**Mountain View CA Recommendations--DRAFT**

**4.1 New Recommendations**

As a result of its investigation, the National Transportation Safety Board makes the following eight new safety recommendations:

**To the National Highway Traffic Safety Administration:**

1. Expand current forward collision avoidance system performance testing to include common obstacles, such as traffic safety hardware, cross‑traffic vehicle profiles, and other unusually shaped vehicle targets. (H-20-X)
2. Evaluate Tesla Autopilot‑equipped vehicles to determine if the system’s operating limitations, the potential for driver misuse, and the ability to operate the vehicle outside of the intended design domain pose an unreasonable risk to safety; use your enforcement authority to ensure that Tesla Inc. takes corrective action to address any safety defects you identify. (H-20-X)
3. For vehicles equipped with Level 2 automation, work with SAE International to develop guidelines and recommended practices for driver-monitoring systems that will minimize driver disengagement, prevent automation complacency, and account for potential misuse of the automation. (H‑20‑X)

**To the Occupational Safety and Health Administration:**

1. Review and revise your distracted-driving initiatives and related enforcement activity to increase employers’ awareness of the need to develop strong cell-phone policy prohibiting the use of portable electronic devices while driving, and modify enforcement strategies as necessary to increase use of the general duty clause against those employers who fail to address the hazards of distracted driving. (H‑20‑X)

**To SAE International:**

1. For vehicles equipped with Level 2 automation, work with the National Highway Traffic Safety Administration to develop guidelines and recommended practices for driver-monitoring systems that will minimize driver disengagement, prevent automation complacency, and account for potential misuse of the automation. (H-20-X)

**To Manufacturers of Portable Electronic Devices (Apple, Samsung, LG, Lenova, Motorola, and Nokia):**

1. Develop a distracted-driving lock-out mechanism or application for portable electronic devices that will automatically disable any driver-distracting functions when a vehicle is in motion, but that allows the device to be used in an emergency; install the mechanism as a default setting on all new devices, and apply it to existing commercially available devices during major software updates. (H-20-X)

**To Apple Inc.:**

1. Ban the nonemergency use of portable electronic devices while driving by all employees and contractors driving company vehicles, operating company-issued portable electronic devices, or using a portable electronic device to engage in work-related communication. (H‑20‑X)

**To Tesla Inc.:**

1. Review Autopilot users’ habits regarding driver engagement, use your findings to improve safeguards to prevent foreseeable driver misuse, and report your results to the National Highway Traffic Safety Administration and the National Transportation Safety Board. (H-20-X)

**4.2 Previously Issued Recommendations Reiterated in This Report**

As a result of its investigation, the National Transportation Safety Board reiterates the following two safety recommendations (currently classified “Open―Unacceptable Action”):

Develop and apply testing protocols to assess the performance of forward collision avoidance systems in passenger vehicles at various velocities, including high speed and high velocity-differential. (H-15-4)

**To the National Highway Traffic Safety Administration:**

Develop a method to verify that manufacturers of vehicles equipped with Level 2 vehicle automation systems incorporate system safeguards that limit the use of automated vehicle control systems to those conditions for which they were designed. (H-17-38)

**4.3 Previously Issued Recommendations Reiterated and Reclassified in This Report**

As a result of its investigation, the National Transportation Safety Board reiterates and reclassifies the following five safety recommendations:

**To the Department of Transportation:**

Define the data parameters needed to understand the automated vehicle control systems involved in a crash. The parameters must reflect the vehicle’s control status and the frequency and duration of control actions to adequately characterize driver and vehicle performance before and during a crash. (H-17-37)

Safety Recommendation H‑17‑37 is reclassified from “Open―Initial Response Received” to “Open―Unacceptable Response.”

**To the National Highway Traffic Safety Administration:**

Use the data parameters defined by the U.S. Department of Transportation in response to Safety Recommendation H-17-37 as a benchmark for new vehicles equipped with automated vehicle control systems so that they capture data that reflect the vehicle’s control status and the frequency and duration of control actions needed to adequately characterize driver and vehicle performance before and during a crash; the captured data should be readily available to, at a minimum, National Transportation Safety Board investigators and National Highway Traffic Safety Administration regulators. (H-17-39)

Safety Recommendation H-17-39 is reclassified from “Open―Acceptable Response” to “Open―Unacceptable Response.”

Define a standard format for reporting automated vehicle control data and require manufacturers of vehicles equipped with automated vehicle control systems to report incidents, crashes, and vehicle miles operated with such systems enabled. (H-17-40)

Safety Recommendation H-17-40 is reclassified from “Open―Acceptable Response” to “Open―Unacceptable Response.”

**To Tesla:**

Incorporate system safeguards that limit the use of automated vehicle control systems to those conditions for which they were designed. (H-17-41)

Safety Recommendation H-17-41 is reclassified from “Open―Await Response” to “Open―Unacceptable Response.”

Develop applications to more effectively sense the driver’s level of engagement and alert the driver when engagement is lacking while automated vehicle control systems are in use. (H-17-42)

Safety Recommendation H-17-42 is reclassified from “Open―Await Response” to “Open―Unacceptable Response.”

**4.4 Previously Issued Recommendations Reclassified in This Report**

As a result of its investigation, the National Transportation Safety Board reclassifies the following two safety recommendations:

**To the Consumer Electronics Association (now the Consumer Technology Association):**

Encourage the development of technology features that disable the functions of portable electronic devices within reach of the driver when a vehicle is in motion; these technology features should include the ability to permit emergency use of the device while the vehicle is in motion and have the capability of identifying occupant seating position so as not to interfere with use of the device by passengers. (H‑11‑47)

Safety Recommendation H‑11‑47 is reclassified from “Open―Await Response” to “Closed―No Longer Applicable.”

**To the California State Transportation Authority:**

Develop and implement a corrective action plan that guarantees timely repair of traffic safety hardware and includes performance measures to track state agency compliance with repair timelines. (H-19-13)

Safety Recommendation H‑19‑13 is reclassified from “Open―Initial Response Received” to “Closed―Acceptable Action.”