Final Statement of Reasons

1) Update to the Initial Statement of Reasons

The department made several changes to the proposed regulatory text, which was provided for comment beginning on April 25, 2025 and ending on June 9, 2025. The department then published the first modification to the text from December 3, 2025 through December 18, 2025. Finally, the department published the second modification to the text from January 21, 2026, through February 5, 2026. The following changes represent the updates to the initial statement of reasons:

The department made several non-substantive amendments to add the revision date to each form referenced in the regulations. These amendments are non-substantive as all the forms are incorporated by reference.

§ 227.02. Definitions.

Subdivision (d), defining "automated driving system service," was amended to remove reference to "registered owner or lessee," replacing with the term "end user" in the definition of automated driving system (ADS) service. Based on stakeholder comments, the department added the term "end user" to define the person who owns or leases an autonomous vehicle and is not the manufacturer of the automated driving system. The definition allows for a clear distinction in the roles and responsibilities associated with regulatory requirements. The department supports these comments and made the recommended change.

Subdivision (h), defining "autonomous vehicle," was amended to provide clarity to the regulated public on specific types of examples of relevant information that the department may rely on to determine whether a vehicle is classified as an autonomous vehicle and therefore subject to statutory and regulatory requirements for autonomous vehicles. Examples include, but are not limited to, demonstrations of the autonomous technology provided by the manufacturer, reports from other regulatory agencies, and media sources.

Subdivision (i), which defines "autonomous vehicle test driver," was amended to provide clearer guidance to the regulated public regarding the specific driving tasks expected of a test driver. These clarifications emphasize the critical role test drivers play in ensuring the safe operation of an autonomous vehicle during the initial testing phase. Monitoring the driving environment (what is occurring around the vehicle), the performance of the vehicle (how steering, braking, and similar functions are responding), and the automated driving system (how the ADS responds to the environment and executes the driving task) are all essential components of safe autonomous vehicle operation. The test driver must also be able to immediately perform the driving task fallback whenever necessary to ensure traffic safety.

Subdivision (j), defining "avoidance area," was amended to align with the requirements in Vehicle Code section 38751 (d)(1) to indicate that "a manufacturer must issue direction to its fleet of autonomous vehicles to leave or avoid for the initial duration provided by the emergency response official or for an extended duration, when specified by the emergency response official." The department received stakeholder comments addressing concerns that the proposed regulatory draft language is inconsistent with the California Vehicle Code and creates requirements that go beyond emergency geofencing message requirements set forth in the California Vehicle Code section 38751 adopted by the passage of Assembly Bill 1777 (Chapter 682; Statutes of 2024). The department supports these comments and made the recommended change.

Subdivision (o) was adopted to add the term "direct route" to provide clarity and enforceability regarding the routing of autonomous heavy-duty commercial motor vehicles operating under a departmental permit. The definition establishes a clear standard for acceptable travel paths—those that are efficient, geographically logical, and limited to essential stops for regulatory compliance, safety, or servicing. It supports the broader regulatory requirement that prohibits these vehicles from operating on local roads with posted speed limits of 25 miles per hour or less, except when accessing their operational design domain (ODD), by ensuring that vehicle routes avoid unnecessary detours through sensitive areas such as residential neighborhoods, school zones, and urban cores.

Subdivision (r), defining "Drivered Testing Permit Application," was renumbered to subdivision (s) and was amended to provide additional clarity that the manufacturer may submit the application form electronically via the department's web portal.

Subdivision (t), defining "Driverless Testing Permit Application," was renumbered to subdivision (u) and was amended to provide additional clarity that the manufacturer may submit the application form electronically via the department's web portal.

Subdivisions (v) through (x), (nn), and (oo) were adopted to rename the drivered and driverless testing permit applications according to permitting lifecycle (i.e., original, renewal, modification). This amendment is based on comments from the autonomous vehicle industry to address permitting ambiguity by providing a clearer delineation of each application's distinct requirements and certifications applicable at each stage of the permitting lifecycle. All references to the original, renewal, or modified Drivered and Driverless Testing Permit Applications throughout Article 3.7 are replaced by the renamed testing permit applications. In addition, subdivisions (v), (w), and (x) provide additional clarity that the manufacturer may submit the application form electronically via the department's web portal.

