

**Information Collection Request Supporting Statement: Part A**  
**Factors That Influence Effectiveness of Hazard Anticipation and Attention Maintenance**  
**Training**

**OMB Control No. 2127-New**

**Abstract:**<sup>1</sup>

The National Highway Traffic Safety Administration (NHTSA) is seeking approval for a one-time voluntary information collection from 168 participants ages 18 and 19 who do not yet have driver's licenses for a research study on novice driver training. Specifically, this collection involves developing and testing a novice driver training program on a smartphone-like platform and determining whether the effectiveness of the training differs for participants of different sexes, socio-economic status (SES) strata, and trait levels of sensation seeking and aggressiveness.

The information collection will proceed in two phases. First, the research team expects to provide screening questionnaires to 1,002 potential participants to determine their eligibility for the study; screening questionnaires will be provided to those who respond to recruitment information about the study posted on social media platforms or provided to contacts in local communities (e.g., teen centers, community college faculty in the area, high school principals, local driving schools) and to those who participated in past studies at the research center and agreed to be contacted about future opportunities. To be eligible, participants must be 18 or 19 years old, must not have an unrestricted driver's license or an intermediate/provisional license that allows driving independently, and must be interested in obtaining an unrestricted or intermediate/provisional license in the next 12 months. Participants may have a learner's permit. Completing the screening questionnaire is estimated to have a burden of 5 minutes per respondent (an annual burden of 28 hours for 334 annual respondents, averaged over the three-year approval period). Second, of the estimated 1,002 potential participants who are provided a screening questionnaire, an estimated 180 respondents are expected to complete the screening questionnaire and be eligible, interested, and willing to travel to the research center to undergo the informed consent process, with an estimated burden of 70 minutes per respondent, including travel time (an annual burden of 70 hours for 60 annual respondents).

Finally, of the estimated 180 respondents who undergo the informed consent process, an estimated 168 respondents are expected to consent and enroll in the study. These participants will complete the enrollment process and a pre-study questionnaire, with an estimated burden of 10 minutes per respondent (an annual burden of 9 hours for 56 annual respondents). Then, participants will complete the novice driver training protocol, which involves a pre-training test, the hazard anticipation and attention maintenance training program (or a placebo training

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<sup>1</sup> 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.

program), a post-training test (all administered on a computer), a rest break, a test on a computerized driving simulator, and a post-study questionnaire. The training protocol has an estimated burden of 230 minutes per respondent (an annual burden of 215 hours for 56 annual respondents). The total annual burden for this information collection is 322 hours and \$13,069.

Prior to conducting the study, the research team will obtain review and approval of this data collection from an Institutional Review Board (IRB) that meets all Federal requirements in 45 CFR 46, is registered with the Office for Human Research Protections, and has a Federalwide Assurance. NHTSA will use the results of this study to produce a technical report containing summary descriptive and inferential statistics. No identifying information or individual responses will be reported. The technical report will be shared with State highway safety offices, local governments, policymakers, researchers, educators, advocates, and others who may wish to use the data from this survey to support their work on novice and teen driver safety.

## **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.**

#### **a. *Circumstances making the collection necessary***

NHTSA was established to reduce deaths, injuries, and economic losses resulting from motor vehicle crashes on the Nation's highways. The agency develops, promotes, and implements effective educational, engineering, and enforcement programs with the goal of ending preventable tragedies and reducing economic costs associated with vehicle use and roadway travel. Traffic safety is a key behavioral area for which NHTSA has developed comprehensive programs to meet its injury reduction goals, and the major components of its traffic safety programs are education, enforcement, and outreach.

Because of their increased risk, novice drivers are an area of focus for NHTSA's behavioral safety efforts. Novice teen drivers are more likely to crash in the first several months after they obtain licenses than more experienced drivers. Higher crash rates are also observed for novice drivers who first obtain their licenses at ages 18 and 19,<sup>2</sup> novice drivers who live in zip codes with higher poverty rates,<sup>3</sup> male novices,<sup>4</sup> and novices with greater propensities for personality factors like sensation seeking and aggressiveness.<sup>5</sup>

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<sup>2</sup> Masten, S., Foss, R., & Marshall, S. (2011). Graduated driver licensing and fatal crashes involving 16- to 19-year-old drivers. *Journal of the American Medical Association*, 306(14), 1098-1103. <https://jamanetwork.com/journals/jama/fullarticle/1104325>

