

VIRGINIA POLYTECHNIC INSTITUTE AND STATE UNIVERSITY

Information Sheet for Participants In Research Involving Human Subjects

Title of Project: Study M

Investigators: Charlie Klauer, Gabriel Anderson, and Sheldon Russell

I. The Purpose of this Research/Project

The purpose of this project is to study the use of new technology and interaction with dedicated automated vehicles.

We are asking you to assist us with this study. Your participation is voluntary. You do not have to participate in this study. If you participate, you will be asked to use a ride sharing application on a tablet or smartphone provided by the study experimenters. We will then ask you to use the application to ‘summon’ study vehicles on our test track and to ride in study vehicles. We will observe while you summon a vehicle using the application and while riding in the study vehicles. After the ride we will analyze the human interaction and collect your impressions while riding in an autonomous vehicle.

II. Procedures

During the course of this experiment you will be asked to perform the following tasks:

- 1) Read this Information Sheet and sign it if you agree to participate.
- 2) Complete a W-9 form.
- 3) Show your valid driver’s license.
- 4) Complete a vision test.
- 5) Complete an informal hearing test.
- 6) Complete a short demographics questionnaire.
- 7) Complete a short training tutorial on the ride sharing application and procedures for summoning study vehicles.
- 8) Use the ride sharing application to summon a study vehicle, then ride in the study vehicle to the next location on the test track. You will be asked to summon and ride in a study vehicle a total of three times.
- 9) After three rides, you will return to the starting point. At this point, the study will end.

We are not evaluating you or your performance in any way. You are helping us evaluate new technology. Any opinions you have will only help us do a better job of evaluating new technology and automated vehicles in the future. Therefore, we ask that you perform to the best of your abilities. Any feedback that you provide is very important to this project. The experiment will last about 2 hours.

III. Risks

There are risks or discomforts to which you may be exposed in volunteering for this research. They include the following:

- 1) The risk of riding in an automated vehicle on a closed test track at 35 mph or less.
- 2) The risk of a crash normally associated while riding in a passenger vehicle at 35 mph or less.

- 3) The risk of entering and exiting a vehicle on the test track.
- 4) The risk of events that require an evasive maneuver, such as an emergency stop requiring hard braking. Braking forces are not expected to exceed 0.5g.

While the risk of participation in this study is considered to be no more than that encountered in everyday driving, if you are pregnant you are not eligible to participate in the current study.

Please be aware that events such as conditions on the test track, equipment failure, stray or wild animals entering the road, and weather changes may require you to respond accordingly. The appropriate response may or may not involve rapid deceleration or acceleration.

In the event of an accident or injury in a vehicle owned or leased by Virginia Tech, the vehicle liability coverage for property damage and personal injury is provided. The total policy amount per occurrence is \$2,000,000. This coverage (unless the other party was at fault, which would mean all expense would go to the insurer of the other party's vehicle) would apply in case of an accident for all volunteers and would cover medical expenses up to the policy limit. For example, if you were injured in a vehicle owned or leased by Virginia Tech, the cost of transportation to the hospital emergency room would be covered by this policy.

Participants in a study are considered volunteers, regardless of whether they receive payment for their participation. Under Commonwealth of Virginia law, worker's compensation does not apply to volunteers; therefore, if not in the vehicle, the participants are responsible for their own medical insurance for bodily injury. Appropriate health insurance is strongly recommended to cover these types of expenses. For example, if you were injured outside of the vehicle owned or leased by Virginia Tech, the cost of transportation to the hospital emergency room would be covered by your insurance.

The following precautions will be taken to ensure minimal risk to you:

1. You may take breaks or decide not to participate at any time.
2. An experimenter will be monitoring the automated systems in all study vehicles and can stop all study vehicles if required. This experimenter will also initiate the ride.
3. A second experimenter, using cameras, will be monitoring the study vehicles and the test track (including some surrounding areas) for wildlife.
4. An experimenter will be present at each of the stopping areas.
5. On the test track, we will not exceed 35 mph.
6. All data collection equipment is mounted such that, to the greatest extent possible, it does not pose a hazard to you in any foreseeable case.
7. You are required to wear a seat belt restraint system while in the passenger vehicle.
8. The vehicle is equipped with a fire extinguisher and first aid kit.
9. A pre-trip inspection has been performed on the vehicle prior to your test session.
10. An experimenter will end the experiment if inclement weather occurs. This includes any weather that results in the use of the windshield wipers, wet or icy road surfaces, and reduced visibility due to fog.
11. You do not have any medical condition that would put you at a greater risk, including but not restricted to neck/spine injury, epilepsy, balance disorders, and lingering effects of head injuries or stroke.

12. In the event of a medical emergency, or at your request, VTTI staff will arrange medical transportation to a nearby hospital emergency room. You may elect to undergo examination by medical personnel in the emergency room.

IV. Benefits of this Project

While there are no direct benefits to you from this research, you may find the experiment interesting. No promise or guarantee of benefits is made to encourage you to participate. Participation in this study may contribute to the improvement of in-vehicle systems.

V. The Collection and Use of Personal Information

The study will collect the following information and data about you, some of which may be considered personally identifying information:

1. Information collected to determine eligibility for the study will not be used in any analysis or any other manner.
2. Contact information (address, phone number) & Social Security Number, which is considered personally identifying information. Your contact information and social security number is for payment purposes only and will not be used in any analysis or any other manner than for payment. Your contact information provided during the recruitment process may be used to contact you for other study opportunities but will not be linked to any study data.
3. Video recordings collected during the experiment. Video of your face and your voice is considered personally identifying information. If any video or images are made publicly available at a conference or a published research presentation or report, any video or images of your face will be blurred to maintain your confidentiality.
4. Your interactions with the study vehicle, such as button presses, as recorded by instruments in the vehicle. This is not considered personally identifying information.
5. Responses to surveys, including demographic information, will be analyzed in this study. This is not considered personally identifiable.