Subdivision (aa) was adopted to define the term "dynamic driving task performance relevant system failure," which is currently defined in the proposed regulatory draft of Article 3.8 in section 228.02 (e). Stakeholders advocated for this metric to replace disengagement reporting to avoid potentially burdensome or resource intensive overreporting of routine, non-safety-related deactivations, thereby allowing the department to capture a focused picture of safety-relevant and safety-critical incidents and more meaningful operational safety risks. The Department clarifies that the reporting requirement for dynamic driving task performance relevant system failure applies only to instances where a test driver takes over or performs the dynamic driving task fallback in response to a dynamic driving task performance relevant system failure, which is a malfunction or degradation that prevents the automated driving system from reliably performing its portion of the driving task. This is distinct from the former disengagement reporting under Section 227.50, which required reporting any deactivation of autonomous mode, including precautionary or routine interventions. Disengagement reporting was removed because it did not provide meaningful safety insights, whereas the current requirement focuses on system reliability and safety-critical failures. This ensures that data collected reflects actual performance issues rather than operational decisions or conservative safety practices.

Subdivision (w), defining "emergency," was renumbered to subdivision (bb) and was amended to align the definition of "emergency" with the statutory definition set forth in the California Vehicle Code section 38751 (a)(3).

Subdivision (x), defining "emergency geofencing message," was renumbered to subdivision (cc) and was amended to align the definition of "emergency geofencing message" with the statutory definition set forth in the California Vehicle Code section 38751 (a)(1).

Subdivision (ee) was adopted to define the term "end user," which is referenced in the currently adopted deployment regulations, to distinguish manufacturers' responsibilities from end users of autonomous technology (e.g., owners, lessees, consumers, passengers, etc.). Based on stakeholder comments, the department added the term end user to define the person who owns or leases an autonomous vehicle and is not the manufacturer of the automated driving system. The definition allows for a clear distinction in the roles and responsibilities associated with regulatory requirements. The department supports these comments and made the recommended change.

Subdivision (ii) was adopted to define the term "low-speed autonomous vehicle" and provide clarity and regulatory consistency for autonomous vehicles that are specifically designed to operate at lower speeds. These vehicles often serve

specialized functions such as short-distance transportation within defined environments (e.g., campuses, business parks, or urban centers). By clearly defining "low-speed autonomous vehicle," the department ensures that such vehicles are appropriately categorized and regulated according to their operational capabilities and safety considerations. This distinction also supports the development and deployment of innovative mobility solutions while maintaining public safety. The department made a clarifying, non-substantive edit to subdivision (ii) to remove the word "one" and replace with "an autonomous vehicle."

Subdivision (h), defining "manufacturer," was renumbered to subdivision (jj) and was amended to revise the proposed regulatory draft language to leverage the currently adopted definition of the term "manufacturer" in Article 3.7. This amendment is based on stakeholder comments and aligns with the statutory definition of manufacturer set forth in the California Vehicle Code section 38750 (a)(5).

Subdivision (l), defining "personal information," was renumbered to subdivision (qq) and was amended to remove reference to "registered owner or lessee," replacing with the term "end user" in the definition of personal information. Based on stakeholder comments, the department added the term end user to define the person who owns or leases an autonomous vehicle and is not the manufacturer of the automated driving system. The definition allows for a clear distinction in the roles and responsibilities associated with regulatory requirements. The department supports these comments and made the recommended change.

Subdivision (kk), defining "remote assistant," was renumbered to subdivision (tt) and was amended to align the definition of remote assistant with the Society of Automotive Engineers (SAE) International's Taxonomy and Definitions for Terms Related to Driving Automation Systems for On-Road Motor Vehicles, standard J3016 (APR2021). The department received comments from the autonomous vehicle industry that the proposed requirements do not align with industry standards for remote assistant roles and responsibilities. The amendment addresses those concerns.

Subdivision (n), defining "remote driver," was renumbered to subdivision (uu) and was amended to align the definition of remote driver with Society of Automotive Engineers (SAE) International's Taxonomy and Definitions for Terms Related to Driving Automation Systems for On-Road Motor Vehicles, standard J3016 (APR2021). The department received comments from the autonomous vehicle industry that the proposed requirements do not align with industry standards for remote driver roles and responsibilities. The amendment addresses those concerns.

