August 14, 2023

Raymond R. Posten
Associate Administrator for Rulemaking
National Highway Traffic Safety Administration
1200 New Jersey Avenue SE
Washington, DC 20590-0001

RE: Federal Motor Vehicle Safety Standards: Automatic Emergency Braking Systems for Light Vehicles, Docket No. NHTSA-2023-0021

Dear Mr. Posten,

As the nation's leading advocate for the technological modernization of our transportation system by focusing on advancing research and deployment of intelligent transportation technology, the Intelligent Transportation Society of America (ITS America) is grateful for the opportunity to comment on the National Highway Traffic Safety Administration's (NHTSA) proposal to adopt a new Federal Motor Vehicle Safety Standard to require automatic emergency braking (AEB), including pedestrian AEB (PAEB), systems on light vehicles.

ITS America was founded in 1991 as an advisory council to USDOT on technology innovation and emerging transportation technologies. ITS America is the only organization in the country that represents all sectors – public, private, academic, and nonprofit – to advance transportation technology. Our membership includes state and city departments of transportation, transit agencies, metropolitan planning organizations, automotive manufacturers, technology companies, engineering firms, automotive suppliers, insurance companies, and research and academic universities. Our vision is one of a better future transformed by transportation technology and innovation. Safer. Greener. Smarter. For all. Our work accelerates the deployment of technology that saves lives, promotes sustainability, and advances more equitable transportation.

America is facing an epidemic of roadway fatalities, with NHTSA estimating that there were 42,795 deaths on American roads in 2022.[1] This issue is compounded when vulnerable road user (VRU) fatalities are considered: a report by the Governors Highway Safety Association estimated that drivers struck and killed at least 7,508 people walking in 2022 – the highest number since

[1] NHTSA, Early Estimate of Motor Vehicle Traffic Fatalities in 2022. Available at: https://crashstats.nhtsa.dot.gov/Api/Public/ViewPublication/813428

1981 and an average of 20 deaths every day.[2] ITS America believes that the status quo approach to road safety is insufficient, and innovative solutions must be undertaken to dramatically reduce pedestrian fatalities.

ITS America strongly supports efforts by NHTSA to incorporate technologies such as AEB and PAEB as a means of addressing this tragic loss of life. We applaud NHTSA's recent inclusion of four additional advanced driver assistance system (ADAS) technologies to the New Car Assessment Program (NCAP) and to current NCAP testing procedures as an important and welcome step towards a further embrace of the benefits of transportation technologies as a tool to improve safety for all road users, and support PAEB's inclusion as one of those four technologies.[3] In that rulemaking, NHTSA notes two pre-crash scenarios that would be addressed by PAEB technologies which account for approximately 52% of vehicle-pedestrian crashes and 90% of fatal vehicle-pedestrian crashes with a light-vehicle striking a pedestrian as the first event.[4] Full deployment of this technology would represent a clear step in reversing the trend of increasing pedestrian fatalities on U.S. roadways, and ITS America supports NHTSA's efforts to encourage that deployment.

ITS America does, however, appreciate the opportunity to highlight some concerns that we have with the way that this standard has been constructed. ITS America agrees with NHTSA that AEB technology "is a significantly more mature level than what it was at the time of the voluntary commitment or when it was introduced into NCAP." The rulemaking states that "this requirement is included to ensure that AEB systems are able to function at all times, including at speeds above those NHTSA is proposing as part of the performance test requirements." While the technology has improved to the point where contact avoidance is possible under most speeds in which NHTSA is testing for at this requirement, there are some higher speed scenarios where contact avoidance will either not be possible or where an attempt by the technology to bring the vehicle to a full stop could interfere with other efforts that the driver might be using to avoid the hazard, such as steering to avoid the impact. To that end, while the total stop requirement might be applicable in most cases, there should be further consideration given to the benefits of significant speed reductions in cases where complete stoppage is not possible due to speed of travel.

Additionally, ITS America has concerns about this standard's malfunction detection requirement, in which "a vehicle must detect AEB system malfunctions and notify the driver of any malfunction

[2] Governors Highway Safety Association, Pedestrian Traffic Fatalities by State: 2022 Preliminary Data. Available at: https://www.ghsa.org/resources/Pedestrians23
[3] NHTSA, New Car Assessment Program, 2022. Available at: https://www.federalregister.gov/documents/2022/03/09/2022-04894/new-car-assessment-program
[4] NHTSA, New Car Assessment Program, 2022.

that causes the AEB system not to meet the minimum proposed performance requirements." NHTSA describes malfunctions to include "those attributable to sensor obstruction or saturation, such as accumulated snow or debris, dense fog, or sunlight glare." ITS America believes that such a warning due to weather conditions might lead a consumer to believe that the safety equipment or the vehicle itself is at fault for the unavailability of the AEB technology, rather than the weather conditions, and the warning should reflect the temporary nature of that malfunction. Otherwise, we are concerned that such a warning could be distracting to drivers, who might focus on attempting to understand the scope of the issue with their vehicle.