<sup>3</sup> Roberts, S., Zhang, F., Fisher, D., & Vaca, F. (2021). The effect of hazard awareness training on teen drivers of varying socioeconomic status. *Traffic Injury Prevention*, 22(6), 455-459. <https://doi.org/10.1080/15389588.2021.1940984>

<sup>4</sup> National Center for Statistics and Analysis. (2024, July). *Young drivers: 2022 data* (Traffic Safety Facts. Report No. DOT HS 813 601). National Highway Traffic Safety Administration. <https://crashstats.nhtsa.dot.gov/Api/Public/ViewPublication/813601>

<sup>5</sup> Bates, L. J., Davey, J., Watson, B., King, M. J., & Armstrong, K. (2014). Factors contributing to crashes among young drivers. *Sultan Qaboos University Medical Journal*, 14(3), e297 – e305. <https://pmc.ncbi.nlm.nih.gov/articles/PMC4117653/>

One reason novice drivers who first obtain their licenses at age 18 or 19 are at higher risk of crashing may be because most States do not apply Graduated Driver Licensing (GDL) requirements to novice drivers 18 and older. GDL programs typically restrict nighttime driving and the number of teen passengers that can be in the vehicle and often include the requirement to enroll in a driver education program, thereby providing novice drivers with practice driving in less demanding conditions. Because the percentage of drivers delaying licensure until age 18 is increasing,<sup>6</sup> the population of novice drivers exempt from most States' GDL programs is also increasing.

Young people from lower SES backgrounds are more likely to delay licensure,<sup>7</sup> so they may also be less likely to benefit from the protections that GDL provides. Additionally, lower SES teens may have higher crash rates than higher SES teens because they are less likely to take driver education, especially in States where driver education is not required.<sup>8</sup> The cost of novice driver training programs may be one barrier for taking them; in fact, about two in five teens say that financial considerations played a role in their delaying licensure.<sup>9</sup> Lower SES teens may also face barriers with the availability of novice driver education programs in lower income communities.<sup>10</sup>

In summary, more teens are waiting until age 18 to get their licenses, when they are exempt from most States' GDL intermediate license restrictions and driver education requirements. Part of this delay, especially for lower SES novice drivers, may be the cost and availability associated with traditional novice driver education programs. While most research has failed to find evidence that traditional pre-licensure driver education reduces novice drivers' crash risk,<sup>11</sup> a growing body of studies suggests that training that focuses on teaching specific skills—hazard anticipation and attention maintenance—may increase novice drivers' safety. Hazard anticipation training teaches novices to be aware of hazards on the road that are visible *and* those that are not (hidden); for example, a hidden hazard can occur when a vehicle stopped in a parking lane obscures a pedestrian who is entering a crosswalk.

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<sup>6</sup> Twenge, J., & Park, H. (2019). The decline in adult activities among U.S. adolescents, 1976-2016. *Child Development*, 90(2), 638-654. <https://doi.org/10.1111/cdev.12930>

<sup>7</sup> Vaca, F. E., Li, K., Tewahade, S., Fell, J. C., Haynie, D. L., Simons-Morton, B. G., & Romano, E. (2021). Factors contributing to delay in driving licensure among U.S. high school students and young adults. *Journal of Adolescent Health*, 68(1), 191-198. <https://pmc.ncbi.nlm.nih.gov/articles/PMC8136290/>

<sup>8</sup> Curry, A. E., Garcia-Espana, J. F., Winston, F. K., Ginsburg, K., & Durbin, D. R. (2012). Variation in teen driver education by state requirements and sociodemographics. *Pediatrics*, 129(3), 453 – 457. <https://doi.org/10.1542/peds.2011-2303>

<sup>9</sup> Tefft, B. & Foss, R. (2019). *Prevalence and timing of driver licensing among young adults (Research Brief)*. AAA Foundation for Traffic Safety. [https://aaafoundation.org/wp-content/uploads/2019/10/19-0500\\_AAAFTS\\_Teen-Driver-Safety-Week-Brief\\_r1.pdf](https://aaafoundation.org/wp-content/uploads/2019/10/19-0500_AAAFTS_Teen-Driver-Safety-Week-Brief_r1.pdf)

