

April 24, 2017

Brian Soublet  
Deputy Director/Chief Counsel  
Department of Motor Vehicles  
Legal Affairs Division  
P.O. Box 932382, MS C-244  
Sacramento, CA 94232-3820

***Re: California Department of Motor Vehicles Revised Proposed Autonomous Vehicle Deployment Regulations***

Dear Mr. Soublet:

Uber Advanced Technologies Group (hereinafter, “Uber”) has reviewed the proposed autonomous vehicle deployment regulations issued by the Department of Motor Vehicles on March 10, 2017 (the “Proposed Regulations”). We greatly appreciate the Department’s efforts in developing these rules over the past two years and commend the agency for taking important steps to embrace both the testing and deployment of driverless vehicles. To further foster technological innovation, public acceptance, and commercial deployment of these technologies, we recommend several modifications and clarifications to the Proposed Regulations. We describe these changes below and in the attached appendix. The suggestions are intended to enhance the flexibility of these rules so they can accommodate the various ways that autonomous vehicles will be used in the future. We look forward to discussing these issues with you and collaborating with the Department on ways to improve the Proposed Regulations.

**Executive Summary:** Uber encourages the Department to update and revise the Proposed Regulations to implement the following changes:

- Paying members of the public should have the opportunity to ride in autonomous test vehicles with drivers. Having paying riders is an important part of testing autonomous vehicles and the safety requirements in the Department’s testing regulations are sufficient to keep passengers safe. (Page 2)
- Manufacturers should be able to test autonomous commercial motor vehicles in California. The Department can apply its current passenger car testing requirements to freight trucks without any changes, and a continued ban on testing autonomous trucks only serves to unnecessarily delay the important safety innovations that autonomous technology offers for these vehicles in California. (Page 4)
- The event data recorder provisions should be revised because they are premature and go beyond Vehicle Code Section 38750. We urge the Department to return to the balance struck by the legislature on data recording in order to allow the industry and standard-

setting organizations to organically develop the right standards for recording and accessing sensor data from collisions. (Page 5)

- The Proposed Regulations should be revised to include stronger protections for proprietary data and information. Given the newly proposed requirements for manufacturers to submit substantial commercially sensitive data to obtain testing and deployment permits, the Department should ensure that confidential data and trade secrets are protected. (Page 6)
- The provision requiring manufacturers to “coordinate” driverless testing with local authorities should be eliminated. The coordination requirement risks creating a fractured and inefficient testing regime because local authorities have neither the guidance nor expertise to evaluate the technology. (Page 7)
- Manufacturers should not be required to submit National Highway Traffic and Safety Administration (“NHTSA”) Safety Assessment Letters to the Department. The NHTSA process is voluntary and in flux and, as a result, should not be made mandatory under state law. (Page 7)
- The Proposed Regulations should be further clarified to support technology and business model-agnostic rules. To give better effect to the Department’s goal to support multiple deployment models, the Department should further clarify how deployment application requirements can be implemented. (Page 8)

#### **I. Paying Members of the Public Should Have the Opportunity to Ride in Autonomous Test Vehicles with Drivers.**

Under sections 227.26(f), 227.02(j), and 228.02(c)(2) of the Proposed Regulations, members of the public cannot ride in autonomous test vehicles if the riders are required to pay a fee or if the manufacturer receives compensation for the ride. Instead, this type of rider can only ride in an autonomous vehicle if the vehicle is covered under an autonomous vehicle deployment permit. These provisions should be revised to allow paying members of the public to ride in autonomous test vehicles with drivers. Providing rides to paying passengers in this context is just as safe as testing autonomous vehicles with passengers riding for free, and obtaining the input of paying passengers provides valuable data as developers test the technology.

