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1200 New Jersey Ave, SE
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ATTN: Docket No. NHTSA-NHTSA-2024-0057

Re: Federal Motor Vehicle Safety Standards; Pedestrian Head Protection, Global Technical Regulation No. 9; Incorporation by Reference

The American Society of Civil Engineers (ASCE) is grateful for the opportunity to provide comments on the National Highway Traffic Safety Administration's (NHTSA) proposal for a new Federal Motor Vehicle Safety Standard that would ensure passenger vehicles of a certain gross vehicle weight rating are designed to mitigate the risk of fatal and serious injuries in pedestrian crashes. The perspective offered in this document is in response to the Notice of Proposed Rulemaking (NPRM) published by NHTSA on September 19.

Founded in 1852, ASCE is the nation's oldest engineering society. ASCE represents more than 160,000 members of the civil engineering profession in 177 countries. While ASCE does not represent the vehicle manufacturing industry, our members' roles in designing, operating, and maintaining the transportation network position them to offer input on this NPRM. Safety is the guiding principle of the civil engineering profession, and ASCE understands that transportation safety needs to encompass all users of the system, regardless of their mode of travel.

NHTSA's proposed standard would establish test procedures simulating a head-to-hood impact and performance requirements to minimize the risk of head injury. The proposal, which would apply to passenger vehicles with a gross vehicle weight rating of 10,000 pounds or fewer, has a bearing on safety, which is a pressing issue on the nation's roads. This topic is particularly timely as vehicle designs continue to get larger.

ASCE was a strong supporter of the Infrastructure Investment and Jobs Act (IIJA), which provided a substantial investment in our nation's infrastructure and provisions to improve safety and modernize the transportation system. The IIJA calls for the Secretary of Transportation to cooperate with foreign governments, non-governmental stakeholders, members of the motor vehicle industry, and consumer groups on the global harmonization of vehicle regulations to improve vehicle safety. NHTSA's NPRM would adopt a standard for pedestrian head protection founded on Global Technical Regulation No. 9, "Pedestrian Safety." ASCE appreciates the IIJA's goal of improving

safety through the collaboration of various stakeholders and applauds NHTSA's efforts to establish a standard that aligns with this goal.

ASCE appreciates the opportunity to address some of the **considerations presented in the NPRM** and discuss the issue of **transportation safety** as well as some **areas for future research and education**.

Responses to points included in the NPRM

At 89 pages in its final publication in the Federal Register, NHTSA's NPRM is a thorough document that covers numerous subjects to support the proposed changes. Moreover, the proposal's aim to advance safer vehicles aligns with the objectives of the Department of Transportation's (DOT) Safety System Approach, which include safer roads, safer vehicles, and safer speeds. ASCE would like to provide input on a couple of the NPRM's specific points, listed below.

- *Light trucks*: ASCE appreciates the NPRM's consideration of light trucks, including pickups, which present safety concerns. Light trucks and multipurpose passenger vehicles (MPVs) have grown more prevalent on the nation's roads. The NPRM points out light trucks and MPVs as a percentage of light vehicle sales have increased from 52% in 2011 to 77% in 2020. The dimensions and sizes of these vehicles are important to consider because, in some cases, it is difficult for light truck drivers to observe pedestrians due to the height difference between the pedestrian and the driver. Another consideration should be regulations pertaining to vehicle modifications, as some light truck owners choose to adapt their vehicles after purchase. Vehicles can be modified in all sorts of ways, from wheelchair carriers to custom seating. One vehicle modification that may be pertinent to the collisions examined in this NPRM are grille guards, which are used to protect against wildlife strikes.
- *Pedestrian automatic emergency braking (PAEB)*: The proposed standard would work with a recently finalized standard (FMVSS No. 127) that requires pedestrian automatic emergency braking (PAEB), which is designed to stop the vehicle before striking a pedestrian up to a certain speed or reduce the speed at which an impact occurs if the vehicle's initial speed is too high to avoid impact. For many impacts that cannot be avoided due to the closing speed of the vehicle, PAEB will lower the vehicle's speed so that more impacts will be at speeds of 25 miles per hour or fewer. While automatic braking technology has the potential to save lives and reduce injuries, detecting pedestrians can still be challenging. NHTSA may want to consider whether the detection accuracy of PAEB technologies should be disclosed at certain stages.

Transportation safety

Transportation safety is critical, and safer roadway systems can reduce loss of life, personal injuries, and loss of economic resources. ASCE supports a sustained effort to reduce crashes, fatalities, injuries, and property damage through improvements to highway system planning and operation as well as the implementation of safety improvement programs and technology.

Safety remains a significant issue on our nation's roadways. NHTSA estimates 40,990 people died in motor vehicle traffic crashes in 2023. Pedestrian injuries and fatalities are also high. In 2022, 7,522 people were struck and killed while walking. This figure marks an increase from the 7,388

pedestrians that were killed in 2021, and a 75% increase in these deaths since 2010. NHTSA's NPRM notes that, for pedestrian fatalities in single vehicle front-end crashes, there is about an even split between passenger cars (43%) and light trucks and MPVs (42%).

NHTSA prepared a Preliminary Regulatory Impact Analysis to assess the costs, benefits, and other impacts of this NPRM, and ASCE commends the agency's thoroughness. The proposal is estimated to mitigate 67.4 fatalities annually. Overall injuries are estimated to increase because fatalities averted often become higher level injuries.

Areas for future research and education

The test procedure proposed in the NPRM would use impactor testing to simulate a head-to-hood or head-to-fender top impact. It would use two different impactors: one representing the head of a six-year-old child, the other representing the head of an adult male pedestrian. Because people are many different heights and weights, NHTSA may want to consider testing various headforms in the future that represent other demographics.

Education and infrastructure geared toward pedestrians can also play a role in reducing fatalities. Most newer vehicles have distracting features, including screens built into the navigation systems, and awareness on the part of pedestrians can complement awareness on the part of drivers. Educational campaigns and public service announcements are tools that can relay information and heighten awareness. There are numerous infrastructure design features, such as pedestrian walkways, raised medians, and traffic-calming measures, that can improve safety. People of all ages and abilities should have safe and accessible options when traveling.

Another area of future growth could be more intentionally pairing impact testing with direct vision standards. Adopted in London, direct vision standards quantify the degree of visibility available to heavy truck operators. Conducting impact testing with consideration of these standards can contribute to the development of a comprehensive external safety rating for vehicle designs. While the current proposal appropriately addresses passenger vehicles, future research might explore commercial trucks.

Conclusion

ASCE would like to thank NHTSA for accepting comments on this proposed rulemaking. Vehicle safety standards – and the test procedures associated with them – play a part in enhancing the safety of the transportation system as a whole. ASCE commends NHTSA for considering ways to mitigate the risk of fatalities and injuries in pedestrian crashes, and we stand ready to answer any questions.