<sup>10</sup> Ryerson, M., Davidson, J., Wu, J. Feiglin, I., & Winston, F. (2022). Identifying community-level disparities in access to driver education and training: Toward a definition of driver training deserts. *Traffic Injury Prevention*, 23, S14-S19. <https://doi.org/10.1080/15389588.2022.2125305>

<sup>11</sup> Kirley, B. B., Robison, K. L., Goodwin, A. H., Harmon, K. J. O'Brien, N. P., West, A., Harrell, S. S., Thomas, L., & Brookshire, K. (2023, November). *Countermeasures that work: A highway safety countermeasure guide for State Highway Safety Offices, 11th edition, 2023* (Report No. DOT HS 813 490). National Highway Traffic Safety Administration. [https://www.nhtsa.gov/sites/nhtsa.gov/files/2023-12/countermeasures-that-work-11th-2023-tag\\_0.pdf](https://www.nhtsa.gov/sites/nhtsa.gov/files/2023-12/countermeasures-that-work-11th-2023-tag_0.pdf)

Novice driver training programs targeting hazard anticipation have reduced behaviors linked to crashes on driving simulators<sup>12</sup> and during on-road drives.<sup>13</sup> Hazard anticipation training also reduced crashes among 18-year-old newly-licensed males by 32% in the year following training.<sup>14</sup> Attention maintenance training teaches novices to reduce the number and duration of long glances (longer than two seconds) away from the forward roadway, an off-road glance duration associated with a doubling of crash risk.<sup>15</sup> Novice driver training programs focused on attention maintenance (distraction) have reduced behaviors linked to crashes, in particular long glances away from the forward roadway, both on driving simulators<sup>16</sup> and in the field,<sup>17</sup> and the benefits of training extended up to four months.<sup>18</sup> Finally, prior studies suggest that hazard anticipation or attention maintenance training may especially benefit male novices,<sup>11</sup> novice drivers from lower SES backgrounds,<sup>3</sup> and young drivers with lower levels of the sensation seeking and aggressiveness personality traits.<sup>19</sup>

The goal of this information collection is to test the effectiveness of a hazard anticipation and attention maintenance training program for novice drivers that takes relatively little time to complete and could support future efforts to deliver the training via smartphones, particularly to older novices who may not receive any training before they become licensed. Another goal of the information collection is to determine whether the effectiveness of the training program differs for groups of novices who may be at higher risk, i.e., different sexes, SES levels, and trait levels of sensation seeking and aggressiveness.

**b. Statute authorizing the collection of information**

Title 23, United States Code, Chapter 4, Section 403 authorizes the Secretary of Transportation to conduct research and development activities, including demonstration projects and the collection and analysis of highway and motor vehicle safety data and related information needed to carry out this section, with respect to all aspects of highway and traffic safety systems and

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<sup>12</sup> Pollatsek, A., Narayanaan, V., Pradhan, A., & Fisher, D. (2006). Using eye movements to evaluate a PC-based risk awareness perception training program on a driving simulator. *Human Factors*, 48(3), 255-259. <https://doi.org/10.1518/001872006778606787>

<sup>13</sup> Pradhan, A., Pollatsek, A., Knodler, M. & Fisher, D. (2009). Can younger drivers be trained to scan for information that will reduce their risk in roadway traffic scenarios that are hard to identify as hazardous?, *Ergonomics*, 52, 657-673. <https://pmc.ncbi.nlm.nih.gov/articles/PMC2707454/>

<sup>14</sup> Thomas, F., Rilea, S., Blomberg, R., Peck, R., & Korbela, E. (2016). *Evaluation of the safety benefits of the risk awareness and perception training program for novice teen drivers* (Report No. DOT HS 812 235). National Highway Traffic Safety Administration. [https://rosap.ntl.bts.gov/view/dot/1986/dot\\_1986\\_DS1.pdf](https://rosap.ntl.bts.gov/view/dot/1986/dot_1986_DS1.pdf)

<sup>15</sup> Klauer, S., Dingus, T., Neale, V., Sudweeks, J., & Ramsey, D. (2006). *The impact of driver inattention on near-crash/crash risk: An analysis using the 100-Car naturalistic driving study data* (Report No. DOT HS 810 594). National Highway Traffic Safety Administration. <https://rosap.ntl.bts.gov/view/dot/62931>

