

Example of an Approach to a Federal Motor Vehicle Safety Standard that would Comply with Section 24220 of the IIJA and be Consistent with the TWG Roadmap

Phase 1

2-3 years following publication of final rule

Require all new passenger vehicles to comply with either:

Option A

Determine driver blood alcohol content (BAC) before each trip and prevent vehicle operation if at or above 0.08.

BAC can be measured directly through breath or touch or indirectly by a system that measures impairment differently but can be compared to impairment at 0.08 BAC.

OR Option B

Detect driver impairment continuously <u>during each trip</u> and react accordingly:

If the driver is at or above 0.08 BAC (measured directly or indirectly as in Option A), limit maximum speed to a level prescribed by NHTSA to reduce risk, including the possibility of safely parking the car.

- **If the driver is fatigued to a point of high risk, activate system to warn the driver to stop and get rest.
- **If the driver is distracted to a point of high risk, activate a system to warn the driver about crash danger.

Potential Lives Saved: 10,000

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Either Option Produces Similar Safety Benefit*

Phase 2

3-4 years following publication of final rule

Require all new passenger vehicles to comply with both:

Requirement A AND

Determine driver blood alcohol content (BAC) <u>before each trip</u> and prevent vehicle operation if at or above 0.08.

BAC can be measured directly through breath or touch or indirectly by a system that measures impairment differently but can be compared to impairment at 0.08 BAC. Detect driver impairment continuously during each trip and

react accordingly:

If the driver is at or above 0.08 BAC (measured directly or indirectly as in Requirement A), limit maximum speed to the level prescribed by NHTSA for Phase 1 Option B.

- **If the driver is fatigued to a point of high risk, activate system to warn the driver to stop and get rest.
- **If the driver is distracted to a point of high risk, activate a system to warn the driver about crash danger.

*Allowing a choice between Options A & B in Phase 1 allows near-term development of systems that can detect and respond to a range of impairment types. The choice is justified by ensuring that the potential life-saving benefits of Options A & B are approximately equivalent. The Insurance Institute for Highway Safety has estimated that Option A will save more then 10,000 lives per year when installed in all cars. To ensure a similar potential for Option B, NHTSA would set the level of speed limitation required for alcohol impairment so that the estimated lives saved from the speed reduction plus the estimated lives saved by the fatigue and distraction warnings would equal approximately 10,000 lives per year when the systems are installed in all cars.

The feasibility of this example is supported by regulatory precedents, including the ability to phase in requirements, and to use regulation to lead technology development. Regulatory precedent also supports the strategy of accommodating innovation by allowing manufacturers to petition NHTSA to adopt test procedures (as in FMVSS 208 Occupant Crash Protection (S27.1 (a)) or requiring automakers to make available to NHTSA upon request information on how their system achieves performance requirements, as in FMVSS 126 Electronic Stability (FMVSS 126, S4, S5.1–S5.1.3, S5.6, particularly 5.6.4) and in FMVSS 226 Ejection Mitigation (S4.2.4).

** Precedent for regulatory approaches for driver fatigue and distraction warning systems can be found in the European Union requirements, Driver Drowsiness and Attention Warning (DDAW) system as defined by Article 6 of Regulation (EU) 2019/2144 and Delegated Regulation (EU) 2021/1341, and Advanced Driver Distraction Warning (ADDW) system as defined in Article 6 of Regulation (EU) 2019/2144 and Delegated Regulation (EU) 2023/2590.

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