Subdivision (oo), defining "safety case," was renumbered to subdivision (xx) and was amended in response to stakeholder comments. The revision clarifies both the definition of a safety case and the requirement that manufacturers must provide a

comprehensive description of a safety case. This description includes the core safety information elements outlined in Article 3.7. These core safety information elements reflect industry best practices and serve as a framework for evaluating the manufacturer's overall approach to autonomous vehicle safety. The amendment provides enhanced clarity to the regulated public regarding the contents of a safety case submission to ensure the department receives safety-relevant information that supports application review and permitting. The department supports these comments and made the recommended change. Subdivision (xx) is amended based on stakeholder feedback to removes the terms "completed" and "compliance with" from the regulatory text. A safety case is a document that manufacturers must refine throughout the lifecycle of the automated driving system. The department recognizes that no single overarching safety standard exists for automated driving systems. Instead, multiple recognized approaches exist for addressing safety and engineering. The intent of the regulation is not to prescribe one specific standard but to require manufacturers to clearly articulate the standards, methodologies, and best practices they applied in the design and validation of their systems. The amendment further specifies that the required description should articulate how the manufacturer's evidence supports the safety case, rather than requiring submission of all supporting evidence, which may be highly technical and voluminous. Additionally, the amendment removes capitalization from the phrase "Artificial Intelligence (AI) safety," as it does not reference a specific standard or defined term within the regulations. AI safety addresses risks unique to machine learning, and industry best practices and safety frameworks—such as those developed by the AV Safety Consortium—are increasingly recognizing AI safety as a distinct domain that warrants explicit consideration. In the Order to Adopt, the department is removing the term "completed" from the definition of a safety case in 13 CCR 227.02(xx). During the second 15 day comment period, the department explained in the Amended Statement of Reasons that the term should be removed. While preparing the Final Statement of Reasons, the department discovered that the term had not been fully removed from the express terms. The term is now removed as a non-substantive change.

Subdivision (o), defining "testing," was renumbered to subdivision (yy).

Subdivision (qq), defining "vehicle immobilization," was renumbered to subdivision (zz) and was amended to specify that vehicle immobilizations apply exclusively to autonomous vehicles operating in a driverless configuration. The amended language also expands the definition of "manual intervention" to include situations in which a driverless vehicle with manual driving controls is driven by a human driver or a vehicle with no manual driving controls is supported by a remote driver. This addresses stakeholder concerns by providing regulatory clarity on what manual intervention

involves. The department supports these comments and made the recommended change.

§ 227.18. Manufacturer's Testing Permit and Manufacturer's Testing Permit -- Driverless Vehicles.

Subdivision (c) was amended to limit the driverless testing and deployment of autonomous heavy-duty commercial motor vehicles—except for medium-duty vehicles used to transport passengers, as described in section 227.26(a)(6)(B)—on local roads with a posted speed limit of 25 miles per hour or less. These vehicles may only operate on such roads if the roads fall within a direct route between hubs, motor carrier and shipper facilities, distribution centers, fueling or charging stations, maintenance facilities or terminals as defined in California Vehicle Code 34515, or other non-residential facilities, and if the roads permit travel by that vehicle weight class. The department maintained this operational design domain restriction due to public safety considerations associated with the complexity of certain roadway environments, such as residential neighborhoods, school zones, and urban cores, while amending the allowable exceptions to clarify that routes need not include freeways and removing the requirement for manufacturers to submit all specific routes on which they will operate, in response to feasibility concerns raised by commenters.

Referencing a "direct route" establishes a clear standard for acceptable routes for driverless testing and deployment of autonomous heavy-duty commercial motor vehicles—those that are the most linear, geographically logical, and efficient, while preserving safety and regulatory compliance.

Subdivision (c)(1) was removed due to stakeholder comments opposing the department's proposed requirement for manufacturers to provide all specific routes and local roads within the operational design domain as this would be burdensome for manufacturers to maintain, especially as operations scale. The department supports these comments and made the recommended change. The department will continue its statutory role to evaluate the automated driving system's ability to safely operate within the intended operational design domain, including routes that traverse high density areas, through reviewing the manufacturer's comprehensive description of a safety case and operational data submitted at the time of application and on a monthly or quarterly cadence as part of expanded data reporting requirements, and leveraging post-permitting controls, such as the Request for Information process, which will give the department authority to request specific information on incidents involving the operation of autonomous vehicles on public roads. These measures will provide the department with safety-relevant data that will enhance the department's regulatory oversight on safety performance, amplify its

visibility on roadway incidents that occur during testing or deployment, as well as establish mechanisms for ongoing engagement with manufacturers throughout the permit lifecycle.

