

Information Collection Request Supporting Statement: Section A Hazard Perception and Distracted Driving Training Intervention for Teens Evaluation

The National Highway Traffic Safety Administration (NHTSA) of the U.S. Department of Transportation (USDOT) is seeking approval from the Office of Management and Budget (OMB) to collect information from newly-licensed teen drivers to determine (1) their eligibility to participate in a study to evaluate a training intervention for teens to improve driving safety, called Risk Awareness and Perception Training (RAPT), (2) whether, during the first six months of driving, new drivers who complete the training have fewer crashes or traffic violations on their driving records than comparison group members who receive placebo training, (3) when they do crash, whether there is a difference in severity and at-fault between drivers taking the training versus those not taking the training, and (4) whether there is an interaction between sex and training group as measured by exposure, crashes, or crash characteristics.

Previous evaluation studies of RAPT have shown promise for improving the safety of teen drivers. In particular, RAPT has been shown to improve hazard detection on a driving simulator (Report No. DOT HS 812 379) and, more importantly, on-road (Report No. DOT HS 812 235). The on-road evaluation of the effects of RAPT on teen crashes, however, produced mixed results (Report No. DOT HS 812 235). Crash analyses did not show an overall effect of the program, but there was a significant improvement in safety for males. Trained males had a 24% lower crash rate relative to the male comparison group. There was no significant effect of training on safety for females. While the results from this study were encouraging, promotion of this intervention requires additional evidence of its effectiveness in reducing teen driver crashes.

Following efforts to refine and streamline the training protocol, a larger sample of teen drivers will receive the updated training program. This study will measure effectiveness of the training by comparison of teens receiving the training to those receiving placebo training to answer the three research questions listed above.

A.1. Explain the circumstances that make the collection of information necessary. Identify any legal or administrative requirements that necessitate the collection.

a. Circumstances making the collection necessary

NHTSA was established to reduce the number of deaths, injuries, and economic losses resulting from motor vehicle crashes on the Nation's highways. As part of this statutory mandate, NHTSA is authorized to conduct research as a foundation for the development of traffic safety programs. Teens comprise an important proportion of the licensed population, and exposure-based analyses of crash risk have consistently shown teens have an elevated crash risk. Further, crash risk studies have identified that the lack of skills among teen drivers, notably, poor hazard awareness skills—i.e., teen drivers often fail to identify unexpected hazards on the road—is one of the reasons why teen driver crash rates are so high. The purpose of this information collection is to evaluate the effect of hazard perception training of teens on safe driving abilities to determine whether such training is effective in reducing crashes involving teen drivers.

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 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, including distracted driving. [See 23 U.S.C. 403(b)(1)(A)(i), 23 U.S.C. 403(b)(1)(A)(ii), 23 U.S.C. 403(b)(1)(B)(iii)].

A.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.

The Traffic Injury Research Foundation (TIRF) will conduct this study under a task order on an Indefinite Delivery, Indefinite Quantity contract with NHTSA. Study participation will be voluntary and solicited through a brief letter (NHTSA Form 1454) given to teens and their parents at local Department of Motor Vehicle offices (DMVs) after passing the on-road driving test required to obtain a new license. Teens will have two weeks from receipt of the letter to complete the training. A reminder card (NHTSA Form 1471) will be sent to them if they have not completed the training within 10 calendar days following the initial invitation.

This invitation letter will contain an Internet link to a web page that will be used to obtain consent for the participant (NHTSA Form 1456), consent from a parent/guardian if the participant is under 18 (NHTSA Form 1455), and questions to determine eligibility for the study and to assign participants to the RAPT or training protocol (NHTSA Form 1457).

For those who are eligible for the study, they will be directed to an Internet link from which they can download the RAPT software training protocol. The consented study participants will be randomly assigned within age and sex categories to either participate in the RAPT training protocol or the placebo training protocol. The placebo training will adopt the same approach in that the link will guide participants to one location where consent and all data collection, pre-test, placebo training (a vehicle maintenance video), and post-test will take place. This protocol will seamlessly incorporate data collection required for the analyses such that teens only need to take the pre-test, training, and post-test, all in one session. A subsample of teens will be invited to complete a one-week trip log to record driving exposure (NHTSA Form 1470). This subsample will be distributed over the six-month follow-up period so that representative information for each month of driving during this six-month period will become available.

Participants will be recruited from two different jurisdictions: a primary jurisdiction and a secondary jurisdiction. In each jurisdiction, half of the participants will complete the RAPT training protocol, and half will complete the placebo training protocol. The majority of participants will be recruited from the primary jurisdiction. A smaller number of participants will be recruited from a second jurisdiction to bolster the external validity of findings from the primary jurisdiction.

The teens taking the RAPT or placebo training protocol in the primary jurisdiction (but not the ones in the secondary jurisdiction) will be asked to take the online hazard recognition test again after six months (see NHTSA Form 1458); they will also be asked questions about any crashes or traffic tickets during their first six months of driving (see NHTSA Form 1549). This is

meant to assess whether training effects persist over time and to link training effects to crash/offense performance.

