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West Building, Room W12-140
Washington, D.C. 20590

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Comments of Consumer Reports to the
National Highway Traffic Safety Administration on the
Proposed Information Collection: Driver Interactions with
Advanced Driver Assistance Technologies
Docket No. NHTSA-2019-0037

Consumer Reports, the independent, non-profit member organization,[1] welcomes the opportunity to submit comments to the National Highway Traffic Safety Administration (NHTSA) regarding the agency's proposed research efforts aimed at developing a better understanding of driver interactions with advanced driver assistance systems (ADAS). CR supports the proposed research because we recognize that for NHTSA to regulate ADAS effectively and fulfill its mission of reducing traffic deaths and injuries, it is vital for the agency to have an understanding of driver perceptions, knowledge, and behavior involving these technologies. The proposed collection of information also likely will help inform the public and the auto industry, and aid in ensuring that ADAS maintain safety as their top priority.

Given the vital importance of driver understanding of ADAS capabilities and limitations, CR offers the following suggestions based on NHTSA's proposed collection of information:

- We are concerned with the proposed narrow and limited threshold between "experienced" and "inexperienced" drivers in this study. The simple act of owning one of the two vehicle models used in the study may not mean that a driver has any greater understanding or experience with the relevant ADAS features than a participant who does not own one of the two vehicle models used. For example, in our experience, some

[1] Founded in 1936, Consumer Reports uses its dozens of labs, auto test center, and survey research center to rate thousands of products and services annually. CR works together with its more than 6 million members for a fairer, safer, and healthier world, and reaches) nearly 20 million people each month across our print and digital media properties.

drivers opt to disable certain features on their vehicle.[2] Under the proposed methodology, this could result in a participant owning the correct vehicle model, but having no true experience with the feature. Conversely, a driver who does not own one of the two particular vehicle models used in the study may drive a similar vehicle model with a similar ADAS feature, and use it extensively; however, this participant will be labeled as "inexperienced" under the proposed methodology. Thus, we suggest that the two groups should be separated based on a simple questionnaire inquiring how many hours, miles, or instances a driver has utilized the ADAS features of interest, regardless of vehicle model. This classification would better separate the groups by the variable of interest: actual experience with a particular ADAS feature. An additional classification strategy would be to partition the drivers into four groups: those with no experience with either the ADAS features of interest (the technology) or the specific vehicle model, those with experience with the particular vehicle model but not the technology, those with experience with the technology but not in the particular vehicle model, and those with experience with both the particular vehicle model and the technology of interest. While this method would generate a need for a larger sample of participants, it would have the advantage of determining which factor is responsible for the change in driver behavior — experience with the vehicle model, or experience with the ADAS feature.

- A further concern is with the use of only two vehicle models in this study. Our experience with these features[3] makes clear that the capabilities and limitations of these systems can vary greatly among manufacturers, and thus it would be very difficult to generalize the results to all vehicles if NHTSA's research includes only two vehicle models. Further, many vehicles have a variety of personalization options that can alter the behavior of the vehicle, which in turn could alter driver behavior, perceptions, and interactions with these technologies. In addition, the use of only two vehicle models could compound the aforementioned classification problem. Under the proposed methodology, significant bias could exist by only classifying owners of these two vehicle models as "experienced," as there may be significant socioeconomic and behavioral factors that differ between owners of these two particular models—as well as non-owners of these models—that are not related to their experience with these ADAS features. Accounting for these factors could incur additional cost, but we consider it important to expand the number of vehicle models used if possible. At the same time, the effect of the potential problems we raise regarding use of just two vehicle models in the research would be lessened if NHTSA adopts one of the above classification suggestions.

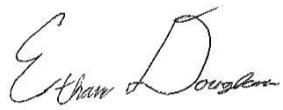
- Detailed data should be collected regarding each system disengagement—including environmental factors such as road conditions, road curvature, weather conditions, speed, and traffic conditions—and the experimenters should introduce a variety of these conditions throughout the study, so that the driver interactions with the features can be understood in the context in which the disengagement occurred. This is also an important

[2] Consumer Reports, "Car Safety Systems That Could Save Your Life" (online at: https://www.consumerreports.org/automotive-technology/car-safety-systems-that-could-save-your-life/)
[3] Consumer Reports, "The Positive Impact of Advanced Safety Systems for Cars" (online at: https://www.consumerreports.org/car-safety/positive-impact-of-advanced-safety-systems-for-cars/)

consideration due to the differences among ADAS features of different vehicle models, which will be necessary to account for if one is to generalize the findings.

Thank you for considering our comments on this important public research. We look forward to continuing to work with NHTSA on this proposed collection of information and on ensuring that the results of these efforts have an impactful safety benefit.

Respectfully submitted,



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