We will treat all of the data gathered in this experiment with confidentiality by separating your name from the data and replacing it with a number (e.g., Driver 001). It is possible that the Institutional Review Board (IRB) or study sponsor may view this study's collected data for auditing purposes. The IRB is responsible for the oversight of the protection of human subjects involved in research.

All video and other data recorded in this study will be stored in a secured area at Virginia Tech. Access to the data files will be under the supervision of the Principal Investigator and lead VTTI researchers involved in the project. All data will be encrypted at the time of data collection and will be decrypted only for approved analyses. It is possible that, after data collection is complete, one copy of de-identified study data (i.e., data that does not contain PII) will be transferred to the

project sponsor (the National Highway Traffic Safety Administration (NHTSA)) for permanent storage and oversight.

Authorized project personnel and authorized employees of the research sponsors will have access to the study data that personally identifies you or that could be used to personally identify you. 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. Your data may be shared under the following conditions:

- 1. Data containing Personally Identifying Information (PII):** Study data contain information that could be used to personally identify you. Examples of PII are images of your face and the audio recordings. 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 prior IRB approval. These researchers will only be allowed access to view these data in a secure environment with NHTSA and principal investigator approval.
 - b. Researchers outside VTTI will be required to submit proof of prior IRB approval and sign a data use agreement 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 with NHTSA and principal investigator approval.
- 2. Data not containing PII:** Study data that do not contain any information that could be used to personally identify you.
 - a. VTTI researchers will have access to this data with sponsor and PI approval.
 - b. Researchers outside VTTI may use data that does not contain PII after they sign a data use agreement and obtain NHTSA and principal investigator approval.

The sponsor of this project, NHTSA, may publicly release the study data without personally identifiable information in final reports or other publication or media for scientific, educational, research or to further its statutory mission. Additionally, NHTSA may be required to release data due to Freedom of Information Act (FOIA) or other Open Government Initiative request. Any data released under FOIA will not be linked to your name or contact information, and any personally identifying information will be redacted, edited, or removed. This includes editing of video and or audio files to remove personally identifying information if necessary.

VI. Compensation

You will be compensated \$90 for your full participation, even if the study ends early for any reason. All compensation will be issued using a pre-loaded MasterCard. Please allow up to 1 full business day for activation of the card. Once activated, this card cannot be used past its expiration date. The issuing bank will also begin deducting a monthly service fee of \$4.50 after three months of inactivity. Expected participation time will be for one visit, lasting approximately two hours.

If compensation is in excess of \$600.00 dollars in any one calendar year, then by law, Virginia Tech is required to file Form 1099 with the IRS. For any amount less than \$600.00, it is up to you as the participant to report any additional income as Virginia Tech will not file Form 1099 with the IRS.

Also, you will be asked to provide researchers with your social security number for the purposes of being paid for your participation. For tax recording purposes, the fiscal and accounting services office at Virginia Tech (also known as the Controller's Office) requires that all participants provide their social security number to receive payment for participation in our studies.

VII. Freedom to Withdraw

Participants in this study are free to withdraw at any time. There is no penalty for withdrawing. If you choose to withdraw, you will be compensated for the portion of time of the study for which you participated. Furthermore, you are free not to answer any question or respond to experimental situations without penalty. If you choose to withdraw while you are operating the vehicle on the test track, please inform the experimenter of this decision and he/she will provide transportation for you off of the test track.

VIII. Approval of Research

Before data can be collected, the research must be approved, as required, by the Institutional Review Board for Research Involving Human Subjects at Virginia Polytechnic Institute and State University and by the Virginia Tech Transportation Institute. You should know that this approval has been obtained. This form is valid for the period listed at the bottom of the page.

IX. Subject's Responsibilities

If you voluntarily agree to participate in this study, you will have the following responsibilities:

1. To follow the experimental procedures as well as you can.
2. To inform the experimenter if you have difficulties of any type.
3. To abstain from any substances that will impair your ability to participate.

X. Consent to Use Video/Audio Data for Research Reporting Purposes

Digital video cameras will be used to record you while driving, including your face. These digital video files could be used to clarify the experimental methods and to help report findings at technical conferences and other presentations. Your face will be blurred in any images or video that is viewed by anyone aside from the immediate research team. However, blurred video/images may be shown to the research sponsors who may use the video/audio data, which will not be linked to your name or contact information, in final reports or other publication or media for scientific, educational, research or outreach purposes. By signing below, you consent that video data will be used as described in this paragraph.

XI. Questions or Concerns

Should you have any questions about this study, you may contact the Principal Investigator or the Project Manager:

Sheldon Russell	srussell@vtti.vt.edu	(540) 231-1500
Charlie Klauer	sklauer@vtti.vt.edu	(540) 231-1500

Should you have any questions or concerns about the study’s conduct or your rights as a research subject, or need to report a research-related injury or event, you may contact the Virginia Tech Institutional Review Board at irb@vt.edu or (540) 231-3732.

XII. Participant’s Permission

I have read and understood the Information Sheet and conditions of this project. I have had all my questions answered. I hereby acknowledge the above and give my voluntary consent for participation in this project and for the use of my personal information as stated herein. **If I participate, I may withdraw at any time without penalty. I agree to abide by the rules of this project.**

Participant’s Name (Print)	Signature	Date
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Experimenter’s Name (Print)	Signature	Date
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