

Screening Questionnaire

Under the Paperwork Reduction Act, a federal agency may not conduct or sponsor, and a person is not required to respond to 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-NEW (expiration date: MM/DD/YYYY). The average amount of time to complete the form is 15 minutes. The purpose of this research study is to examine drivers' interactions with advanced vehicle technologies and the relationships between attitudes, behaviors, and traffic safety. All responses to this collection of information are voluntary. If you have comments regarding this burden estimate or any other aspect of this collection of information, including suggestions for reducing this burden, send them to Information Collection Clearance Officer, National Highway Traffic Safety Administration, 1200 New Jersey Ave, S.E., Washington, DC, 20590.

Introductory Statement:

Hello. My name is _____ and I'm with the Virginia Tech Transportation Institute (VTTI). We are currently recruiting people in the Blacksburg area to participate in a research study to learn more about how people typically use some of the features found in today's newer vehicles. Research appointments will take place at our Blacksburg facility.

Participation in this study involves driving a research vehicle instead of your own vehicle for a six-week period. We will provide hands-on training on all key aspects of the research vehicle. If you choose to participate, full details of what is required of you as a participant will be provided in writing for your review before any appointments are scheduled. The study consists of three phases: an initial session to learn about the vehicle, a second session to learn about the new features, and a third session to complete the study. The research vehicle is instrumented with cameras that will collect video of the forward roadway, the instrument panel, and driver anytime the vehicle is turned on. The monitoring system will be unobtrusive. It will not affect your ability to drive safely, and you will not have to interact with it at all. No one is allowed to drive the vehicle except the enrolled participant, and no smoking or vaping will be allowed inside the research vehicle. Also, you must agree that no hazardous materials, flammable materials, or illegal materials will be hauled using the research vehicle.

All collected data are kept completely secure and your name will never be associated with the recorded data. There will be some short questionnaires to complete throughout the study. In addition, we will ask you to drive the study vehicle along a prescribed route twice with each drive taking about two hours. You will also be asked to take five 20-mile round trip interstate drives (in addition to your usual driving) during the course of the study.

Each research vehicle will be delivered to you with a full tank of fuel. Participants do not need to return the vehicle with a full tank of fuel. Participants will be compensated \$450 with a MasterCard for full participation. Funds will be loaded onto the card throughout your participation:

- \$100 after the first study session,
- \$150 after the second study session,
- \$200 after completing six weeks of driving and the final study session at VTII.

Any questions yet?

If you are interested in possibly participating, I need to go over some screening questions to see if you meet all the eligibility requirements. Any information given to us will be kept secure and confidential.

1. Do I have your consent to ask the screening questions? YES _____ NO _____

Criterion: To qualify, a respondent must respond 'yes.'

2. Are you comfortable reading and speaking English? YES _____ NO _____

Criterion: To qualify, a respondent must respond 'yes.'

3. What is your current age? _____ YOB _____

Criterion: To qualify, a respondent must be 18 to 25, 35 to 55 or 70+ years old to participate.

4. Are you a U.S. Citizen? YES _____ NO _____

If "no," are you a permanent resident with a valid green card to work anywhere in the U.S.? YES _____ NO _____

To clarify, are you a Visa holder or do you have a Valid Green Card with permanent resident status? Visa _____ Green Card _____

Criterion: To qualify, a respondent must be a U.S. citizen or permanent resident able to work anywhere in the U.S. with no restrictions such as limit on number of hours he or she can work each week or place he or she is allowed to work. Visa holders are excluded.

5. What is your sex? 9 Male 9 Female 9 Other

Criterion: To qualify, a respondent must be male or female. The study will recruit equal numbers of males and females in each age group to control for biological sex.

6. Do you currently hold, a valid U.S. driver's license that you can present at the time of the study? YES _____ NO _____
- a. If yes, how long have you held a U.S. license? _____
 - b. Has your license ever been suspended? YES _____ NO _____
 - c. If yes, how many times & when?

 - d. Is your license valid now?

Criterion: To qualify, a respondent must have a valid driver's license at their initial study appointment and must be an experienced driver who has been fully licensed for at least two years. The driver's license cannot have been suspended during the past seven years or have a history of multiple suspensions.

7. Your involvement in this study will include three or more visits to the study office in Blacksburg with each visit taking up to two hours Monday through Friday between the hours of 8:00 a.m. and 5:00 p.m. In addition, you will be asked to drive on the Interstate in the study vehicle at least seven times. Five of these interstate trips will be approximately 30 minutes in duration and two will be approximately 90 minutes in duration. Your total maximum compensation for participating fully in the study will be \$450. Are you willing to attend all office visits and perform the indicated drives? YES _____ NO _____

Criterion: To qualify, a respondent must respond 'yes.'

