have access to study data that personally identifies you or that could be used to personally identify you. As explained below, other qualified research partners have limited access to your driver data, vehicle data, driving data, and any crash data, only for authorized research purposes and only with the approval of an IRB. This limited access will be given under a data sharing agreement or contract that, at a minimum, provides you with the same level of confidentiality and protection provided by this Consent Form. However, without your consent, these qualified researchers will not be able to copy raw study data that identifies you, or that could be used to identify you, or to remove data from the secure facilities in which they are stored.

Project personnel, the project sponsors, and qualified, authorized research partners may show specific videos at research conferences. The project sponsors also may show specific videos to the media, driver's education teachers and students, and others involved in improving highway and road safety. The face portion of the videos will be blurred, blacked out, or replaced with animation for these purposes. Your name and other personally identifying information will not be associated with the showing of these videos. Identifying location information will not be shown in association with these videos.

The data we collect during this study, including data from secondary participants, will be valuable information on how drivers respond to certain situations and how changes to roadways and vehicles could improve driver safety. Researchers who study traffic congestion and traffic patterns may also find the data useful. Therefore, we expect follow-on data analyses using all or part of the data for up to 30 years into the future. These follow-on analyses will be conducted by qualified researchers with IRB approval, as required by law, who may or may not be part of the original project team. In consenting to this study, you are consenting to future research uses of the information and videos we gather from you, consistent with the protections described above and elsewhere in this document.

If you are involved in a crash while participating in this study, the data collection equipment in the vehicle will likely capture the events leading up to the crash. You are under **NO LEGAL OBLIGATION** to voluntarily disclose the data collection equipment or your participation in this study at the time of the crash or traffic offense. We have placed a letter in the glove box for these cases. The letter describes the vehicle's role in the study without identifying you as a participant in the study.

## **CERTIFICATE OF CONFIDENTIALITY**

Because the vehicle camera system is storing continuous video, it may capture some incriminating evidence if an at-fault collision should occur. 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, the digital picture of your face, 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 additional crash data that could be used to personally identify you. While your confidentiality is protected in most cases by the Certificate, you should know that in some rare instances involving alleged improper conduct by you or others, you may be prevented by a court from raising certain claims or defenses unless you agree to waive the confidentiality protection. The researchers and study sponsors will use the Certificate to resist any demands for information that would identify you, except as explained below.

The Certificate cannot be used to resist a demand for information from personnel of the United States Government that is used for auditing or evaluation of federally funded projects or for information that must be disclosed in order to meet the requirements of the federal Food and Drug Administration (FDA).

This Certificate of Confidentiality does not mean that the Federal government endorses this study. You should understand that a Certificate of Confidentiality does not prevent you or a member of your family from voluntarily releasing information about yourself or your involvement in this research. If an insurer, employer, or other person obtains your written consent to receive research information, then the researchers may not use the Certificate to withhold that information.

The Certificate of Confidentiality also does not prevent the researchers from disclosing voluntarily matters such as child abuse, or a subject's threatened or actual harm to self or others. This could also include behaviors such as habitually driving under the influence of drugs or alcohol, 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. In most cases, we will notify you first of the behaviors we have observed prior to removing you from the study or informing others of our observations. In the event of a crash, it may not be possible to prevent the equipment and the data from falling into the hands of the police or an insurance company; if this happens, however, the data are still encrypted and inaccessible and unreadable to these individuals.

The protections of the Certificate of Confidentiality described in this Informed Consent document may not apply to passengers or drivers of the vehicle who have not consented to being in this study.

## **CONFIDENTIALITY – Summary**

To summarize, the level of confidentiality offered in this study is as follows:

1. We will video your face and portions of your body. If you press the red incident button, we will make a 30-second audio recording of your voice. We will collect driving data about you. If you consent to participate in the study, we will keep the digital picture, video, audio, and other data that personally identifies you, or could be used to personally identify you, under a high level of security at one or more data storage facilities. We will identify your data with a code rather than your name. If you do not agree to participate, we will delete all of the data collected while you are driving.
2. For the purposes of this project, only authorized project personnel, authorized employees of the project sponsors, and qualified research partners will have access to study data containing personally identifying information, or that could be used to personally identify you. The data, including face video, which has been blurred, blacked out, or replaced by animation, may be shown at research conferences and by the research sponsors for the highway and road safety purposes identified above. Under no circumstances will your name and other personally identifying information be associated with the video clips.
3. Our project team and other qualified researchers may use the personally identifying data collected in this study in future research. Researchers who use the data, however, will sign a data sharing agreement, which will continue to protect your confidentiality, and will also require additional IRB approval. The confidentiality protection provided to you by these data sharing agreements will be as great as or greater than the level provided and described in this document. Research partners will not be allowed to copy raw data that identifies you, or that could be used to identify you, or to remove it from the secure facility in which it is stored except with your consent.
4. We have obtained a Certificate of Confidentiality from the National Institutes of Health. With this Certificate, the researchers and study sponsors cannot be forced, even by a court subpoena, to disclose information that may identify you in any federal, state, or local civil, criminal, administrative, legislative, or other proceeding. However, the Certificate of Confidentiality does not prevent researchers from disclosing voluntarily matters such as child abuse, or a participant's threatened or actual harm to self or others. In terms of driver behavior, reportable, threatening, or actual harm to self or others could include driving under the influence of drugs or alcohol, allowing an unlicensed minor to drive the vehicle, or habitually running red lights at high speed. Such behaviors may result in your removal from the study and reporting of the behavior to the appropriate authorities. While your confidentiality is protected in most cases by the Certificate, you should know that in some rare instances involving alleged improper conduct by you or others, you may be prevented by a court from raising certain claims or defenses unless you agree to waive the confidentiality protection.

## **COMPENSATION AND POSSIBLE COSTS**

### **WILL I RECEIVE PAYMENT FOR PARTICIPATING IN THIS STUDY?**

Upon enrollment (completing this consent form, completing the questionnaires, and providing us with a photo of yourself), you will receive \$25 via money order. You will need to provide a mailing address in order to receive this payment.

### **WHAT ABOUT INSURANCE?**

Because you are not driving a vehicle owned by study personnel nor their respective organizations, neither study personnel nor their respective organizations are responsible for the expenses that are caused by a crash you may experience. In the event of a crash, you are **not** responsible for any damage to the data collection system that is installed in the vehicle.

If you are injured as the direct result of taking part in this research study, Battelle will not be able to provide you with any medical treatment or financial compensation, except as provided through remedies available at law.

Any expenses for medical treatment in case of injury are your responsibility. We strongly recommend that you have appropriate health insurance coverage.

## **VOLUNTEER**

### **AM I FREE TO WITHDRAW FROM THIS STUDY AT ANY TIME?**

As a participant in this research, you are free to withdraw at any time without penalty. You **are free to choose not to answer any questions** or respond to any tests that you choose without penalty. If you decide to withdraw or are dismissed from the study, you need to notify one of the research team listed on the last page of this form so that any future data collected with you as a driver will be deleted. However, we will retain data collected before your withdrawal/dismissal.

### **HAS THIS RESEARCH BEEN APPROVED?**

Before this experiment began, the research was approved by the Institutional Review Boards (IRBs) for research involving human subjects at Virginia Tech and Battelle Seattle Research Center. The research has also been approved by the IRB for the National Academies of Science. This approval has been obtained and is valid through the date listed at the top of this form, at which point the IRBs will review the study for renewal.