Subdivision (c)(2) was renumbered to subdivision (c)(1) and was amended to specify that the regulation exclusively applies to manufacturers of autonomous heavy-duty commercial motor vehicles. This provides regulatory clarity and addresses light-duty autonomous vehicle manufacturers' concerns to eliminate ambiguity.

§ 227.20. Term of Permit.

Subdivisions (a) and (b) were amended to maintain the existing two-year renewal cycle for testing permits. The department is amending this regulation based on stakeholder feedback to revert the duration of testing permits to a biennial renewal cycle.

Subdivision (c) was adopted to clarify that the two-year validity period for a Driverless Testing Permit shall restart for a successive two-year period upon approval of a Driverless Testing Operational Parameters Modification Application. Additionally, the expanded reporting obligations during the permit period, the department's authority to request specific information about incidents on public roads, and the operational testing data requirements tied to the modification application collectively provide the department with critical data to assess the safe operation of autonomous vehicles. These measures provide mechanisms for continued engagement with manufacturers throughout the permit lifecycle. The department supports these comments and made the recommended change.

§ 227.26. Vehicles Excluded from Testing and Deployment.

Subdivision (a)(3) was amended in response to stakeholder comments to remove reference to the California Vehicle Code section 34500 (g), replacing it with section 27903. This amendment clarifies that the prohibition applies only to vehicles transporting hazardous materials requiring a vehicle placard pursuant to federal hazmat regulations set forth in 49 Code of Federal Regulations, Part 100. This avoids unintentionally prohibiting transport of routine goods such as household cleaning materials and other goods that do not require a placard.

Subdivision (a)(6) was amended to specify that autonomous vehicles with a gross vehicle weight rating of 10,001 pounds or more shall be prohibited from being used to transport passengers during testing or deployment, except under certain circumstances.

Subdivision (a)(6)(A) was adopted to allow autonomous heavy-duty commercial motor vehicles designed to transport property to carry third party validators, business

partners, and manufacturer personnel as passengers for testing and demonstration purposes. The amendments are based on feedback from interested parties indicating that the draft regulations unintentionally impacts and restricts manufacturers of autonomous heavy duty commercial motor vehicles that conduct freight operations and have in-vehicle passengers that are designees of the manufacturers and not members of the public. The amendment provides a regulatory pathway allowing manufacturers of autonomous heavy-duty commercial motor vehicles that transport freight to carry a select group of individuals for testing and demonstration purposes.

Subdivision (a)(6)(B) was adopted to allow vehicles with a gross vehicle weight rating of less than 14,001 pounds that meet the statutory definition of a bus set forth in the California Vehicle Code section 233 (b) and are designed to transport no more than 15 passengers, which includes the attendant, exemption to conduct passenger service when operated by or in partnership with a public entity as defined in the Government Code 811.2 or independent institutions of higher education as defined in the California Education Code 66010 (b). A manufacturer operating under this exemption shall be required to provide to the department any complete and unredacted Safety Compliance Report/Terminal Record Update (form CHP 343), Driver/Vehicle Examination Report (form CHP 407F), Notice to Carrier (form CHP 345), if applicable, and all attachments issued by the California Highway Patrol (CHP) within 30 business days of receipt. This provides clarity to the regulated industry regarding which forms must be submitted to the department to support the evaluation of autonomous vehicle safety on public roads. The exemption for medium-duty passenger service allows autonomous vehicle manufacturers to partner with public entities and private universities to explore expanded mobility options. The medium-duty exemption ensures that these vehicles remain subject to annual inspection by the CHP. During these inspections, CHP may identify violations related to vehicle maintenance or driver records. If a passenger reports feeling unsafe due to the vehicle's mechanical condition, CHP also has the authority to conduct an inspection at any time in response to the complaint. The regulation requires manufacturers to submit any terminal inspection report to the department. The department may then exercise its Request for Information or restriction, suspension, or revocation authority in response to any vehicle maintenance or driver record issues identified by the CHP. Additionally, the department has amended its enforcement authority to include any directive, restriction, or prohibition issued by the Federal Transit Administration (FTA) to a transit agency as grounds for restriction, suspension, or revocation. The department received comments from local transportation agencies, accessibility advocates, and manufacturers of autonomous shuttles recommending a targeted exemption that allows autonomous vehicles with a gross vehicle weight rating below 14,001 pounds to be used for passenger service when operated by, or in

partnership with, public entities such as transit agencies, local governments, universities, and airports to provide a pathway for accessible shared mobility solutions beyond the single-passenger transit use case and foster continued innovation of emerging technologies.

