

Date of Hearing: July 16, 2025

ASSEMBLY COMMITTEE ON COMMUNICATIONS AND CONVEYANCE

Tasha Boerner, Chair

SB 480 (Archuleta) – As Amended June 26, 2025

SENATE VOTE: 39-0

SUBJECT: Autonomous vehicles

SUMMARY: Authorizes an autonomous vehicle (AV) to be equipped with automated driving system (ADS) marker lamps.

Specifically, **this bill:**

- 1) Defines “ADS marker lamp” to mean a device that emits a light to indicate when an ADS is engaged in the operation of the vehicle.
- 2) Requires the ADS marker lamp to be in accordance with SAE International’s standards.
- 3) Exempts ADS marker lamps from having to be white or yellow in the front of a vehicle and red in the back of a vehicle.

EXISTING LAW:

- 1) Authorizes the operation of autonomous vehicles (AVs) on public roads for testing purposes under certain circumstances specified in the Department of Motor Vehicles’ (DMV) regulations. (Vehicle Code Section (Vehicle Code (VEH) § 38750)
- 2) Defines “autonomous vehicle” to mean vehicle equipped with technology that makes it capable of operation that meets the definition of Levels 3, 4, or 5 of the SAE International's Taxonomy and Testing of Autonomous Vehicles Definitions for Terms Related to Driving Automation Systems for On-Road Motor Vehicles, standard J3016 (APR 2021). (VEH § 38750)
- 3) Requires the color of lamps and reflected light from all reflectors, visible from the front of the vehicle, to be white or yellow (with exceptions) and for light emitted from the rear of a vehicle to be red (with exceptions). (VEH § 25950)
- 4) Defines a charter-party carrier of passengers as every person engaged in the transportation of persons by motor vehicle for compensation over any public highway in this state. A charter-party carrier of passengers includes any person, corporation, or other entity engaged in the provision of a hired driver service when a rented motor vehicle is being operated by a hired driver. (Public Utilities Code §5360)
- 5) Authorizes the California Public Utilities Commission (CPUC) to supervise and regulate every charter-party carrier of passengers. (Public Utilities Code §5381)

FISCAL EFFECT: Pursuant to Senate Rule 28.8, negligible state costs.

COMMENTS:

- 1) *Author's Statement.* According to the author: "As technology on roads continues to evolve, we have a greater number of vehicles equipped with driver-assisting technology. While vehicle manufactures have adopted technologies like adaptive cruise control and lane-keeping assistant systems many are looking to transition into autonomous driving systems. These systems are intended to improve our commutes and reduce hazardous situations on the roads. However in order to ensure the public and law enforcement are aware of these systems while they're in use, manufactures equipping their vehicles with autonomous driving systems should be allowed to install marker lamps on the outside of their vehicle to clearly communicate with pedestrians and law enforcement when a vehicle's automated driving system is activated. Such recommendations were made by the SAE, National Highway Traffic Safety Administration (NHTSA, and the American Association of Motor Vehicle Administrators (AMVA). Authorizing vehicles with automated driving systems to be equipped with marker lamps will strengthen public safety and promote acceptance of automated driving systems by clearly communicating to pedestrians, law enforcement, and other road users when the systems are engaged."
- 2) *Committee Jurisdiction.* This committee's jurisdiction includes transportation charter party carriers, which would include autonomous vehicles engaged in passenger carriage. This analysis will primarily focus on the impact of this legislation on AV's engaged in passenger carriage.
- 3) *AVs as Charter Party Carriers.* Existing law authorizes the California Public Utilities Commission (CPUC) to supervise and regulate every charter-party carrier of passengers in the state. Under that authority, the CPUC has authorized autonomous vehicle testing and deployment programs for passenger carriage. In 2018 the CPUC adopted a decision¹ that authorized the use of autonomous vehicles on a pilot program basis for testing purposes. The CPUC adopted a subsequent decision² in 2020 authorizing two deployment programs: one for drivered and one for driverless autonomous vehicle service. The distinction between the testing phase and the subsequent authorization for deployment is that deployment authorized the autonomous vehicles to be used for commercial purposes for the general public and charge fares. Currently only one company, Waymo, LLC, is authorized for full driverless deployment. As part of the decision authorizing AV deployment, the CPUC requires AV operators to submit a Passenger Safety Plan. That plan includes, among many other things, some description of the how an AV operator will property identify their vehicle for the passenger.

Similarly, this bill would authorize an AV to be equipped with automated driving system (ADS) marker lamps. Although this bill specifies the market lights need to be in accordance with SAE standards, the CPUC regulations are not that perspective. Nonetheless, AV operators have described using similar indicators on their vehicles used under the CPUC's authorization. For example, Waymo's³ approved Passenger Safety Plan includes a description of the measures used to identify their vehicles: "Each Waymo AV is easily identifiable by the automated driving system's roof assembly and front fender additions,

¹ California Public Utilities Commission. Decision D.18-05-043. Issued June 6, 2018.

² California Public Utilities Commission. Decision D. 20-11-046. Issued November 20, 2020.

³ Waymo, LLC. Passenger Safety Plan, March 2025.

which bear Waymo’s distinctive blue ring, and the Waymo name on the sides of the vehicle and TCP [permit] number.”

- 4) *Arguments in support.* The Alliance for Automotive Innovation, writing in support of this bill, argues “This bill provides an important safety protection clause into the state's autonomous vehicle statutes. California law governing autonomous vehicles requires that: “The autonomous vehicle has a visual indicator inside the cabin to indicate when the autonomous technology is engaged.” (CA Veh. Code Sec. 38750(c)(1)(B)) However, current law does not contemplate ADS Marker Lamp Technology for use outside of the vehicle and only addresses lights for other motor vehicle functions, allowing only white, yellow and red lights on personal vehicles.

Studies from the University of Michigan Transportation Research Institute (UMTRI) and Ulm University (Germany) support the need for a distinctive color to avoid confusion with colors assigned to other vehicle functions. The studies determined that both pedestrians and drivers more fully understood that using a different lamp color other than the current allowable standard colors (white, red, & yellow) signified that the vehicle was a different style of controlled vehicle. SB 480 takes the straightforward and important step of increasing safety on California roads by adopting the permissive use of the SAE ADS Marker Lamp lighting standards.”

5) **Similar/related legislation.**

- a. AB 1777 (Ting) Chapter 682, Statutes of 2024, requires AVs to have two way communication device that enables emergency response officials that are near the vehicle to communicate effectively with a remote human operator who has situational awareness about the AV.
- b. SB 1298 (Padilla), Chapter 570, Statutes of 2012 established conditions for the operation of AVs upon public roadways.

REGISTERED SUPPORT / OPPOSITION:

Support

Alliance for Automotive Innovation

Opposition

None on file

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