<sup>16</sup> Divekar, G., Pradhan, A. K., Masserang, K. M., Reagan, I., Pollatsek, A., & Fisher, D. L. (2013). A simulator evaluation of the effects of attention maintenance training on glance distributions of younger novice drivers inside and outside the vehicle. *Transportation Research Part F*, 20, 154-169. <https://doi.org/10.1016/j.trf.2013.07.004>

<sup>17</sup> Pradhan, A. K., Divekar G., Masserang, K., Romoser, M., Zafian, T., Blomberg, R., Thomas, F., Reagan, I., Knodler, M., Pollatsek, A., & Fisher, D. (2011). The effects of focused attention training (FOCAL) on the duration of novice drivers' glances inside the vehicle. *Ergonomics* (54), 917-931. <https://pmc.ncbi.nlm.nih.gov/articles/PMC3437545/>

<sup>18</sup> Divekar, G., Samuel, S., Pollatsek, A., Thomas, D. F., Korbela, K., Blomberg, R. D., & Fisher, D. L. (2016). Effects of a PC-based attention maintenance training program on driver behavior can last up to four months. *Transportation Research Record*, 2602(1), 121 – 128. <https://doi.org/10.3141/2602-15>

<sup>19</sup> Zhang, T., Hajiseyedjavadi, F., Wang, Y., Samuel, S., Qu, X., & Fisher, D. (2018). Training interventions are only effective on careful drivers, not careless drivers. *Transportation Research Part F* (58), 693-707. <https://doi.org/10.1016/j.trf.2018.07.004>

conditions relating to vehicle, highway, driver, passenger, motorcyclist, bicyclist, and pedestrian characteristics; accident causation and investigations; and human behavioral factors and their effect on highway and traffic safety. [See 23 U.S.C. 403(b)(1)(A)(i)-(ii), (1)(B)]. Pursuant to Section 1.95 of Title 49 of the Code of Federal Regulations (CFR), the Secretary has delegated this authority to NHTSA [See 49 CFR 1.95(e)].

**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.**

This is a new collection. This collection will seek to understand whether a novice driver training program based on hazard anticipation and attention maintenance and delivered on an external monitor similar in size and shape to a smartphone improves performance on a driving simulator and whether improvements in performance vary across sexes, levels of SES, and trait levels of sensation seeking and aggressiveness. NHTSA will use the results of this study to produce a technical report containing summary descriptive and inferential statistics. No identifying information or individual responses will be reported. The technical report will be shared with State highway safety offices, local governments, policymakers, researchers, educators, advocates, and others who may wish to use the data from this survey to support their work improving novice and teen driver safety.

**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 information technology, e.g., permitting electronic submission of responses, and the basis for the decision for adopting this means of collection. Also describe any considerations of using information technology to reduce burden.**

No automated, electronic, mechanical, or other technological collection techniques are planned to obtain data for the screening questionnaire, the informed consent, the pre-study questionnaire, or the post-study questionnaire; responses will be collected on paper.

The training protocol involves completing the training and pre- and post-training testing on a computer and completing an assessment of driving performance on a computerized driving simulator. Data collected from participants electronically during the training protocol will include: screen taps, eye gaze (i.e., where a participant is looking on the screen), behavior on the driving simulator (e.g., speed, braking), and audio of any verbalizations a participant makes while using the driving simulator. The training itself is administered on a computer because it requires a high level of interactivity from participants; in prior research, hazard anticipation and attention maintenance trainings have always been administered electronically. The assessment of participants' performance following training is administered on a computerized driving simulator

because prior research has found that driving simulator performance correlates with real world, on-road risky driving.<sup>15,20</sup>

**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.**

To date, only one hazard anticipation training program for novice drivers has been shown to reduce crashes.<sup>11</sup> Similarly, only one attention maintenance training program has been shown to decrease behaviors related to crashes, in a group of novices with attention-deficit/hyperactivity disorder (ADHD).<sup>21</sup> However, no study has examined the effectiveness of hazard anticipation or attention maintenance training modified to run on a smartphone-like external monitor, with the goal of improving the availability and reducing the cost of training. Additionally, although prior studies suggest that hazard anticipation or attention maintenance training may especially benefit male novices,<sup>11</sup> novice drivers from lower SES backgrounds,<sup>3</sup> and young drivers with lower levels of the sensation seeking and aggressiveness personality traits,<sup>16</sup> these results have not been replicated.