A.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. Also describe any consideration of using information technology to reduce burden.

Recruitment will take place using an initial paper letter, and DMVs in two jurisdictions will distribute the invitations. This letter will contain an Internet link to a web page that can be accessed through a secure Internet connection. This collection will use electronic forms available through the web site for parental consent (if a teen is under the age of 18), participant consent, demographic and eligibility information, as well as both the RAPT and placebo training modules to streamline data collection and reduce the burden on participants.

The six-month follow-up test and data collection will be initiated by contacting the participants by email after approximately six months and by again providing the Internet link to them that they can easily follow to complete the protocol.

A.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.

Two previous studies have found promising results regarding the use of the RAPT educational tool (see Report No. DOT HS 812 235 and DOT HS 812 379). For example, one study only demonstrated safety benefits in the real world for male teen drivers but not for female drivers. (A beneficial effect on crash rates has yet to be demonstrated for female drivers.) Furthermore, limited information regarding driving exposure during the first six month of driving has been collected to date and may be useful for understanding the different effects of training by sex. Therefore, while the results were encouraging, it was concluded that promotion of this intervention would require additional evidence, notably, to study the relevance of driving exposure and to better understand differences between males and females. Following efforts to refine and streamline the training protocol, a new, larger sample of teen drivers will receive the updated training program. This study will focus particularly on the limitations of the existing studies by increasing the number of participants, collecting measures of exposure, and adding a secondary jurisdiction to increase external validity.

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

The collection of information does not involve small businesses except insofar as data collection activities will be led by a small business contractor to NHTSA.

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

Teen drivers are especially at risk for crashing compared to other age categories. This is due to a higher willingness to take risks, which is typical for that age category, but also due to a lack of experience. This inexperience undermines teens' ability to recognize and avoid hazards. Training teen drivers to better recognize and avoid hazards could improve road safety. If this collection is not conducted, NHTSA would not have the evidence it needs to determine the effectiveness of hazard training techniques for addressing these issues and could miss an opportunity to help reduce teen drivers' crash risk.

Under the current contract, data collection is scheduled to begin in September 2019. Delay in approval of this ICR will likely result in contract modifications and additional costs to the government.

A.7. Explain any special circumstances that require the collection to be conducted in a manner inconsistent with the guidelines set forth in 5 CFR 1320.6.

No special circumstances require the collection to be conducted in a manner inconsistent with the guidelines in 5 CFR 1320.6.

A.8. Provide a citation for the FEDERAL REGISTER document soliciting comments on this collection of information, a summary of all public comments responding to the notice, and a description of the agency's actions in response to the comments. Describe efforts to consult with persons outside the agency to obtain their views.

A copy of the 60-day Federal Register Notice, which notified the public of NHTSA's intent to conduct this information collection and provided a 60-day comment period, was published on May 18, 2018 (Vol. 83, No. 97, Pages 23,336-7). No comments were entered into the NHTSA docket in response to the 60-day Federal Register Notice.

A copy of a second, 30-day Federal Register Notice (Vol. 83, No. 153, Pages 39155-6), which announced that this information collection request will be forwarded to OMB, was published on August 8, 2018.

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

Respondents will receive an envelope when invited to participate. The envelope will include a \$2 incentive (two one-dollar bills) along with the invitation letter. Offering a small monetary incentive up front has been shown to increase participation. This method is consistent with Dillman's tailored design method¹ and has been successfully applied in other studies by the contractor as well as in NHTSA's Young Driver Survey (OMB Control No. 2127-0704).

¹ Dillman, D. (2007). *Mail and internet surveys: The tailored design method*. Hoboken: John Wiley and Sons.

Study participants will be offered \$5 as compensation for completing the RAPT or placebo training protocols. A five-dollar bill will be mailed once they have completed the protocol. Study participants who complete the six-month follow-up test will receive a further \$10. Finally, the subsample of participants who complete the drive log to measure exposure will receive \$10. This will also be mailed to them once they have completed this follow-up test. The maximum incentive for any one participant would be \$27.

Previous experience working with large samples of teens (notably, in an evaluation project of driver education conducted in Oregon and Manitoba²) indicates that using this method of dispensing small amounts merely to invite teens to participate in combination with higher, yet still relatively small, amounts to compensate for participation works well to recruit participants from this population.

A.10. Describe any assurance of confidentiality provided to respondents

Teens who are qualified and choose to participate in this study will be asked to execute an informed consent form, as will their parent or guardian if the teen is under the age of 18. The consent form promises that no individual results and no personal information will be published and that no personal results will be shared with any licensing regulatory authority. All published results will provide only summary statistics that cannot be used to identify any individual or individual’s responses.

A.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.

No questions commonly considered private or sensitive in nature will be asked as part of this study.