§ 227.28. Manufacturer's Testing Permit Application.

Non-substantive changes to subdivision (a) to remove form revision dates.

Subdivision (a)(1) was amended to specify Original Driverless Testing Permit Application. This amendment is based on comments from the autonomous vehicle industry to address permitting ambiguity by providing a clearer delineation of each application's distinct requirements and certifications applicable at each stage of the permitting lifecycle.

Non-substantive changes to subdivision (c) to update the name of the form OL 315 and to remove form revision dates.

A non-substantive amendment was made to subsection (c) to add into the adopted text, existing language that was inadvertently missed in editing. Current regulations allow the forms referenced in subsection (c) to be submitted through the department's web portal. This language is added back into the text as the forms can still be submitted through the portal.

Subdivision (d) was amended to require manufacturers submitting an original, renewal or modification, that is intended to implement changes as defined in section 227.42, subsections (o) (1) through (o) (7), of a Driverless Testing Permit Application, form OL 318 (Rev. 2/2025), to submit a comprehensive description of a safety case, supported by a description of the evidence demonstrating functional safety, safety of the intended function, artificial intelligence safety, cybersecurity, and operational safety. These core safety information elements reflect industry best practices established by the Automated Vehicle Safety Consortium and serve as a framework for evaluating a manufacturer's overall approach to autonomous vehicle safety. The amendment also provides regulatory clarity regarding the contents of a safety case that the department will use to evaluate and assess autonomous vehicle safety.

Subdivision (d) is amended based on stakeholder feedback and removes the terms "completed", "accompanied", and "compliance with the following areas" from the regulatory text. A safety case is a document that manufacturers must refine throughout the lifecycle of the automated driving system. The department recognizes that no single overarching safety standard exists for automated driving systems. Instead, multiple recognized approaches exist for addressing safety and engineering. The intent of the regulation is not to prescribe one specific standard but to require manufacturers to clearly articulate the standards, methodologies, and best practices

they applied in the design and validation of their systems. The amendment further specifies that the required description of a safety case should articulate how the manufacturer's evidence supports the safety case, rather than requiring submission of all supporting evidence, which may be highly technical and voluminous. The amendment removes capitalization from the phrase "Artificial Intelligence (AI) safety," as it does not reference a specific standard or defined term within the regulations. AI safety addresses risks unique to machine learning, and industry best practices and safety frameworks—such as those developed by the AV Safety Consortium—are increasingly recognizing AI safety as a distinct domain that warrants explicit consideration.

Subdivision (d) was also amended to specify that the department may consult with third-party technical experts to review a manufacturer's safety case. The Legislature, as reflected in Vehicle Code section 38750(d)(2), encourages the Department to consult with subject matter experts in automotive technology, automotive safety, and autonomous systems design. Given this directive and the broad authority granted to the Department under Vehicle Code section 38750, engaging outside experts to conduct technical reviews of information submitted under these regulations falls fully within the Department's discretion. The same specialized expertise required to develop effective regulations is equally essential for evaluating compliance with those standards. This interpretation aligns with the statute's purpose of ensuring public safety and reinforces the Department's ability to maintain ongoing oversight. Confidential Business Information (CBI) is protected by applicable California Public Records Act exemptions and trade secret protections, which mitigates the risk of disclosing confidential information. In addition, any third-party experts are bound by contractual confidentiality obligations that require them to safeguard CBI and prohibit unauthorized disclosure.

Subdivision (d) also removes the proposed requirement for manufacturers to submit a modified version of the safety case, including a summary of the modifications made, within 10 business days of any material modifications to the core safety information elements. The department received public comments that it is unclear what is considered a "material" change to a safety case and submitting all changes could impose burden to industry, given the technical evidence that would need to be provided to substantiate each safety claim. Description of the safety case shall be provided during the application process or when requested by the department through a Request for Information.