Existing data cannot be used to determine whether the effects of hazard anticipation and attention maintenance training—typically delivered on a desktop computer—generalize to training delivered on a smartphone-like monitor. Similarly, new data are required to replicate two prior studies suggesting that the effectiveness of training differs across sex, SES, and trait levels of sensation seeking and aggressiveness. Demonstrating these effects is a critical first step towards delivering smartphone-based training to novice drivers, particularly those who may be at higher risk.

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

There is no burden on small businesses or other small entities for this collection of information request. Respondents are individuals meeting certain criteria and who volunteer for the study.

**6. Describe the consequences to Federal program or policy activities if the collection is not collected or collected less frequently, as well as any technical or legal obstacles to reducing burden.**

NHTSA's mission is to reduce the number of deaths, injuries, and economic losses resulting from motor vehicle crashes on our nation's highways, and the major components of its behavioral traffic safety programs are education, enforcement, and outreach. In the five-year period between 2017 and 2021, among 18- and 19-year-old drivers, a total of 10,675 were

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<sup>20</sup> Fisher, D., Pradhan, A., Pollatsek, A., & Knodler, A. (2007). Empirical evaluation of hazard anticipation behaviors in the field and on driving simulator using eye tracker. *Transportation Research Record*, 2018, 80-86. <https://doi.org/10.3141/2018-1>

<sup>21</sup> Epstein, J., Garner, A., Keifer, A., Peugh, J., Tamm, L., MacPherson, R., Simon, J., & Fisher, D. (2022). Trial of training to reduce driver inattention in teens with ADHD. *New England Journal of Medicine* (387), 2056-2066. <https://doi.org/10.1056/NEJMoa2204783>

involved in fatal motor vehicle crashes,<sup>22</sup> and an estimated 891,721 were involved in injury-only motor vehicle crashes.<sup>23</sup> Without the collection of these data, NHTSA's ability to develop effective countermeasures to reduce traffic injuries and fatalities among novice drivers will be inhibited. Findings from this study will inform whether a novice driver training program delivered on a smartphone-like device reduces behaviors linked to crashes and whether this training may be especially beneficial for novices of different sexes, levels of SES, and trait levels of sensation seeking and aggressiveness. This collection is a critical first step towards future efforts to deliver smartphone-based training to novice drivers, particularly those who may be at higher risk.

**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 require this collection to be conducted in a manner inconsistent with guidelines in 5 CFR 1320.5(d)(2).

**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 this collection of information prior to submission to OMB. Summarize public comments received in response to the notice and describe the agency's actions in**

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<sup>22</sup> Fatality Analysis Reporting System (FARS): 2017-2020 Final File and 2021 Annual Report File (ARF)

<sup>23</sup> Crash Report Sampling System (CRSS): 2017-2021

**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.**

NHTSA published a 60-day notice on August 21, 2025, requesting comment on NHTSA's intention to submit this ICR to OMB for approval (90 FR 160). NHTSA received no comments.

NHTSA published a 30-day notice on December 10, 2025, that stated NHTSA's intention to submit this ICR to OMB for approval (90 FR 235).

A copy of each notice is attached.

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

Participants who complete all study activities will receive a total compensation of a \$165 Amazon gift card to ensure compliance with and completion of the study protocol. Although the study site has not been finalized, our calculations assume that the study will be conducted in one potential study site area, Boston, Massachusetts. To calculate the payment to participants in this study, we used estimates of the mean weighted hourly earnings (exclusive of non-earners) from the Current Population Survey (CPS) Integrated Public Use Microdata Series (IPUMS data) for 2023, focusing on Massachusetts residents in the Boston metropolitan area aged 18 and 19. Hourly earnings of \$18.79 include wage with tip, overtime, and commissions.<sup>24</sup> The hourly earnings of \$18.79 have been increased by 29% to reflect the full cost of labor (\$24.24), including benefits as computed by the Bureau of Labor Statistics.<sup>25</sup>

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<sup>24</sup> Flood, S., King, M., Rodgers, R., Ruggles, S., Warren, R., Backman, D., Chen, A., Cooper, G., Richards, S., Schouweiler, M., & Westberry, M. (2023). *IPUMS CPS: Version 11.0 [dataset]*. IPUMS. <https://www.ipums.org/projects/ipums-cps/d030.V11.0>

