



Automotive Safety Council

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Docket Management Facility
U.S. Department of Transportation
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Room W12-140
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**[Docket No. NHTSA–2019–0102]
RIN 2127–ZRIN
Advanced Driver Assistance Systems
Draft Research Test Procedures**

Subject: RFC on Advanced Driver Assistance Systems Draft Research Test Procedures

The Automotive Safety Council (ASC) is an industry trade association of 48 of the world's leading suppliers of Autonomous, Crash Avoidance and Occupant Protection automotive safety systems to the automobile industry. The mission of the Automotive Safety Council is to improve the safety of people through-out the world through the development, production and implementation of the latest automotive safety equipment by preventing accidents, protecting occupants and pedestrians when in a collision and to notify emergency responders after the collision when necessary.

The ASC is providing comments to the recently published document requesting comments pertaining to Advanced Driver Assistance test procedures. The ASC appreciates the opportunity to comment on this topic.

General Comments:

ASC supports the initiative to define ADAS test procedures for future rating systems and would strongly suggest that NHTSA embrace and use already developed test procedures from around the world who have addressed these topics unless there are specific US conditions such as SUV predominance that would need more definition. We highly recommend using ENCAP test protocols wherever possible for continuity and to not reinvent the test unless unique needs have been identified such as SUV /Pickup shapes and bumpers. This would include dummy types, pedestrian targets, vehicle targets and test set ups.

- ADAS testing has been being performed for years and grows with the advancing capabilities of the sensors and systems being tested and as such test methods should be harmonized wherever possible with existing international protocols as well as those anticipated to be adopted in the near future. This will provide more efficient and efficacious tests that are both repeatable and represent real-world safety as well as enable faster deployment in the US.
- ADAS are used in everyday driving which presents a nearly infinite array of inputs and variability. Care should be taken to ensure that the right balance of repeatable and standardized test methods is being employed in dedicated test facilities are as representative as possible of real-world scenarios.
- Drivers of ADAS equipped vehicles are active participants of the safety systems and as such, variations in driver interactions, driving styles, and experience levels as appropriate, should be factored into the test protocols.
- Test procedures need pass/fail requirements that are easily understood and realistic and not all of the procedures specify that level of detail
- A NHTSA roadmap for timing of implementation needs to be issued so the industry can plan effectively.
- Test temperature ranges across the proposed test protocols are inconsistent and should be standardized.

Active Parking Assist

In looking at the procedure, it appears the width and length of the SV needs to be specified and the test set up relative to the size needs to be specified.

Some of the unit conversion between English and metric need to be corrected.

Real world applications need to be included such as allowing the vehicle to cross the perpendicular edge if there are no adjacent vehicles to be involved.

The pedestrian start should be more defined in the pedestrian collision scenarios.

The vehicle stopping if the driver engages the accelerator is so backwards to normal vehicle usage and should not be a criterion. Maybe a separate test.

Intersection Safety Assist

In Scenario S2-A and S3, the turning speeds are too aggressive which result in having high lateral accelerations that are not realistic. Additionally, the paths are not real-world and should be made to mirror public driving.

Near miss or crash imminent conditions should allow for Forward Collision Warning to help the driver act and avoid a sudden deceleration which would affect surrounding vehicles unnecessarily.

Need pass/fail criteria and a target specified.

Opposing Traffic Safety Assist

In order to make the test repeatable, the LV and POV need to be specified and not just a “realistic surrogate vehicle”.

In scenario 4, the test should also consider real world human performance where the turn signal is not engaged as an additional requirement

The Forward Collision Warning alerting the driver should also be evaluated as this may be more realistic in crash avoidance in the real world as an alternate solution when only a steering correction would suffice.

Pedestrian Automatic Emergency Braking

The test scenario needs to specify a pass/fail criterion, define the target and have the pedestrian more human like in articulating arms and legs. These tests should specify the most human like movement dummies available to simulate real-world conditions as that is what the sensor set will be seeing in the field.

More specific details need to be added to the mannequin positioning, deceleration and vehicle engagement points.

Rear Automatic Braking

Due to the inability to repeatedly duplicate the low temperature idle condition as the engine will warm up and then need to cool again to rerun a test, but how cool will it be and in what time, the test should specify maximum idle speed instead.

Heavy Truck (FCW/AEB)

The tests need to specify a target and a pass/fail criterion.

The words stopped and stationary have different meanings in respect to target vehicles and should be clarified. A stopped vehicle is identified as a previously moving vehicle and a stationary vehicle is a vehicle that has never moved during the sensing observation.

Other test scenarios that should be considered are lane keeping or lane centering as that is the number one reason for collisions.

In conclusion, the ASC welcomes this opportunity to comment on the potential ADAS test protocols. We welcome any invitation to visit the NHTSA office for a detailed discussion of these comments should the need arise.

Sincerely,

A handwritten signature in black ink, appearing to read "D. P. Campbell".

Douglas P. Campbell
President
Automotive Safety Council