May 21, 2022

Steven Cliff
Acting Administrator
National Highway Traffic Safety Administration
1200 New Jersey Avenue, SE
Washington, D.C. 20590

Subject: New Car Assessment Program; Request for Comment (Docket No. NHTSA-2021-0002)

Dear Acting Administrator Cliff:

The American Association of State Highway and Transportation Officials (AASHTO) is pleased to provide comments on the National Highway Traffic Safety Administration's (NHTSA) Request for Comment regarding the incorporation of additional advanced driver assistance (ADAS) technologies into the New Car Assessment Program (Docket Number NHTSA-2021-0002), issued in Washington, D.C. on March 9, 2022. Representing the all 50 states, the District of Columbia, and Puerto Rico, AASHTO serves as a liaison between state departments of transportation (DOTs) and the Federal government across all modes of transportation.

AASHTO and the state DOTs fully support NHTSA's mission to reduce the number of fatalities and injuries that occur on U.S. roadways. As you know, preliminary data indicates that crash fatalities increased by as much as eighteen percent between 2020 and 2021. State departments of transportation have focused on roadway fatalities for decades and will continue working with NTHSA to prevent crashes, save lives, and provide a safer transportation system.

As the United States faces this transportation safety crisis, AASHTO has high hopes for the life-saving potential of advanced driver assistance technologies. In October 2021, AASHTO adopted ten Connected and Automated Vehicle (CAV) Policy Principles, which outline how CAV technology could be used to build a safer, more equitable, accessible, and sustainable transportation system. The CAV Policy Principles emphasize the paramount importance of safety and note that CAV technology has the potential to advance safety for all road users. The CAV Policy Principles also identify opportunities for state DOTs to collaborate with federal partners to achieve shared safety goals.

Historically, AASHTO has not commented on vehicle testing protocols or design elements. AASHTO affirms and seeks to preserve the traditional division of responsibilities among federal, state, and local authorities; under this framework, NHTSA regulates the design and safety of vehicles, while state DOTs install and maintain transportation infrastructure. However, as connected and automated vehicle technologies continue to advance, the safe operation of vehicles will increasingly depend on the reliable interface between vehicle design and road infrastructure. Accordingly, AASHTO's comments focus on ADAS interaction with state-maintained infrastructure.

AASHTO supports NHTSA's proposed changes to the NCAP. Thorough testing and rating are essential to realize the full safety benefits of ADAS technologies. To ensure safe performance of ADAS technologies, AASTHO suggests NCAP test vehicles in circumstances that reflect real-world infrastructure conditions, such as on roads with faded lane markings.

Below are comments and recommendations regarding NHTSA's proposal to include additional ADAS technologies in the NCAP's ADAS Performance Testing Program, to test emerging technologies that encourage safe driving choices, and to establish a rating system for ADAS:

- **ADAS Performance Testing Program**
  When testing lane-keeping assistance systems, NCAP should keep in mind that the condition of lane markings varies depending on weather patterns, wear and tear on the roads, and state DOT and local maintenance budgets. Striping crews must also contend with snow, ice, and other severe weather conditions that increase the rate at which lane marking erode and can delay restriping operations.

  AASHTO encourages NHTSA to test the performance of lane departure warnings and lane keeping systems in circumstances that reflect real-world conditions. This includes faded and imperceptible lane markings. AASHTO also supports testing road edge detection technologies, which could improve safety on roads with faded lane markings, as well as those without lane markings.

- **Adding Emerging Vehicle Technologies for Safe Driving Choices**
  Per the traditional division of jurisdictional responsibilities, state and local governments have authority to set and enforce the traffic laws that govern driver behavior. Increasingly, vehicle technology can also be used to encourage safe driving practices and compliance with traffic laws. AASHTO is encouraged to learn that NHTSA is considering testing driver monitoring systems, driver distraction, alcohol detection and other emerging vehicle technologies that promote safe driving choices.

  As more drivers begin using ADAS, these safety features will become even more important. While ADAS technologies can improve safety by alerting drivers to danger and preventing crashes, over-reliance on ADAS, which is intended only to supplement the awareness and control of a human driver, can lead to more crashes. To maximize the potential safety benefits of ADAS, it is vital to ensure that safeguards are in place to encourage driver attention.

- **ADAS Rating System**
  AASHTO would welcome the development of an ADAS rating system. In the CAV Policy Principles, AASHTO recommends developing performance measures and reporting metrics for automated vehicle technology to understand system performance. Rating systems can also facilitate consumer education by conveying safety information in simple, efficient format.

AASHTO has included responses to the some of the questions in the NHTSA notice as an appendix to this letter. We appreciate the opportunity to provide these responses and look forward to continued collaboration with NHTSA to improve transportation safety.

Sincerely,

Shawn D. Wilson, Ph.D.
President, American Association of State Highway and Transportation Officials
Secretary, Louisiana Department of Transportation and Development

I. ADAS Performance Testing Program

A. Lane Keeping Technologies

1   Adding Lane Keeping Support

(3) *LKS system designs provide steering and/or braking to address lane departures (e.g., when a driver is distracted). To help re-engage a driver, should the Agency specify that an LDW alert must be provided when the LKS is activated? Why or why not?*

AASHTO recommends using an alert to indicate to the driver when the LKS is activated so that the driver knows they are being realigned by the LKS and not due to road or weather conditions.

(7) *Euro NCAP's LSS protocol specifies a single line lane to evaluate system performance. However, since certain LKS systems may require two lane lines before they can be enabled, should the Agency use a single line or two lines lane in its test procedure? Why?*

AASHTO recommends using a single line lane to evaluate LKS system performance in order to imitate real-world conditions. On a road with two lane lines, one line may not be readily visible, for example due to wear and tear or snow plowed from the road's centerline.

(8) *Should NHTSA consider adding Euro NCAP's road edge detection test to its NCAP program to begin addressing crashes where lane markings may not be present? If not, why? If so, should the test be added for LDW, LKS, or both technologies?*

AASHTO cannot comment on Euro NCAP's testing requirements specifically, but does recommend that NHTSA conduct a road edge detection test for cases where lane markings may not be present. Even on roads where lane markings would be expected and drivers may be more inclined to rely on LDW or LKS, the condition of the markings may vary depending on weather patterns, wear and tear, and maintenance budgets. In such circumstances, the ability of the LDS or LKS systems to detect the road edges could prove a vital safety feature.

C. Adding Pedestrian Automatic Emergency Braking (PAEB)

(36)   *Considering not only the increasing number of cyclists killed on U.S. roads but also the limitations of current AEB systems in detecting cyclists, the Agency seeks comment on the appropriate timeframe for adding a cyclist component to NCAP and requests from vehicle manufacturers information on any currently available models that have the capability to validate the cyclist target and test procedures used by Euro NCAP to support evaluation for a future NCAP program upgrade.*

AASHTO encourages using emerging technologies to improve safety for vulnerable road users. In 2019, of the 812 cyclists killed in single-vehicle crashes, 99 percent were killed in crashes that began when a vehicle collided with a cyclist.[1] As such, AASHTO supports the incorporation of cyclist components into the NCAP as soon as practical.

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[1] https://crashstats.nhtsa.dot.gov/Api/Public/ViewPublication/813197