From a safety perspective, it is immaterial whether or not a passenger pays a fare when the vehicle is operated by the manufacturer with a driver that meets the qualifications of the testing regime. To ensure that autonomous test vehicles are operated safely, the Department’s testing regulations provide that test vehicles can only be operated by a manufacturer, must be properly insured, and must have a trained driver behind the wheel. A manufacturer that meets those conditions and obtains a permit is authorized to operate a vehicle in proximity to pedestrians, bicyclists, and other vehicles, as well as with passengers in the test vehicle itself. Paying a fare for that ride has no impact on operational safety.<sup>1</sup>

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<sup>1</sup> In addition, requiring a deployment permit for manufacturer rides solely because passengers pay a fare does not appear to be necessary to ensure the safe operation of these vehicles on public

The California Public Utilities Commission—the state entity charged by the legislature with regulating the quality of prearranged for hire transportation—has found the distinction between paid and free transportation immaterial for purposes of regulating such transportation.<sup>2</sup> And other jurisdictions have not imposed a different safety framework simply because passengers pay for the ride in a manufacturer’s vehicle operated by a driver.

Cognitive bias created by free rides fundamentally changes the self-driving experience in a way that reduces the learning that can be gained from passengers. Paying riders will more naturally expect the experience to compare to conventional rides they have paid for and, as a result, are more likely to provide constructive feedback about the quality of the self-driving capabilities. The lessons about performance quality that can be derived from cancellation rates, repeat usage, and routine feedback also would be skewed if the transportation was offered for free. Further, allowing a larger portion of the public to interact with autonomous vehicles as they would with conventional vehicles responds directly the challenge from Secretary of Transportation Elaine Chao to “help educate a skeptical public about the benefits of automated technology.”<sup>3</sup>

We strongly urge the Department to remove the restrictions on using autonomous test vehicles to provide rides for compensation when the manufacturer is operating the vehicle and uses a driver that meets the testing regime’s requirements. As long as manufacturers comply with other applicable state laws, including for hire rules, and paying riders are provided ample notification that they will be transported in an autonomous test vehicle, there is no reason to deny those riders the opportunity to travel in an autonomous test vehicle and provide honest feedback to the manufacturer.

In terms of specific edits, we would propose adding to the end of the definition of “deployment” in section 228.02(c)(2) the following phrase: “unless such services are provided by the manufacturer’s vehicles with a driver who is an employee, contractor or designee of the manufacturer.” Further, in section 227.26(f), we propose adding “without a driver” after “in the vehicle” and “in an autonomous vehicle without a driver” after “public” at the end of the section. Finally, we propose striking the last sentence in section 227.02(j), as paying fees for a ride is already adequately addressed in the aforementioned provisions of the Proposed Regulations.

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roads and, as a result, arguably exceeds the agency’s rulemaking authority pursuant to Section 38750(d)(2) of the Vehicle Code.

<sup>2</sup> See Decision Adopting Rules and Regulations to Protect Public Safety While Allowing New Entrants to the Transportation Industry, D.1309045 at 19 (Sept. 19, 2013) (any business benefit received in exchange for transportation is “compensation”).

<sup>3</sup> *Transportation Secretary To Auto Industry: ‘Educate Skeptical Public’ About Self-Driving Tech*, Forbes, February 28, 2017, <https://www.forbes.com/sites/dougnewcomb/2017/02/28/transportation-secretary-to-auto-industry-educate-skeptical-public-about-self-driving-tech/#6243cd7561fc>.

## II. Manufacturers Should Be Able to Test Autonomous Commercial Motor Vehicles in California.

Section 227.28(a) of the Proposed Regulations states that vehicles weighing 10,001 pounds or more are not approved for testing or deployment as autonomous vehicles. Vehicles in this weight class include most commercial motor vehicles, including medium and large trucks, like tractor trailers used as part of commercial shipping operations.

