

# ConsumersUnion®

THE ADVOCACY DIVISION OF CONSUMER REPORTS

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Docket Management Facility  
U.S. Department of Transportation  
1200 New Jersey Avenue S.E.  
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Washington, D.C. 20590

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**Comments of Consumers Union to the  
National Highway Traffic Safety Administration on the  
BMW and Volkswagen Petitions for Temporary Exemption from FMVSS No. 108 for  
Adaptive Driving Beams; Request for Certain Information to Support Petitions  
Docket No. NHTSA-2017-0018-0012**

Consumers Union, the advocacy division of Consumer Reports (CR),<sup>1</sup> welcomes the opportunity to submit written comments to the National Highway Traffic Safety Administration (NHTSA) regarding the petitions for temporary exemption from Federal Motor Vehicle Safety Standard (FMVSS) No. 108, *Lamps, reflective devices, and associated equipment*, for adaptive driving beam (ADB) technologies submitted by BMW and Volkswagen (VW). These petitions both reference a separate, pending petition for rulemaking submitted by Toyota in 2013, which would amend FMVSS No. 108 to permit manufacturers the option of equipping vehicles with ADB technology.<sup>2</sup>

Consumer Reports has been evaluating headlight performance on its tested vehicles since 2004.<sup>3</sup> Data for current vehicles in Consumer Reports' tests—representing 359 vehicles tested from model years 2013 through 2018—demonstrate several key findings:

- Consumer Reports' headlight testing has found that the average low beam headlights provide a seeing distance of approximately 300 feet. This average includes tested

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<sup>1</sup> Consumer Reports is an independent, nonprofit member organization that works side by side with consumers for truth, transparency, and fairness in the marketplace. Founded in 1936, Consumer Reports has the largest nonprofit educational and consumer product testing center in the world, and uses its dozens of labs, auto test center, and survey research center to rate thousands of products and services annually. CR's premier magazine Consumer Reports has more than 3.6 million subscribers, and the award-winning CR.org has 2.9 million paying members and more than 15 million unique visitors monthly, on average.

<sup>2</sup> Docket No. NHTSA-2013-0004-0001.

<sup>3</sup> Consumer Reports' headlight testing is based on visibility of target signs placed at 50-foot intervals on a flat course. Tests are conducted at night in moonless conditions with no precipitation. Visibility is based on a jury rating from two observers seated in the subject test vehicle on how many signs are clearly visible. All vehicles have headlights vertically aligned prior to visibility tests.

vehicles with each of the three main types of current headlights: halogen, high-intensity discharge (HID) and light emitting diode (LED).

- Dry braking distances from Consumer Reports' brake distance tests for those same vehicles (from 60 mph on dry asphalt) resulted in an average stopping distance of 132 feet. CR estimates that it takes, on average, approximately 308 feet to see, react to, and stop for another vehicle, pedestrian, animal, or object ahead on the roadway when traveling at 60 mph.<sup>4</sup>
- In inclement weather, the average low beam seeing distances would be expected to decrease, while average braking distances would be expected to increase—further exacerbating the disparity. Average wet braking distances for the same 359 vehicles we tested averaged 143 feet, from 60 mph on wetted asphalt surfaces.
- Meanwhile, average high beam (upper beam) performance in Consumer Reports' headlight testing resulted in seeing distances of approximately 550 feet.

Based on our test results, current low beam technology does not provide sufficient visibility given current average vehicle dry and wet braking capabilities. The added 250 feet of visibility that can be provided by the average high beam technology has the potential to significantly improve a driver's ability to avoid obstacles ahead of them on the road. However, results from research regarding the use of high beams in the U.S. market suggests that drivers do not use their high beams as often as would be prudent, with measured and observed high beam use rates of 42% and 50%, respectively.<sup>5</sup>

Therefore, technologies (such as automatic high beam systems) that improve the rate of high beam utilization, or that provide the advantages of high beam seeing distances, like ADB, would likely improve a driver's ability to see and avoid objects in his or her forward path.

On the basis of our findings, Consumer Reports is optimistic that granting the BMW and VW petitions would, under the conditions cited below, provide an opportunity to evaluate the safety benefits and disadvantages of ADB systems in the field in the U.S. in a manner consistent with the objectives of 49 U.S.C. Chapter 301. We hope that this line of inquiry would address the need for systems that provide drivers with greater seeing distances and reduce the frequency of crashes. The petitions would appropriately limit the number of exempted vehicles to the legal maximum of 2,500 per company in each of two 12-month sales periods. We do not support current congressional proposals that would dramatically expand the number of vehicles that could be legally exempt from federal motor vehicle safety standards yet offered for sale.<sup>6</sup>

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<sup>4</sup> Consumer Reports calculated this estimate based on a 60 mph initial speed, an estimated 2.0-second reaction time, and an average 132-foot braking distance.

<sup>5</sup> JM Sullivan, et al., *High beam headlight use on unlighted rural roads*, University of Michigan Transportation Research Institute (Mar. 2004) (online at: [journals.sagepub.com/doi/abs/10.1191/1477153504li104oa](http://journals.sagepub.com/doi/abs/10.1191/1477153504li104oa)).

<sup>6</sup> See Sec. 6 in S. 1885 and Sec. 6 in H.R. 3388. CR does support Sec. 11 of H.R. 3388, which would direct NHTSA to conduct research and, if appropriate, initiate a rulemaking proceeding to improve the performance of headlamps and overall safety.

In order to approve either of these petitions, NHTSA should require receipt of detailed and timely feedback from manufacturers regarding the performance of the ADB systems as they are introduced in the U.S. market and the consumer experience with them. This information should be made publicly available—at a minimum, in aggregate form. During NHTSA and the public’s consideration of the petitions, BMW and VW should also submit to the public docket any voluntary standard on which the petitions rely, such as SAE International J3069, and additional details on the safety performance and consumer acceptance of the ADB technology in other markets where they are more prevalent. Such details may include, among other things, crash reduction potential, near-miss data, extreme braking events, the impact of ADB technology on glare experienced by opposite-lane drivers, and consumer acceptance or dissatisfaction with the ADB systems.

We urge NHTSA to make all information on which an exemption application relies public, and provide the public an opportunity to comment on those materials, so that researchers, advocates, consumers, and others can take part in the regulatory process and independently assess any potential benefits or drawbacks of ADB systems. Following this process would leave NHTSA best positioned to consider potential rulemaking to amend FMVSS No. 108 as appropriate to enhance safety.

Thank you for considering our comments. We look forward to continuing to work with NHTSA to reduce traffic deaths and injuries on our roads.

Respectfully submitted,



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