<sup>25</sup> Bureau of Labor Statistics. (2024). Employer costs for employee compensation for the regions – December 2023. [https://www.bls.gov/regions/southwest/news-release/2024/employercostsforemployeecompensation\\_regions\\_20240313.htm](https://www.bls.gov/regions/southwest/news-release/2024/employercostsforemployeecompensation_regions_20240313.htm)

Compensation includes reimbursing each of the 168 participants for 5 hours and 10 minutes of their time (which includes 1 hour of round-trip travel time) to fully complete study activities (about \$125). Compensation also includes reimbursing each of the 168 participants for the estimated cost of a trip to and from a participant's home around the Boston metropolitan area to the research center using ride share (e.g., Uber, Lyft). On average, a Lyft ride in the Boston area is \$0.92 per mile and \$0.37 per minute.<sup>26</sup> Using an estimated average trip length of 10 miles and 30 minutes in length, then this comes to approximately \$40 per round trip. Thus, the total compensation per participant is \$165. The research team's experience indicates that the proposed level of compensation is required to recruit enough participants to provide adequate statistical power to test the study's hypotheses and to ensure their continued participation throughout the study.

**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 system of records notice (SORN) or privacy impact assessment (PIA), those should be cited and described here.**

Participants who are eligible and choose to participate in this study will complete an IRB-approved informed consent process that indicates no personally identifiable information will be published or shared with any organization other than NHTSA or the research team's organization. All published results will provide only summary statistics that cannot be used to identify any individual or an individual's responses. All datasets that contain individual level study data will be de-identified.

NHTSA has published a PIA for behavioral research studies conducted by its Office of Behavioral Safety Research. The Department's Senior Agency Official for Privacy adjudicated the PIA on June 10, 2019, and it is available at <https://www.transportation.gov/individuals/privacy/nhtsa-office-behavioral-safety-research-obsr-research-studies>.

**11. Provide additional justification for any questions of a sensitive nature, such as sexual behavior or 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 used in this study include questions about:

- The potential for motion-related driving simulator sickness;
- Demographics;

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<sup>26</sup> See <https://www.lyft.com/pricing/BOS>

- Driving experience;
- The personality traits of sensation seeking and aggressiveness; and
- Driving behaviors.

These questionnaires do not contain items believed to be of a sensitive nature. While some questions ask about behaviors that may be considered unsafe, no behaviors should be particularly sensitive to report. Additionally, responses will be anonymized and reported only in the aggregate. Collecting this information is critical to understanding whether the developed training is more effective for higher risk novice drivers.

**12. Provide estimates of the hour burden of the collection of information on the respondent and estimates of the annualized labor cost to respondents associated with that hour burden.**

The research team expects to provide screening questionnaires to an estimated 1,002 potential participants to determine their interest and eligibility for the study. The research team will post the opportunity on social media platforms likely to be seen by eligible participants and provide it to existing contacts (e.g., managers at neighborhood development community centers, teen centers, community college faculty in the area, high school principals, local driving schools) in local communities. The research team will also contact potential participants via e-mail or phone who indicated a prior interest in similar past studies if they agreed to be contacted about future opportunities. Completing the screening questionnaire has an estimated burden of 5 minutes per respondent (an annual burden of 28 hours for 334 annual respondents, averaged over the three-year approval period) (Table 1).

Similar to a NHTSA behavioral study recently reviewed by OMB,<sup>27</sup> we estimate that approximately 18% (180 individuals) of those who respond to recruitment efforts and are provided the screening questionnaire (see ICR Part B, Appendix 1) will complete the questionnaire and be eligible, interested, and willing to travel to the research center to undergo the informed consent process. Travel time from around the Boston metropolitan area is estimated at 60 minutes round trip. The burden for this second phase of the study, including travel time, is estimated at 70 minutes per participant (an annual burden of 70 hours for 60 annual respondents).