As Uber has stated previously, there is no need for the Department to delay the development of autonomous trucks while new regulations for large autonomous vehicles are created, a process that could take several years. The autonomous vehicle guidelines issued by NHTSA in September 2016 do not recommend any delayed introduction or otherwise different treatment of heavy vehicles; nor do any other jurisdictions that have autonomous vehicle laws and regulations. The safeguards embedded in the DMV's existing testing framework work for both cars and trucks. These regulations that call for safety drivers trained and directed by the manufacturer, minimum insurance limits, and basic human-machine interface requirements are equally applicable to and sufficient for autonomous truck testing on California roads.

No safety-based rationale has been provided for excluding large vehicles from the testing rules in the Department's Proposed Regulations. To the contrary, the exclusion inevitably will delay the safe testing and deployment of autonomous technologies in California. For example, truck drivers are highly-trained professionals whose careers are tied to road safety, so the safety drivers of autonomous trucks would bring significant extra training and experience with them to the operation of these vehicles. And the business-to-business nature of heavy vehicle operations incentivizes prioritizing safety over premature technology adoption. It is no coincidence that the freight industry spends close to \$10 billion annually to prevent the significant economic consequences of crashes.<sup>4</sup> With safety as a core priority, the trucking industry presents one of the best opportunities for the introduction of autonomous technologies.

Government data consistently show that large trucks are one and a half times more fatal (per 100 million miles traveled) than average vehicles, and 73% of deaths in truck-involved crashes are of people outside the truck itself.<sup>5</sup> For all the reasons stated above, the Department should remove the restriction in section 227.28 of the Proposed Regulations on testing vehicles

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<sup>4</sup> American Trucking Association, "Recent Research Shows the Trucking Industry Makes At Least A \$9.5 Billion Investment in Safety," available online at [http://www.trucking.org/ATA%20Docs/News%20and%20Information/Reports%20Trends%20and%20Statistics/06%2028%2016%20-%20Trucking%20Industry%20Invests%20\\$9%205%20Billion%20in%20Safety%20Annually.pdf](http://www.trucking.org/ATA%20Docs/News%20and%20Information/Reports%20Trends%20and%20Statistics/06%2028%2016%20-%20Trucking%20Industry%20Invests%20$9%205%20Billion%20in%20Safety%20Annually.pdf) (accessed April 24, 2017).

<sup>5</sup> Federal Motor Carrier Safety Administration, *Large Truck and Bus Crash Facts 2014, Trends Table 16. Combination Truck Fatal Crash Statistics, 1975-2014*, available online at <https://www.fmcsa.dot.gov/sites/fmcsa.dot.gov/files/docs/2014Trends-tbl16.xls> (accessed Feb. 17, 2017); National Highway Safety Administration, *Fatality Analysis Reporting System, National Statistics 1994-2014*, available online at <http://www-fars.nhtsa.dot.gov/Main/index.aspx> (accessed Feb. 17, 2017).

with a gross vehicle weight rating of 10,001 or more pounds in order to encourage the development of safe and effective autonomous trucks in California.

### **III. The Additional Event Data Recorder Requirements Should Be Revised Because They Are Premature and Unnecessarily Go Beyond Vehicle Code Section 38750.**

Under sections 228.02(a) and 228.06(a)(5), in order for a manufacturer to obtain a deployment permit an autonomous vehicle must have a data recorder that captures and stores autonomous vehicle sensor data for at least 30 seconds before and at least 5 seconds after a collision or until the vehicle comes to a complete stop, whichever is later. Similarly, the Proposed Regulations require the data to be stored in a manner such that it is capable of being retrieved with a “commercially available” tool.