Subdivisions (e), (e)(1), (e)(2), and (e)(3), were removed as commercial motor vehicles that operate on public roads in California are already subject to existing state law, which includes inspections conducted by the California Highway Patrol.

§ 227.30. Review of Application.

Non-substantive changes to subdivision (a) to remove form revision dates.

§ 227.32. Requirements for Autonomous Vehicle Test Drivers.

Non-substantive amendments were made to remove the word "is" from subsection (a) and to remove the word "be" from subsection (d).

§ 227.34. Qualifications for Autonomous Vehicle Test Drivers.

Non-substantive changes to subdivision (a) to remove form revision dates.

Numbering for subdivision (a)(1) was adopted.

Subdivisions (b) and (b)(1) were amended to remove references to remote driver. Permitting requirements for remote drivers are specified in Section 227.38.

Subdivision (b)(5)(D) was amended to specify that the regulation applies to manufacturers of autonomous heavy duty commercial motor vehicles. This provides regulatory clarity and addresses light-duty autonomous vehicle manufacturers' concerns to eliminate any ambiguity and provide consistency within the subdivision.

§ 227.36. Autonomous Vehicle Test Driver Training Program.

Numbering for subdivision (a)(1) is adopted.

§ 227.38. Requirements, Qualifications, and Training for Remote Drivers.

Subdivision (a) was amended to remove the proposed requirement for a remote assistant to be issued a permit. Therefore, form OL 323 (Rev. 8/2025), is renamed from "Autonomous Vehicle Remote Assistant / Remote Driver Permit" to "Remote Driver Permit." The department received comments that since the remote assistant is not responsible for performing the dynamic driving task or dynamic driving task fallback, which falls within test driver and remote driver obligations, this role does not require individual permitting which is intended to amplify the department's oversight on the driving record. The amendment addresses those concerns.

Subdivision (b)(5) was amended to align remote driver functional requirements with the California Vehicle Code section 38751 (b)(1)(C). The department received stakeholder comments addressing concerns that the proposed language is inconsistent with statute and creates requirements that go beyond remote operator statutory requirements adopted by the passage of Assembly Bill 1777 (2024), thereby creating confusion on remote driver functions. Moreover, there were concerns about the ability of manufacturers of purpose-built vehicle platforms to comply with the department's proposed requirements for remote drivers to allow an emergency response official to move the autonomous vehicle. A clarifying, non-substantive

amendment is made to subdivision (B)(5) to add the words "if it is", when referencing autonomous vehicles equipped with an override system.

Subdivision (c)(4) was amended to provide additional clarity on the records manufacturers must maintain associated with a remote driver's permit. Remote drivers are distinct from Remote Assistants in that they are capable of performing part or all of the vehicle's dynamic driving task. Maintaining these records is critical for traffic safety and ensures the department has access to the most current information about these personnel.

Subdivision (d)(5) was amended to specify that a remote driver holds a valid driver's license and applicable endorsements for the type of vehicle being operated. In addition to a driver license of the appropriate class, drivers of certain vehicle types or who transport passengers or specific cargo are also required to have a driver license endorsement that allows them to do so. This amendment clarifies that a remote driver must have the proper driver's license and any applicable endorsements for the type of vehicle being operated.

Subdivisions (d)(5)(A) through (d)(5)(C) were adopted to require that a remote driver's driver license record includes none of the disqualifying traffic violations. Remote drivers are capable of performing part or all of the vehicle's dynamic driving task and must have driver record requirements similar to autonomous test drivers. This allows the department to continue maintaining safety oversight on remote personnel to ensure the safe operation of autonomous vehicles on public roads and aligns permitting requirements with those established for test drivers, who similarly perform part of the dynamic driving task or dynamic driving task fallback.

Currently, Section 227.38(l) allows changes to the Manufacturers Testing Permit for driverless vehicles to be submitted on a form OL 318 and pay a fee. This requirement is repealed from Section 227.38 and moved to Section 227.28, related to the Manufacturer's Testing Permit.

§ 227.40. Requirements, Qualifications, and Training for Remote Assistants.