Finally, we estimate that approximately 94% (168 individuals) of those who undergo the informed consent process will consent and enroll in the study. For these participants, participation in the study is estimated at 240 minutes per participant (an annual burden of 224 hours for 56 annual respondents). Study tasks include (see Table 1):

- i. An enrollment process (5 minutes);

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<sup>27</sup> National Highway Traffic Safety Administration. (2022). *Agency information collection: Notice and request for comment: Drivers' knowledge/correct use of new technology features in passenger vehicles*. Federal Register, 138 ed., vol. 87. <https://www.federalregister.gov/d/2022-15408>

- ii. A pre-study questionnaire assessing participants' propensity to experience motion sickness in the computerized driving simulator (5 minutes);
- iii. A pre-training hazard anticipation and attention maintenance test administered on a smartphone-like platform (20 minutes);
- iv. A novice driver training program (placebo or treatment), administered on a smartphone-like platform (60 minutes);
- v. A post-training hazard anticipation and attention maintenance test administered on a smartphone-like platform (20 minutes);
- vi. A break (15 minutes);
- vii. A drive on a computerized driving simulator (90 minutes); and
- viii. A post-study questionnaire (25 minutes; see ICR Part B, Appendices 2 - 4) that consists of: demographic questions; the Arnett Inventory of Sensation Seeking;<sup>28</sup> the Buss-Perry Aggression Questionnaire;<sup>29</sup> and a post-study debriefing.

In total, NHTSA estimates that this information collection will yield a total annual burden of 322 hours (Table 1).

NHTSA estimates the opportunity cost to respondents using an average hourly wage. The May 2023 mean hourly wage for all occupations in the United States was \$31.48 per hour.<sup>30</sup> Additionally, given that wages in burden estimates need to be fully loaded,<sup>31</sup> we added 29% to reflect the full cost of labor, including benefits, yielding a fully loaded mean hourly wage of \$40.61. Therefore, NHTSA estimates the total annual opportunity cost to be approximately \$13,069 (Table 1).

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<sup>28</sup> Arnett, J. (n.d.) *Arnett Inventory Sensation Seeking (AISS)*. [https://sjdm.org/dmidi/Arnett\\_Inventory\\_of\\_Sensation\\_Seeking.html](https://sjdm.org/dmidi/Arnett_Inventory_of_Sensation_Seeking.html)

<sup>29</sup> Buss, A. & Perry, M. (n.d.) *Buss Perry Aggression Questionnaire (BPAQ)*. <https://psychology-tools.com/test/buss-perry-aggression-questionnaire>

<sup>30</sup> U.S. Bureau of Labor Statistics. (2024, April 3). May 2023 National Occupational Employment and Wage Estimates. U.S. Bureau of Labor Statistics. [https://www.bls.gov/oes/current/oes\\_nat.htm#00-0000](https://www.bls.gov/oes/current/oes_nat.htm#00-0000)

<sup>31</sup> <https://pra.digital.gov/burden/estimation/>

**Table 1. Annual Burden Estimates**

Information Collection	Annual Number of Respondents	Burden per Response	Hourly Opportunity Cost	Opportunity Cost per Response	Total Annual Opportunity Cost	Total Annual Burden
<b>NHTSA Form 2018 (Total)</b>	<b>334</b>	<b>5 minutes</b>	<b>\$40.61</b>	<b>\$3.38</b>	<b>\$1,129</b>	<b>28 hours</b>
<i>Screening Questionnaire</i>						
<b>NHTSA Form 2019 (Total)</b>	<b>60</b>	<b>70 minutes</b>	<b>\$40.61</b>	<b>\$47.38</b>	<b>\$2,843</b>	<b>70 hours</b>
<i>Travel Time (Round-Trip)</i>		60				
<i>Informed Consent</i>		10				
<b>NHTSA Form 2020 (Total)</b>	<b>56</b>	<b>10 minutes</b>	<b>\$40.61</b>	<b>\$6.77</b>	<b>\$379</b>	<b>9 hours</b>
<i>Enrollment</i>		5				
<i>Pre-Study Questionnaire</i>		5				
<b>NHTSA Form 2021 (Total)</b>	<b>56</b>	<b>230 minutes</b>	<b>\$40.61</b>	<b>\$155.67</b>	<b>\$8,718</b>	<b>215 hours</b>
<i>Pre-Training Test</i>		20				
<i>Training Program</i>		60				
<i>Post-Training Test</i>		20				
<i>Break</i>		15				
<i>Driving Simulator Testing</i>		90				
<i>Post-Study Questionnaire</i>		25				
<b>Total</b>					<b>\$13,069</b>	<b>322 hours</b>