Uber urges the Department to restore the balance the legislature struck in section 38750(c)(1)(G) on the data recording requirement. In contrast to section 228.02(a) of the Proposed Regulations, the statute only requires that the vehicle have a mechanism to store data before a collision occurs, not after, and data must be capable of being extracted by any “external device,” not a “commercially available” tool. The flexibility in the legislature’s data recording requirement is better suited to a rapidly evolving autonomous vehicle industry, and adding more data recording requirements does not contribute to the safe performance of the vehicle.<sup>6</sup>

It is also premature to go beyond the statutory requirement until the industry and standard-setting organizations are able to evaluate what standards are appropriate.<sup>7</sup> Requiring a commercially available tool assumes a level of standardization for autonomous vehicle technology that is not likely to exist for years. There is currently no commonality among manufacturers regarding their proprietary automated driving systems and the data they collect. Similarly, while Uber intends to have its system collect data in the event of a collision, requiring recording 5 second after a collision imposes a broad standard without regard to the types of sensor data, or the length of post-collision recording, that may be most helpful in understanding collisions (on top of the data already collected by the federally mandated event data recorder).

NHTSA approached this same issue flexibly in its recent automated vehicles policy. Rather than recommend a specific length of time data should be recorded post-collision, NHTSA stated that that vehicles should record “all information relevant to the event and the performance

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<sup>6</sup> Additional rules relating to data recording devices are not necessary to ensure the safe operation of autonomous vehicles because they do not cause any vehicle action or protect any person. As a result, they arguably fall outside the agency’s rulemaking authority under section 38750(d)(2). For comparison, NHTSA enacted its own event data recorder regulation in 49 CFR Part 563 as a general regulation under its research authority and not within Part 571 as a safety standard because it understood that data recorders are not necessary safety equipment.

<sup>7</sup> While the Department’s proposed requirement is similar to NHTSA’s data recorder requirement, it is important to recall that by the time NHTSA promulgated its rules, vehicle event data recorders had been in widespread use for over a decade and had largely been commoditized, and crash-hardened.

of the system, so that the circumstances of the event can be reconstructed.” The Department should follow NHTSA’s example and amend its proposed regulation to allow for similar flexibility.

#### **IV. The Proposed Regulations Should Be Revised to Include Stronger Protections for Proprietary Data and Information.**

Under section 228.06(c)(7), manufacturers must submit a broad amount of testing data and information in order to obtain a deployment permit. For example, manufacturers have to provide the Department with an explanation of testing methods used to validate the performance of the autonomous vehicles, measures taken to remediate safety-critical incidents, and also a description of the operational design domains and restrictive conditions in which their vehicles can operate.

The Proposed Regulations should be revised to recognize that this information can be a confidential trade secret, which should not be subject to disclosure. A trade secret is typically defined as secret information that derives independent economic value from not being generally known.<sup>8</sup> Understanding the right types of tests to run and how to prevent safety incidents are critical to developing a commercially useful autonomous vehicle and therefore are carefully protected by manufacturers. Further, the precise operational design domain and restrictive conditions described by a company also can be highly commercially sensitive. A manufacturer should not have to risk the disclosure of that information to competitors or other third parties in order to obtain a California deployment permit.

Given the sensitivity of this information, we urge the Department to provide appropriate safeguards for the submission of such information during the application process. As one possible approach, we recommend that the Department set forth instructions for applicants to designate information as confidential, commit to keeping such information confidential, and provide notice to an applicant when a third party requests such information so that the applicant can take appropriate steps to protect the information, if necessary. For particularly sensitive categories of information, would urge the Department to classify such information up front as confidential and not subject to disclosure.<sup>9</sup>

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<sup>8</sup> See Cal. Civil Code § 3426.1(d).

<sup>9</sup> The Department could borrow from the example of the Public Utilities Commission, which has a standing order designating certain categories of information that it receives from regulated businesses as exempt from public disclosure. General Order (“G.O.”) 66-C. The general order sets out general rules the Commission will apply when evaluating whether to disclose records to the public and also sets out certain specific categories of records that will not be disclosed to the public. See, e.g., G.O. 66-C, (2.2)(c)–(e), (2.5), (2.6), (2.7). We also urge the Department to borrow from the NHTSA framework for making “class determinations” of confidential treatment. See 49 CFR 512.16.