In this rulemaking, NHTSA "anticipates that systems can achieve the proposed requirements through upgraded software, as all vehicles are assumed to have the necessary hardware." We would encourage NHTSA to hold additional conversations with vehicle manufacturers to confirm this assumption, as this standard proposes changes to the parameters in which AEB equipment was constructed to accomplish and could require more than a software update. ITS America believes that the three year lead time that NHTSA estimates being needed for manufacturers to meet these new AEB standards might be underestimating the extent of the hardware changes that will be required, and that a five to seven year lead time could be a more attainable goal.

In the meantime, however, NCAP remains a useful tool for recognizing and awarding successful implementation of AEB and PAEB systems on an earlier and more complete basis than that timeline allows. ITS America encourages NHTSA to continue to highlight vehicle models that are up to the highest standards regarding AEB and PAEB technologies, particularly related to speed reduction capabilities. ITS America continues to believe that NCAP scoring is an effective tool to encourage greater safety technology adoption in vehicles, and believes that scoring considerations could speed the implementation of these AEB updates.

Finally, while ITS America is encouraged by the additional support that NHTSA is providing for the deployment of AEB and PAEB systems in vehicles, we continue to encourage NHTSA to take a more active role in supporting the deployment of connectivity in vehicles, which is poised to significantly improve safety for drivers and vulnerable road users alike. As an example, ITS America firmly believes that vehicle-to-everything (V2X) technologies should be included in NCAP in order to spur deployment of this promising safety tool. NHTSA has estimated that these technologies can eliminate or mitigate up to 80 percent of non-impaired crashes, alongside the numerous benefits specific to pedestrian safety. In the 2022 ADAS NCAP rulemaking, NHTSA reported that crossing path crashes amount to 21 percent of crash scenarios, and that none of the technologies being included or already included in NCAP address crossing path crashes.[5] NHTSA noted that "Vehicle-to-vehicle (V2V) and vehicle-to-everything (V2X) technologies have

[5] NHTSA, New Car Assessment Program, 2022

the potential to address crossing path crashes, but, while NHTSA remains strongly interested in these technologies, they are not included in the current roadmap. NHTSA is continuing to consider the various issues that bear upon the deployment path of V2X, including technological evolution and regulatory changes to the radio spectrum environment."[6]

Since that rulemaking, the United States Department of Transportation (USDOT) has hosted two V2X workshops to discuss a national deployment plan for these technologies. At these events, USDOT leadership has spoken about the promise that these technologies have for road safety generally, and pedestrian safety has been an important component of those conversations. As NHTSA continues to consider its role in the deployment of V2X technologies, ITS America would encourage increased participation by NHTSA representatives in those USDOT-sponsored events, as NCAP's role in promoting these safety solutions is frequently discussed at these forums. The necessity of V2X inclusion in NCAP is already accepted in European New Car Assessment Programme, which "recognizes the safety potential of V2V and V2X technologies, for car occupants, vulnerable road users and powered two wheelers."[7] They stated that to "support the availability of technology on the vehicle side, new incentives will be introduced in the rating scheme for V2X technology that support and enhance important safety functions."[8] As the chief automaker regulator, NHTSA is uniquely positioned to provide leadership in the deployment of these technologies in vehicles, and participation in USDOT-sponsored V2X events alongside other modal administrations is a critical component of that leadership.

ITS America is grateful for the opportunity to provide comments to this rulemaking, which we believe is an important step in leveraging the potential of AEB and PAEB technologies to save lives on American roads. While we believe that there are a small number of areas where this standard could be amended to better support the adoption of these technologies, we applaud NHTSA for continuing to utilize transportation technologies to help the United States approach Vision Zero. We hope that this support will extend to additional safety technologies that are poised to provide significant safety benefits for the traveling public, such as connected vehicle technologies. If you have any questions, please feel free to contact Bobby McCurdy at bmccurdy@itsa.org.

Sincerely,

Bobby McCurdy
Senior Director of Policy and Advocacy
ITS America

[6] NHTSA, New Car Assessment Program, 2022.
[7] Euro NCAP 2025 Roadmap. Available at: https://cdn.euroncap.com/media/30700/euroncap-roadmap-2025-v4.pdf
[8] Euro NCAP 2025 Roadmap.