A.12. Provide estimates of the hour burden of the collection of information on the respondents.

The total estimated burden for this information collection is 12,542 hours. The following table summarizes the calculation of this estimated burden.

Table 1. Calculation of Burden Hours

Form/Activity	Participants	Minutes per Participant	Estimated Burden Hours
Recruitment			
1454—Teen Recruitment Invitation			

² Mayhew, D.R., Marcoux, K., Wood K., Simpson, H., Vanlaar, W., Lonero, L., & Clinton, C. (2014). *Evaluation of driver education in Manitoba and Oregon*. Washington, D.C.: American Automobile Association for Traffic Safety.

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Teens and parents read recruitment invitation	60,000	2	2,000
Consent and Training			
1455—Parent/Guardian Consent			
Parents read and agree to consent form	10,000	3	500
1456—Teen Agreement to Participate			
Teens read and agree to consent form	10,000	3	500
Teens complete RAPT or placebo training/testing protocol	10,000	35	5833
<i>Total (Form 1456)</i>			6333
1457—Teen Data Collection Prior to Training			
Teens answer demographic and eligibility questions	10,000	3	500
1471—Teen Reminder Card			
Teens read recruitment invitation reminder	10,000	1	167
Six-Month Follow-up			
1458—Six-Month Follow-Up Teen Contact			
Teens read six-month follow-up invitation	7,500	1	125
1459—Six-Month Follow-Up Teen Data Collection			
Teens answer questions about crashes and citations	7,500	4	500
Teens complete follow-up hazard recognition test	7,500	10	1,250
<i>Total (Form 1459)</i>			1,750
Seven-Day Trip Log			
1470—Seven-Day Trip Log			
Teens complete daily trip log for one week	2,000	35	1,167
Total Estimated Burden			12,542

The initial invitation ensures that potential respondents understand the intention of this study. We expect that we will need to invite 15,000 teens in the primary jurisdiction to successfully recruit 7,500 teens, and 5,000 in the secondary jurisdiction to successfully recruit 2,500. By inviting 20,000 teens, we expect that as many as 60,000 respondents will read the letter since it will likely be read by the teen and up to two parents or caregivers.

The RAPT training protocol will be used with half of the recruited participants in both jurisdictions. The training will take an estimated 45 minutes, including consent and all the data collection needs, training, and pre- and post-testing. The other half of the recruited participants in both jurisdictions will complete the placebo training, also including consent and all the data collection, placebo training, and pre- and post-testing. This placebo protocol is expected to take 45 minutes per participant.

We expect that up to 7,500 teens who participated in the original RAPT and placebo training in the primary jurisdiction will participate in the six-month follow-up test. At this time, only the testing portions of the protocol will be used rather than the entire training protocol. As such, these 7,500 teens will each have to spend 15 minutes to complete the post-test and answer questions about crashes and citations within the past six months.

Finally, a subsample of 2,000 teens from the primary jurisdiction will be invited to complete a drive log on each day of the past week to measure exposure during each month of the

six-month follow-up period. This subsample of teens will be distributed across each of the six months during the follow-up period. The time needed to complete the drive log is 5 minutes per day for one week, for a total of 35 minutes per participant.

We expect that most respondents will not be employed full-time. If employed, opportunity costs to respondents for participation in all study activities can be calculated based on mean hourly wages provided by the Bureau of Labor Statistics for All Occupations (https://www.bls.gov/oes/2018/may/oes_nat.htm#00-0000). If all respondents are employed, the total annual cost to respondents would be about \$313,000 (12,542 hours X \$24.98/hour).

A.13. Provide an estimate of the total annual cost to the respondents or record keepers resulting from the collection of information.

Participants do not incur either (a) capital and start-up costs or (b) operation, maintenance, and purchase costs as a result of participating in the study.

A.14. Provide estimates of the annualized cost to the Federal Government.

Total estimated cost to the Government for this one-time information collection is \$347,049. Since data collection is expected to take less than a year, the annualized cost is the same. The estimated cost in terms of government time is approximately 120 hours for the Contracting Officer's Representative (COR) and 20 hours for the supervisor for about \$9,000 in wages.

A.15. Explain the reasons for any program changes or adjustments in Items 13 or 14 of the OMB 83-I.

This is a new information collection. As such, it requires a program change to add the estimated 12,542 hours for the new collection to NHTSA's existing burden.

A.16. For collection of information whose results will be published, outline plans for tabulation and publication.

The current plan is for the final technical report to be published in late 2021. The technical report will provide summary statistics and tables, as well as the results of statistical analysis of the information, but it will not include any personal information. These plans are based upon data collection starting in September 2019. Delays in approval of this ICR could delay publication of the final technical report and will likely result in contract modifications and additional costs to the government.

A.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.

**A.18. Explain each exception to the certification statement identified in Item 19,
“Certification for Paperwork Reduction Act Submissions” of the OMB Form 83-I.**

No exceptions to the certification are made.