**V. The Vague Provisions of the Proposed Regulations Requiring Manufacturers to “Coordinate” Driverless Testing with Local Authorities Should Be Eliminated.**

Section 227.38(a) of the Proposed Regulations states that before testing driverless cars a manufacturer must notify the local authorities of the operational design domain and must certify that “the testing has been coordinated with those local authorities.”

Uber welcomes the opportunity to work with local governments as it tests vehicles in California. Indeed, we have take steps to inform and update local authorities where we currently are testing. However, in enacting Vehicle Code Section 38750, the legislature created a statewide autonomous vehicle program and empowered the Department to issue regulations and administer this program. By requiring vaguely-defined “coordination” with local authorities, the proposed Regulations call for involvement from hundreds of local governments of various sizes. This risks creating a fractured and inefficient testing regime because there are no guidelines or standards as to what the local authorities are supposed to do. In addition, local authorities lack the resources or expertise to evaluate autonomous vehicle testing, which is why the legislature delegated to the Department the authority to regulate the use of autonomous vehicles in California. Therefore, the section 227.38(a) “coordination” requirement should be removed from the Proposed Regulations.

**VI. Manufacturers Should Not Be Required to Submit NHTSA Safety Assessment Letters to the Department.**

Section 227.38(g) of the Proposed Regulations states that a manufacturer must submit a NHTSA safety assessment letter in order to obtain a permit to test driverless autonomous vehicles, and section 228.06(d) states that a manufacturer must submit a NHTSA safety assessment letter to obtain a deployment permit.

The NHTSA safety assessment letter procedure is a voluntary process for automated vehicle makers which was described in a non-binding agency guidance document that is subject to change. NHTSA stated in its policy that it “intends to revise and refine the Policy periodically” and “expects to issue the first revised, follow-on Policy sometime within the next year, and at roughly annual intervals thereafter.”<sup>10</sup> The new Administration has not stated whether it continues to endorse either the policy or the safety assessment letter process. Given this level of uncertainty over the letter, NHTSA’s own intention to keep the process voluntary, and the wide range of other information and data the Department already requires for driverless testing and deployment, we urge the Department to remove both references to the NHTSA safety assessment letter from the Proposed Regulations.

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<sup>10</sup> Policy, at 8.

## **VII. The Proposed Regulations Should Be Further Clarified to Support Technology and Business Model-Agnostic Rules as well as Operational Flexibility.**

Under section 228.06, applicants must make a number of certifications regarding their technology and vehicles in order to obtain a deployment permit. We share the Department's goal to ensure that vehicles are deployed safely and welcome its support for a variety of commercial deployment models. In that spirit, we would recommend a few changes to clarify how certifications and other requirements can be met for different deployment paths.

For example, sections 228.06(a)(1) and (2) require certification that vehicles are designed to be incapable of operating outside a disclosed ODD or in certain identified restrictive conditions. Manufacturers that plan to sell vehicles to the public very well may have to take extra precautions to ensure that their vehicles are not deployed outside the intended scope. Manufacturers that operate fleets, however, have alternative avenues to ensure vehicles are deployed safely. For instance, by exercising full control over an autonomous vehicle, such manufacturers can ensure a vehicle is only deployed in areas or on specific routes, times of day, or weather in which the vehicle can operate safely. We believe that limited changes, as set forth in the attached red-line, could more clearly give effect to the Department's intent to permit certifications for different deployment models.

Similarly, section 228.06(c)(1) requires applicants to develop a consumer/end user education plan, which includes identification of all restrictions of the technology, among other features. For vehicles operated by a manufacturer as part of a ride-sharing fleet, certain consumer education requirements will be inapplicable and we support limited changes to the rules to reflect those differences.

