U.S. Department
of Transportation
**National Highway
Traffic Safety
Administration**

1200 New Jersey Avenue SE.
Washington, DC 20590

June 7, 2022

The Honorable Jennifer Homendy
Chair
National Transportation Safety Board
490 L'Enfant Plaza East, SW
Washington, DC 20594

Dear Chair Homendy:

We have reviewed the National Transportation Safety Board's (NTSB) February 8, 2022, report, *Mulivehicle Crash Near Mt. Pleasant Township, Pennsylvania, January 5, 2020* (NTSB/HIR-22/01), and the safety recommendations to the National Highway Traffic Safety Administration (NHTSA). NHTSA's responses to the recommendations are discussed below.

NTSB Recommendation and Requested Designation:

H-12-20: Develop performance standards for advanced speed-limiting technology, such as variable speed limiters and intelligent speed adaptation devices, for heavy vehicles, including trucks, buses, and motorcoaches.

H-12-21: After establishing performance standards for advanced speed-limiting technology for heavy commercial vehicles, require that all newly manufactured heavy vehicles be equipped with such devices.

NHTSA Action:
NHTSA remains committed to reducing or eliminating all motor vehicle crashes, including heavy vehicle speed-related crashes. In September of 2016, the agency published a Heavy Vehicle Speed Limiters Notice of Proposed Rulemaking (NPRM). The status of this rulemaking can be tracked in the Unified Agenda under RIN 2127-AK92. In addition, NHTSA is working to issue an NPRM for Heavy Vehicle Automatic Emergency Braking (AEB), pursuant to Section 23010 of the Bipartisan Infrastructure Law (BIL). Details regarding this rulemaking can also be found in the Unified Agenda under RIN 2127-AM36. NHTSA has since been gathering updated information about advanced speed-limiting technology to inform future agency decisions (for both light and heavy vehicles). For example, in the March 9, 2022, Request for Comments notice on planned program upgrades to the New Car Assessment Program, NHTSA asked for public comment on intelligent speed assist systems (i.e., those which can determine current speed limits and warn the driver or adjust the maximum traveling speed accordingly). Specifically, NHTSA requested information pertaining to: the differentiation between warning and intervention type, potential allowances for small amount of speeding over the limit before

intervening (compared to systems that are specifically keyed to a road's speed limit), potential allowances for driver override, existing performance test protocols, anticipated consumer acceptance, and other measures aimed at preventing excessive speeding. Information received in response to this notice will help inform future agency decisions on advanced speed-limiting technology, including those for heavy vehicles.

NHTSA requests that recommendations H-12-20 and H-12-21 be classified as **Open, Acceptable Response.**

H-13-30: Develop minimum performance standards for connected vehicle technology for all highway vehicles.

H-13-31: Once minimum performance standards for connected vehicle technology are developed, require this technology to be installed on all newly manufactured highway vehicles.

H-22-01: Implement a plan for nationwide connected vehicle technology deployment that (1) resolves issues related to interference from unlicensed devices, such as those that use wi-fi; (2) ensures sufficient spectrum necessary for advanced connected vehicle applications; and (3) defines communication protocols to be used in future connected vehicle deployment. *[Issued to the U.S. Department of Transportation]*

NHTSA Action:
NHTSA, along with our sister Agencies within the U.S. Department of Transportation (DOT), including the Intelligent Transportation Systems Joint Program Office, and the Federal Highway Administration, is currently engaged in assessing the safety implications of the Federal Communication Commission's (FCC) decisions related to the allocation and use of 5.9 GHz spectrum band. All the research that led to the Federal Motor Vehicle Safety Standard (FMVSS) No. 150 proposal to mandate vehicle-to-vehicle (V2V) communications for new light vehicles and to standardize the message and format of V2V transmissions was overtaken by the FCC's decision.

