

HARLEY — DAVIDSON®

The Honorable James C. Owens
Acting Administrator
National Highway Traffic Safety Administration
Docket Management Facility M-30
1200 New Jersey Avenue, S.E.
West Building, Ground Floor, Room W12-140
Washington, DC 20590

Re: Request for Comments, Docket No. NHTSA-2019-0102, Advanced Driver Assistance Systems Draft Research Test Procedures

Dear Mr. Owens:

Harley-Davidson Motor Company is pleased to provide the following comments in response to the above-referenced Request for Comments, Docket No. NHTSA-2019-0102, in which NHTSA seeks public comments regarding the Agency's Advanced Driver Assistance Systems Draft Research Test Procedures. Harley-Davidson Motor Company's comments relate specifically to those test procedures that affect vulnerable road users such as bicycles, mopeds, and motorcycles.

Harley-Davidson notes that NHTSA has included pedestrians as targets for several of the lower speed test procedures. We suggest, however, that other lower speed vehicles, such as bicycles and mopeds, also be considered and included in these procedures. Additionally, Harley-Davidson suggests that other vulnerable road users that are capable of high speeds (such as motorcycles) be included as the Principal Other Vehicle (POV) for higher speed test procedures. The National Transportation Safety Board's "Select Risk Factors Associated with Causes of Motorcycle Crashes" (NTSB/SR-18/01) concludes that "many high-risk traffic situations between motorcycles and other motor vehicles could be prevented if vehicle drivers were better able to detect and anticipate the presence of a motorcycle when entering or crossing a road, making a turn, or changing lanes." NTSB/SR-18/01 §3.1.2 at p. 18. A 2018 report by the Netherlands Vehicle Authority (RDW) titled "Adaptive Cruise Control & Motorcycle Recognition, An Indicative Study, Version: 1" (19 January 2018), in response to concerns raised by several motorcycle associations, concluded that a sample of modern automotive ADAS systems "detect motorcycles worse than cars when the motorcyclist is riding more than 1,20 metres [1.2 meters] from the centreline of the vehicle/lane."

Examples of where Harley-Davidson sees opportunities for motorcycle, moped, and bicycle inclusion in the proposed test procedures include:

Blind Spot Detection

The proposed 8.2 ft minimum detection width will typically leave the farthest 1/3 of the adjacent lane beyond the range of the blind spot detection system. This could result in a motorcycle traveling in the farthest 1/3 of the adjacent lane not being detected by the system. A motorcycle traveling in the farthest 1/3 of the lane is common, as riders often



try to maximize distance between vehicles. We suggest increasing the minimum width of the detection zone and using a motorcycle traveling in the farthest 1/3 of the adjacent lane as the principal other vehicle (POV). The motorcycle will present a more challenging POV both because of the lane positioning and because of the smaller target size for detection systems.

Blind Spot Intervention

For the same reasons that we expressed above with respect to the Blind Spot Detection procedure, we suggest that the Agency also incorporate a motorcycle traveling in the farthest 1/3 of the adjacent lane as the POV during the Blind Spot Intervention test.

Intersection Safety Assist

We suggest that NHTSA adopt a motorcycle-sized alternative to the Global Vehicle Target (GVT), particularly for Scenario 2 and Scenario 3, where the initial cross section of a motorcycle as seen by the Subject Vehicle (SV) sensors is smaller than a passenger car. In particular, Scenario 3 from the Intersection Safety Assist System Confirmation Test is commonly cited by motorcyclists as a situation where the motorcyclist is unseen by the driver of the SV. Crash data appears to reinforce this claim. The NTSB evaluated the distribution of crashes by scenario and configuration, and found that “[t]he most frequent [motorcycle crash] configurations involved a vehicle turning left in front of a motorcycle.” NTSB/SR-18/01 § 3.1.2 at p. 18. In addition, data from the European Association of Motorcycle Manufacturers’ (ACEM’s) 2008 Motorcycle Accidents In Depth Study (MAIDS) report suggests that more than 30% of other vehicles were turning left prior to a collision with a motorcycle. Report available through MAIDS website, <http://www.maids-study.eu/index.php?error=hasstolog>.

AEB for Heavy Vehicles

We suggest that NHTSA adopt motorcycle-sized and bicycle-sized alternatives to the GVT. The smaller cross section of a motorcycle as seen by the SV sensors would provide a more robust scenario for the POV for Stopped Lead Vehicle and Slower Moving Lead Vehicle tests.

Rear Automatic Braking

A consideration for motorcycles traveling at 10-15 mph would optimize the testing procedure for both motorcycles and other vehicles (such as bicycles and mopeds) in order to attempt to decrease the occurrence of interactions with moving vehicles. While the situation with respect to a stationary toddler is obviously a case that should be addressed, the automatic braking system should have the ability to prevent additional impact situations.

In summary, Harley-Davidson requests that the Agency consider the inclusion of motorcycles, mopeds, and bicycles in any future Advanced Driver Assistance System test procedures. The



potential added safety benefits of a fully developed and verified ADAS system capable of detecting motorcycles, bicycles, and mopeds would benefit all road users.

Harley-Davidson Motor Company appreciates the opportunity to provide these comments. Please feel free to contact me at your convenience if you would like to discuss the issues raised in this comment or if you need additional information.

Best Regards,



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