Sections 227.38(c)(1) and 228.06(b)(1) anticipate a communication link between driverless autonomous vehicles and a remote operator. The purpose of this requirement is to allow the remote operator to monitor the status of the vehicle and communicate with vehicle passengers. While perhaps already implied by such purpose, we nevertheless encourage the Department to clarify that the communication link used to communicate with passengers may be achieved through a communication link with a device possessed by the passenger in the vehicle, like a smartphone, as an alternative to a communication link with the vehicle.

Under section 228.06(a)(8), deployment applicants are required to certify that the technology is designed to respond to roadway situations in compliance with the Vehicle Code and local rules, except when necessary for safety reasons. While the safety carve-out is important and necessary, there may be other limited departures from the road rules that mimic generally accepted and reasonable human driving behavior, but which may or may not be necessary for safety, e.g. partially crossing a double yellow line to pass a double-parked delivery truck. It is not feasible to anticipate all of those situations now, but to ensure that both manufacturers and the Department have sufficient flexibility in the future to address any legitimate deviations from strict road rules compliance, we urge the Department to grant itself discretion to grant case-by-case exceptions. Doing so would enable the Department to address

such situations in a streamlined way if and when they arise, without needing to undertake entirely new rule-making.

### **VIII. Conclusion**

Uber greatly appreciates all of the work the Department devoted to developing thoughtful regulations on testing and deployment of autonomous vehicles. We respectfully request that the Department implement the above-described recommendations in order to further expedite the safe deployment and public acceptance of autonomous vehicles, as well as to provide additional support to the variety of business models that will drive this innovative technology to market.

Sincerely,

*/s/Anthony Levandowski*

Anthony Levandowski  
Vice-President, Engineering  
Uber Advanced Technologies Group

Attachment

## Uber ATG Comments

### Appendix

#### Suggested Revisions to Select Provisions of Proposed Regulations

##### § 227.02. Definitions.

As used in this article, the following definitions apply:

(j) “Passenger” means an occupant of a vehicle who has no role in the operation of that vehicle when the autonomous technology is engaged. A passenger may summon a vehicle or input a destination, but does not engage the technology, monitor the vehicle, or drive or operate the vehicle.

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##### **PROHIBITIONS AND EXCLUSIONS – ALL TEST VEHICLES**

##### **§ 227.3426. Prohibitions on Operation on Public Roads.**

A manufacturer shall not permit any of its autonomous test vehicles to be operated on public roads in California:

(f) When members of the public that are not employees, contractors, or designees are charged a fee to ride in the vehicle without a driver, or the manufacturer receives compensation for providing a ride to the members of the public in an autonomous vehicle without a driver.

NOTE: Authority cited: Sections 1651 and 38750, Vehicle Code. Reference: Sections 16000 and 38750, Vehicle Code.

##### **APPLICATION REQUIREMENTS FOR VEHICLES DESIGNED TO OPERATE WITHOUT A DRIVER IN THE VEHICLE**

##### **§227.38. Manufacturer’s Permit to Test Autonomous Vehicles that do not Require a Driver.**

A manufacturer desiring to conduct testing of autonomous vehicles capable of operating without the presence of a driver inside the vehicle on public roads in California shall submit an application for a permit to conduct driverless testing to the department on Autonomous Vehicle Tester (AVT) Program Application for a Manufacturer’s Testing Permit – Driverless Vehicles, form OL 318 (New 2/2017), which is hereby incorporated by reference. Notwithstanding the requirements of Sections 227.04 (b), 227.24, 227.26 (a) and (b), 227.32, 227.34, and 227.36, a manufacturer may conduct testing of autonomous vehicles capable of operating without the presence of a driver inside the vehicle on public roads in California if all of the following

requirements are met:

(a) The manufacturer certifies that the local authorities within the jurisdiction where the vehicle will be tested have been notified of the operational design domain of the vehicles to be tested. The manufacturer submits to the department a copy of the written notification provided to each jurisdiction where the vehicles will be tested.