8. Are you fully vaccinated for COVID- 19? Yes _____ No _____

Criterion: Participant must self-report they are fully vaccinated.

9. How many times do you drive in a typical week?
Number: _____

Criterion: To qualify, a respondent must claim to drive at least 3 times per week.

10. Do you have any of the following restrictions on your license? (Check all that apply.)

- 9 Daytime only
- 9 Limited distance from home
- 9 No interstate/highway
- 9 Adaptive (hand) controls
- 9 Alcohol interlock
- 9 Other _____
- 9 None of the Above

Criterion: To qualify, a respondent must not have daytime only, limited distance, no interstate/highway, adaptive controls, or alcohol interlock restrictions.

11. What type of vehicle do you regularly drive?

Year ____ Make _____ Model _____

Criterion: To qualify, a respondent must drive a vehicle that does not come standard with L2 systems.

12. Are you willing to drive the assigned study vehicle as your primary vehicle for 6 weeks?

YES ____ NO ____

Criterion: To qualify, a respondent must respond 'yes.'

13. Are you comfortable driving on the interstate and willing to do so for this study?

Yes ____ No ____

Criterion: To qualify, a respondent must respond 'yes.'

14. Do you have proof of current automotive liability insurance?

YES ____ NO ____

Criterion: To qualify, a respondent must respond 'yes.'

15. Have you been involved in any automobile crashes in the past 3 years?

YES ____ NO ____

If so, please explain: _____

Criterion: To qualify, a respondent must not have reported being convicted of an injurious accident (driving violation) in the past 3 years.

16. Have you had any traffic violations in the past 3 years? Yes ____ No ____

If so, please explain: _____

Criterion: To qualify, a respondent must not have been convicted of more than two moving violations in the past 3 years.

17. Do you agree to not drive the study vehicle in areas where videotaping or audio recording is prohibited (e.g., military installations, high-security facilities, etc.)?

YES ____ NO ____

Criterion: To qualify, a respondent must respond 'yes.'

18. Does your personal vehicle (i.e., the car you normally drive) have any of the following advanced technology features? (Check all that apply.)

- 9 Adaptive cruise control
- 9 Obstacle detection
- 9 Lane departure warning
- 9 Lane-keep assist
- 9 Lane centering
- 9 Automatic braking
- 9 Automatic parking
- 9 Other
- 9 None of the above
- 9 Not sure

Criterion: To qualify, a respondent must not have adaptive cruise control, lane keep assist, or lane centering in their current vehicle.

19. Do you use your primary vehicle for hire, such as Uber or Lyft? YES _____ NO _____

If yes, please specify: _____

Criterion: To qualify, a respondent must respond 'no,' or a respondent must respond 'yes' and provide an explanation that indicates the work does not limit their ability to participate in the study.

20. Do you have any events or plans over the next three to four months, such as surgery, extended vacations (i.e., more than a week), or anything else which would impact your participation in this study? YES _____ NO _____

Criterion: To qualify, a respondent must respond 'no.'

I am now going to describe specific vehicle technologies to you and ask about your prior experience using such systems in any vehicle.

21. **Adaptive Cruise Control.** When using this system, the driver sets a cruise speed and desired following distance. The system then maintains the cruise speed unless it has to slow down to avoid getting closer to the vehicle in front than the set following distance. The system will slow down or speed up to the set maximum as necessary without the driver having to touch the pedals.

How many times have you used this type of system in any vehicle?

- Never
- Fewer than 5
- 5 or more
- Don't know

Criterion: To qualify, a respondent must not have used this type of system 5 or more times. Preference will be given to those who respond "never." Participants who respond "Don't know" may be included if it appears they are naïve to the system and likely have not used it in the past.

22. **Lane-Keep Assist.** This system uses a combination of gentle steering assistance and braking to prevent the driver from unintentionally crossing into another lane. The driver can change lanes by using the turn signals and turning the steering wheel.

How many times have you used this type of system in any vehicle?

- Never
- Fewer than 5
- 5 or more
- Don't know

Criterion: To qualify, a respondent must not have used this type of system 5 or more times. Preference will be given to those who respond "never." Participants who respond "Don't know" may be included if it appears they are naïve to the system and likely have not used it in the past.

23. **Lane Centering.** This system helps the vehicle stay centered in the current lane by steering automatically. Drivers must still keep their hands on the steering wheel.

How many times have you used this type of system in any vehicle?

- Never
- Fewer than 5
- 5 or more
- Don't know

Criterion: To qualify, a respondent must not have used this type of system 5 or more times. Preference will be given to those who respond "never." Participants who respond "Don't know" may be included if it appears they are naïve to the system and likely have not used it in the past.