Before developing minimum performance specifications for connected vehicle technology, it is important to first understand whether the new spectrum assigned by FCC for transportation use (5.895 GHz to 5.925 GHz, or 30 MHz) can effectively support the intended safety applications. Further, it is also important to determine whether the new technology Cellular Vehicle-to-Everything (C-V2X) specified by FCC has adequate performance characteristics in congested message traffic environments to support low-latency V2V applications. To this end, DOT is nearing the end of an approximately two-year long test program designed to answer these questions.[1] Specifically, DOT is engaged in testing to determine interference impacts from adjacent band UNII-4 device operations (WLAN) on V2X communications performance within its allotted band. These tests cover a range of operating conditions and applications, as well as varying levels of Wi-Fi operations in the adjacent bands (both below and above the 30 MHz assigned to V2X by FCC). The impact of possible interference on V2X communications is measured using a

[1] Please see https://www.transportation.gov/V2XTestSummary for additional details related to DOTs spectrum testing plans.

variety of metrics including packet error rates and interpacket gap time. Such metrics are being compared in various typical traffic operating scenarios (with varying traffic levels, speeds, and scenario configurations) both with and without Wi-Fi devices operating in adjacent channels.

In parallel, DOT is measuring the performance of C-V2X devices from several vendors (over 250 devices in total) as part of interoperability and scalability tests to determine whether performance is sufficient to support applications needing very low latency such as intersection movement assist and do-not-pass applications. Testing under this program is expected to be completed this year. DOT will analyze the results of these tests to assess the capability and performance of this new V2X technology (C-V2X) operating in a new and more limited spectrum band. Based on the results of this on-going research, DOT (and NHTSA) will better understand how to move forward in this area and will assess potential next steps for supporting broad-based deployment of V2X technology.

NHTSA requests that recommendations H-13-30, H-13-31 and H-22-01 be classified as **Open, Acceptable Response.**

H-15-05: Complete, as soon as possible, the development and application of performance standards and protocols for the assessment of forward collision avoidance systems in commercial vehicles.

NHTSA Action:
The BIL prescribes a new FMVSS requiring all commercial motor vehicles (CMVs) subject to 49 CFR 571.136 to be equipped with an AEB system and its use any time subject CMVs are in operation. BIL further requires the completion of a study on equipping CMVs not subject to 49 CFR 571.136 with an AEB system. NHTSA is presently drafting an NPRM that describes how the agency plans to execute this directive, including defining AEB test procedures and performance requirements to objectively assess the compliance of minimum performance criteria for all CMVs with gross vehicle weight ratings (GVWRs) greater than 10,000 pounds (lbs.).

Additionally, NHTSA is researching next generation technology for heavy vehicles with a GVWR greater than 10,000 lbs. equipped with forward collision warning and AEB systems. These systems have been designed to offer improved object detection capabilities (i.e., reduced false activations that were observed on the earlier systems). In 2016, NHTSA completed the first phase of a field operational test (FOT) examining hundreds of drivers operating trucks from different manufacturers equipped with AEB. A second phase FOT is underway so NHTSA can continue to study real-world performance of these new systems, as well as conduct test track research. The test track research is focused on studying objective test procedures and collecting heavy vehicle system performance data. This research, supporting crash data analyses, estimates of potential safety benefits, and other information will help inform an agency decision on next steps, including potential rulemaking actions.

NHTSA requests this recommendation be classified as **Open, Acceptable Response.**

H-22-03: Require that all buses and trucks over 10,000 lbs. GVWR be equipped with onboard video event recorders that record, at a minimum, parametric data associated with the event, such

as real clock time, GPS location, and acceleration data, and visibility of the driver's face and of each occupant seating location, visibility of the instrument panel, visibility forward of the vehicle, optimized frame rate, and low-light recording capability.

NHTSA Action:
The agency is conducting distraction and driver monitoring research in response to Section 24209 of the BIL. NHTSA is also actively engaged in researching the status and development of new technologies designed to address risky driving behaviors, such as driver impairment. For example, in 2020, NHTSA released a Request For Information to the public seeking information on both currently available technologies and those under advanced stages of development that target impaired driving. One technological approach to infer driver state involves monitoring driver steering and braking input, such as lane position variability, rapid accelerations and decelerations, or other sudden maneuvers. Some of these systems additionally use onboard cameras, steering wheel torque, and brake/accelerator pedal inputs to monitor the driver and, in some cases, provide alerts, warnings, or interventions. Beyond driver monitoring, NHTSA continues to research both the feasibility and the value of gathering robust vehicle information to better understand the factors surrounding crashes. NHTSA will continue to use agency research, data, and public information to determine next steps.

NHTSA requests this recommendation be classified as **Open, Acceptable Response**.

If you have any questions, or require additional information, please contact me or Darren Hall, Governmental Affairs, Policy and Strategic Planning, at 202-366-7463.

Sincerely,

Steven S. Cliff, Ph.D.
Administrator