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(c) The manufacturer certifies that the vehicle complies with the all of the following:

(1) There is a communication link between the passenger and the remote operator to provide information on the vehicle's location and status and allow two-way communication between the remote operator and any passengers if the vehicle experiences any failures that would endanger the safety of the vehicle's passengers or other road users, or otherwise prevent the vehicle from functioning as intended, while operating without a driver. The certification shall include:

(A) That the manufacturer will continuously monitor the status of the vehicle and the two-way communication link while the vehicle is being operated without a driver;

(B) A description of how the manufacturer will monitor the communication link; and,

(C) An explanation of how all of the vehicles tested by the manufacturer will be monitored.

(2) There is a process to display or communicate vehicle owner or operator information as specified in Vehicle Code section 16025 in the event that the vehicle is involved in a collision or if there is a need to provide that information to a law enforcement officer for any reason.

(3) The subject autonomous vehicles comply with all required Federal Motor Vehicle Safety Standards, Title 49 Code of Federal Regulations, Part 571 and the California Vehicle Code, Division 12 (Equipment of Vehicles), except for manufacturers exempt from such requirements pursuant to 49 U.S.C. § 30112(b)(10). Alternatively, the manufacturer shall provide evidence of an exemption that has been approved by the National Highway Traffic Safety Administration.

(h) The manufacturer shall disclose to any passenger in the vehicle that is member of the public that is not an employee, contractor, or designee of the manufacturer what personal information, if any, concerning passengers is collected by the autonomous vehicle.

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**Deleted:** (g) A manufacturer shall submit a copy of the safety assessment letter, excluding any confidential business information, that has been submitted to the National Highway Traffic Safety Administration (NHTSA) as specified in the "Vehicle Performance Guidance for Automated Vehicles" in the Federal Automated Vehicles Policy. -

Express Terms

Title 13, Division 1, Chapter 1

Article 3.8 – Deployment of Autonomous Vehicles

**§228.02. Definitions**

As used in this article the following definitions apply:

(a) “Autonomous technology data recorder” is a mechanism, in addition to, and separate from, any other mechanism required by law, installed in an autonomous vehicle to record technical information about the status and operation of the vehicle’s autonomous technology sensors for 30 seconds prior to a collision.

.....

(c) “Deployment” means the operation of an autonomous vehicle on public roads by members of the public who are not employees, contractors, or designees of a manufacturer or other testing entity.

(1) “Deployment” also includes when the manufacturer sells, leases, or otherwise makes autonomous vehicles available for use outside of a testing program.

(2) “Deployment” also includes the operating of autonomous vehicles outside of a testing program where transportation services are provided to members of the public and a fee is charged unless such services are provided by the manufacturer’s vehicles with a driver who is an employee, contractor or designee of the manufacturer.

**§228.06. Application for a Permit for Post-Testing Deployment of Autonomous Vehicles on Public Roads.**

(a) Except for testing as provided in Sections 227.28 and 227.40 of Article 3.7 an autonomous vehicle shall not be deployed on any public road in California until the manufacturer has submitted and the department has approved an Application for a Permit to Deploy Autonomous Vehicles on Public Streets, form OL 321 (New 2/2017), which is hereby incorporated by reference.

(1) The manufacturer shall identify in the application the operational design domain in which the subject autonomous vehicles are designed to operate and certify that the vehicles will not operate in the autonomous mode in areas outside of the disclosed operational design domain.

(2) The manufacturer shall identify any commonly-occurring or restricted conditions, including but not limited to: snow, fog, black ice, wet road surfaces, construction zones, and geo-fencing by location or road type, under which the vehicles are either designed to be incapable of operating or unable to operate reliably in the autonomous mode and

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certify that the vehicles will not operate in autonomous mode under those conditions unless the manufacturer determines that it can safely operate the vehicle when the vehicle is subjected to those conditions.