I am now going to ask you questions about how you anticipate using the study vehicle during the six weeks of driving.

24. Do you understand and agree that if you participate no one other than you will be allowed to drive the study vehicle? YES _____ NO _____

Criterion: To qualify, a respondent must respond 'yes.'

25. If you participate, you will not be allowed to tow with the research vehicle or to put any type of bike rack, ski rack, storage rack, and/or container onto the vehicle or make any other modifications to the vehicle or its installed research equipment.

Are you okay with this? YES _____ NO _____

Criterion: To qualify, a respondent must respond 'yes.'

26. Do you need to transport a child requiring a car safety seat or booster seat on a regular basis? YES _____ NO _____

Criterion: Preference will be given to those who do not regularly transport a child who requires a car seat or booster seat.

27. If you participate, you will not be allowed to use the study vehicle to haul or transport any flammable or hazardous materials. Are you okay with this? YES _____ NO _____

Criterion: To qualify, a respondent must respond 'yes.'

28. Do you agree to not smoke or vape, or allow anyone else to do so, inside the research vehicle? YES _____ NO _____

Criterion: To qualify, a respondent must respond 'yes.'

29. If you participate, will you plan to drive the vehicle off road on unpaved roads, dirt access roads, or long unpaved driveways? YES _____ NO _____

If yes, can you elaborate on the nature of the off-road driving you would do?

Criterion: To qualify, a respondent must not plan to drive the research vehicle off-road in a manner that could damage the vehicle.

I now need to ask whether you have any medical issues that we need to be aware of for this type of study.

30. Do you have any mobility limitations which may cause you to require assistance getting in and out of the motor vehicle or walking to and from the building and out to the research vehicle? Yes _____ No _____

Criterion: To qualify, a respondent must respond 'no.'

31. Are you able to drive an automatic transmission without assistive devices or special equipment? Yes _____ No _____

Criterion: To qualify, a respondent must respond 'yes.'

32. Do you have a history of neck or back conditions, or injury to those areas, which may limit your ability to drive? YES _____ NO _____

If yes, please explain: _____

Criterion: To qualify, a respondent must respond 'no,' or a respondent must respond 'yes' and provide an explanation that indicates the condition does not limit their ability to participate in the study.

33. Do you have any head injury, stroke, illness, or disease affecting your brain which may limit your ability to drive?

YES _____ NO _____

If yes, please explain: _____

Criterion: To qualify, a respondent must respond 'no,' or a respondent must respond 'yes' and provide an explanation that indicates the condition does not limit their ability to participate in the study.

34. Do you have a current heart condition which limits your ability to drive?

YES ____ NO ____

If yes, please explain: _____

Criterion: To qualify, a respondent must respond 'no,' or a respondent must respond 'yes' and provide an explanation that indicates the condition does not limit their ability to participate in the study.

35. Do you have a current respiratory disorder/disease or any condition which requires use of an oxygen tank or concentrator?

YES ____ NO ____

Criterion: To qualify, a respondent must respond 'no.'

36. Have you had any epileptic seizures or lapses of consciousness within the past twelve months? YES ____ NO ____

Criterion: To qualify, a respondent must respond 'no.'

37. Do you have chronic migraines or tension headaches? YES ____ NO ____

If yes, do they occur more than once a month on average? YES ____ NO ____

Criterion: To qualify, a respondent must not have had, on average, more than one migraine or severe headache per month during the past year.

38. Do you currently experience motion sickness, inner ear problems, dizziness, vertigo, or difficulties with balance? YES ____ NO ____

Criterion: To qualify, a respondent must respond 'no.'

39. Do you currently have uncontrolled diabetes? YES ____ NO ____

Criterion: To qualify, a respondent must respond 'no.'

40. Have you had any major surgery within the past six months, including any eye procedures?

YES ____ NO ____

Criterion: To qualify, a respondent must respond 'no.'

41. Are you currently taking any medication or substances on a long-term basis that may cause drowsiness or impair your ability to drive? YES ____ NO ____

Criterion: To qualify, a respondent must respond 'no.'

42. Do you have normal, or corrected to normal, vision in both eyes? YES _____ NO _____

Criterion: To qualify, a respondent must respond 'yes.'

43. To receive compensation for participation in the study, you will need to complete a W-9 tax form and provide your social security number at the time of participation –are you willing to do so?

YES _____ NO _____

Criterion: To qualify, a respondent must respond 'yes.'

44. You are eligible for this project. Do I have your consent to record your contact information and initiate a driving history check?

YES _____ NO _____

Criterion: To qualify, a respondent must respond 'yes.'