**13. Provide an estimate of the total annual cost to the 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.**

Participation in this study is voluntary. Beyond the time spent participating in the study, the only costs respondents will incur are costs related to transportation to and from the research center. The cost of a trip to and from a participant’s home around the Boston metropolitan area to the research center using ride share (e.g., Uber, Lyft) is estimated to be \$0.92 per mile and \$0.37 per minute. Using an estimated average trip length of 10 miles and 30 minutes in length, the total transportation cost is approximately \$40 per round trip. These cost burdens are minimal and are expected to be offset by the compensation that will be provided to all research participants. Compensation includes reimbursing each participant for 5 hours and 10 minutes of their time (which includes 1 hour of round-trip travel time) to fully complete study activities (about \$125) plus \$40 to offset transportation costs, for a total compensation of \$165.

**14. Provide estimates of the annualized cost 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.**

This is a one-time data collection. The estimated cost to the Federal Government to conduct this study is \$958,944 over 53 months, an amount which includes compensation for participants. This estimated cost also includes costs for operational equipment such as the simulator and eye

tracker. Finally, the estimated cost includes costs associated with finalizing the study design, coding, cleaning, and analyzing the data, developing the final report, and other project planning and administrative costs. Averaged over the three-year approval period, the annual cost to the Federal Government to conduct the study is estimated to be \$319,648.

Preparatory activities for this project, including development of the training program, driving simulator testing scenarios, and materials related to the ICR, were conducted under an interagency agreement with the U.S. Department of Transportation Volpe National Transportation Systems Center (693JJ923N000083).

Additionally, the estimated total cost in terms of Government time for the NHTSA Contracting Officer's Representative (COR; Grade 14, Step 2) is approximately 210 hours, plus 20 (Grade 15, Step 1) hours for the supervisor per year. The fully loaded wage (i.e., unloaded wage plus 30%) is \$89.73/hour for the COR and \$105.53/hour for the COR's supervisor,<sup>32</sup> yielding \$20,953 in wages per year. Given that the IAA to conduct the study has a period of performance of 53 months (4.42 years), this represents a total of \$92,542 for Government time. These costs are separate from the costs to conduct the study, above.

In total, the estimated total cost to the Federal Government for this information collection (i.e., the cost to conduct the study [\$958,944] plus the cost in terms of the COR/COR's supervisor Government time [\$92,542]) is \$1,051,486. Averaged over the three-year approval period, this represents an estimated annual cost to the Federal Government of \$350,495.

**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 is a new information collection. As such, it requires a program change to add the estimated 322 annual hours and \$13,069 for the new information collection to existing burden.

**16. For collection 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 employ standard analytical techniques, including ANOVA, General Estimating Equations, and Generalized Linear Mixed Models, which are needed when the design includes both repeated measures on the same participants and different groups of participants.

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<sup>32</sup> Office of Personnel Management, Salary Table 2024-DCB, [https://www.opm.gov/policy-data-oversight/pay-leave/salaries-wages/salary-tables/24Tables/html/DCB\\_h.aspx](https://www.opm.gov/policy-data-oversight/pay-leave/salaries-wages/salary-tables/24Tables/html/DCB_h.aspx)

The study is expected to take 53 months to complete. Preparatory activities began in June 2023, and the project is expected to be completed by December 2027. The research team will develop a final report that presents the descriptive and inferential statistics from the data collection effort, which will be disseminated on the agency website and through the National Transportation Library. The current plan is for the technical report to be completed in November 2027. We expect that the final technical report will be published in mid-2028. Individual data will not be identified in the report; the report will not include any PII.

**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 will display the expiration date for OMB approval.

**18. Explain each exception to the certification statement identified in “certification for paperwork reduction act submissions.” The required certifications can be found at 5 CFR 1320.9.**

No exceptions to the certification statement are made.

The following statement will be provided to respondents on the study documents (specifically, the screening questionnaire, the informed consent, the pre-study questionnaire, and the post-study 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-TBD. The average amount of time to complete this portion of the study is [5, 70, 10, or 230 minutes for the four forms, respectively] minutes. The purpose of this document is to obtain information about the effectiveness of a training for new drivers, and it will be used to inform the development of appropriate traffic safety countermeasures. 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. SE, Washington, DC, 20590

The NHTSA Form numbers will also be displayed.