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(5) The manufacturer shall certify in the application that the autonomous vehicles are equipped with an autonomous technology data recorder that captures and stores autonomous technology sensor data for all vehicle functions that are controlled by the autonomous technology at least 30 seconds before a collision with another vehicle, person, or other object while the vehicle is operating in autonomous mode. The data captured and stored by the autonomous technology data recorder, in a read only format, must be capable of being accessed and retrieved by an external device.

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(6) The manufacturer shall certify that the autonomous vehicles comply with all applicable Federal Motor Vehicle Safety Standards, Title 49 Code of Federal Regulations, Part 571, and the California Vehicle Code, Division 12 (Equipment of Vehicles), or the manufacturer shall provide evidence of an exception that has been approved by the National Highway Traffic Safety Administration.

(7) The manufacturer shall certify that the autonomous technology meets Federal Motor Vehicle Safety Standards, if any, for the vehicles' model year, and that the autonomous technology does not make inoperative any Federal Motor Vehicle Safety Standards, Title 49 Code of Federal Regulations, Part 571, and the California Vehicle Code, Division 12 (Equipment of Vehicles).

(8) The manufacturer shall certify that the autonomous technology is designed to detect and respond to roadway situations in compliance with all provisions of the California Vehicle Code and local regulation applicable to the operation of motor vehicles, except when necessary for the safety of the vehicle's occupants and/or other road users or as otherwise permitted by the Department.

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(b) In addition to the requirements specified in subsection (a), for vehicles that do not require a driver, the manufacturer shall also certify that the vehicle complies with all of the following:

(1) A communication link between the passenger and the remote operator, if any, to provide information on the vehicle's location and status and allow two-way communication between the remote operator and any passengers if the vehicle experiences any failures that would endanger the safety of the vehicle's passengers or other road users while operating without a driver.

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(c) The manufacturer shall submit with the application all of the following:

(1) If the vehicles will be operated by members of the public, a consumer or end user

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education plan, which covers the operational design domain of the vehicle, which also includes the following:

(A) The identification of any and all restrictions of the autonomous technology in the autonomous vehicles and an explanation of the educational materials that will be provided to end users of the autonomous vehicles produced by the manufacturer.

(B) A copy of the sections of the vehicle owner’s manual, or an equivalent vehicle operator instruction guide or pamphlet that provides information on the following:

(i) The mechanism to engage and disengage the autonomous technology showing that the mechanism is easily accessible to the vehicle operator.

(ii) The visual indicator inside the vehicle’s cabin to indicate when the autonomous technology is engaged.

(iii) The operator and manufacturer’s responsibilities with respect to the operation of the autonomous vehicles.

(C) An explanation how end users will receive education after purchasing a previously-owned vehicle.

(D) The internet web site address where copies of the end user education plan may be accessed shall be provided at no cost to law enforcement and emergency response agencies in the vicinity of the operational design domain of the vehicles and shall be provided to the California Highway Patrol at the address provided in section 227.38 (e)(3) of Article 3.7.

.....

(e) The requirements identified in subsections (b) and (c) of this section shall be submitted as follows:

(1) Documents shall be submitted on business letterhead and clearly identify the party completing the plan or report.

(2) Each plan or report shall contain at least a two-page summary including the contents and conclusion of the plan or report. Charts, graphs or other visual or audio materials may be included as attachments to the summary.

(3) Each page shall be sequentially numbered, and contain the name of the party completing the plan or report, and shall name or identify the subject autonomous vehicles covered by the technology in the plan or report.

(4) Each plan or report shall be signed and dated under penalty of perjury, by the party completing the plan or report, certifying the correctness of its contents.

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**Deleted:** (d) A manufacturer shall submit a copy of the safety assessment letter, excluding any confidential business information, that has been submitted to the National Highway Traffic Safety Administration (NHTSA) as specified in the “Vehicle Performance Guidance for Automated Vehicles” in the Federal Automated Vehicles Policy.

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