Subdivision (a) was amended to remove the proposed requirement for a remote assistant to be issued a permit. The department received comments that since the remote assistant is not responsible for performing the dynamic driving task or dynamic driving task fallback, which falls within test driver and remote driver obligations, and that this role does not require individual permitting which is intended to amplify the department's oversight on the driving record. Instead, remote assistants provide guidance while the autonomous vehicle retains continuous control of the driving function. Additionally, the department recognizes that individually permitting these

personnel—who may frequently enter or leave a manufacturer's employment—places an unnecessary burden on the regulated industry.

Subdivision (b) was renumbered to subdivision (a).

Subdivision (a)(4) was amended to align remote assistant functional requirements with the California Vehicle Code section 38751 (b)(1)(C). The department received stakeholder comments addressing concerns that the proposed language is inconsistent with statute and creates requirements that go beyond remote operator statutory requirements adopted by the passage of Assembly Bill 1777 (2024), thereby creating confusion on remote assistant functions. Moreover, there were concerns about the ability of manufacturers of purpose-built vehicle platforms to comply with the department's proposed requirements for remote assistants to allow an emergency response official to move the autonomous vehicle. A clarifying, non-substantive amendment is made to add the words "if it is" when referencing autonomous vehicles equipped with an override system.

Subdivision (c) was renumbered to subdivision (b).

Subdivision (b)(4) was amended to specify that manufacturers shall maintain records associated with a remote assistant's driver's license. This specifies the types of records that manufacturers shall maintain to ensure that only qualified individuals are permitted to participate in the testing program as a remote assistant.

Subdivision (d) was renumbered to subdivision (c).

§227.42. Manufacturer's Permit to Test Autonomous Vehicles That Do Not Require a Driver in the Driver's Seat.

All references to the original, renewal, or modified Driverless Testing Permit Application in Section 227.42 were replaced by the renamed testing permit applications. This amendment corrects permitting ambiguity by providing a clearer delineation of each application's distinct requirements and certifications applicable at each stage of the permitting lifecycle.

Non-substantive changes to subdivisions (a), (a)(1), (a)(1)(A), and (a)(2)(A).

Subdivisions (a)(2) and (b)(2) were amended to clarify reporting requirements outlined in subdivision (d) for manufacturers of autonomous heavy-duty commercial motor vehicles that opt to meet a portion of mileage-based permitting requirements by submitting operational data from testing conducted outside of California in an operational design domain that is the same or comparable to that which is intended for testing with a Driverless Testing Permit. In addition, subdivision (b)(2) was amended to clarify that the testing must be conducted under a Drivered Testing Permit, not a Driverless Testing Permit. An ODD is considered the same when the testing conditions

are identical, including roadway type, lane configuration, speed range, environmental conditions, and traffic characteristics. An ODD is considered comparable when it is not identical but still sufficiently similar in key aspects to demonstrate the vehicle's ability to operate safely under California's intended conditions. Comparable ODDs share functional similarities in roadway type, operational constraints such as speed and lane use, environmental factors like climate, and infrastructure elements such as signage and markings. The Department will evaluate submitted evidence to ensure the out of state ODD provides a reliable basis for demonstrating safety and performance in California. A manufacturer applying to expand operations under a Driverless Testing Permit would not be authorized to test within the specified operational design domain until receiving approval. The manufacturer must first demonstrate testing with a safety driver. This clarification corrects an error in the initial draft of the express terms and aligns with the original intent described in the Initial Statement of Reasons.

Subdivision (b) was amended to specify that this regulation applies to modifications, as described in Section 227.42, subdivision (o)(1) through (o)(7), of a Driverless Testing Permit. This addresses concerns from manufacturers for enhanced clarity on the specific requirements to modify a Driverless Testing Permit.

Non-substantive change to subdivision (b).

Subdivision (c) was amended to specify that this regulation applies to original or modifications, as described in Section 227.42, subdivision (o)(1) through (o)(7), of a Driverless Testing Permit. This addresses concerns from manufacturers for enhanced clarity on the specific requirements to modify a Driverless Testing Permit.

Subdivision (c)(1) was amended to require a manufacturer submitting a Driverless Testing Permit Operational Parameters Application to report any dynamic driving task performance relevant system failure that occurred in autonomous mode in the year prior to the date of application, which replaces disengagement reporting requirements. The industry is collectively opposed to expanding disengagement reporting and argues that other metrics have a more direct nexus with safety performance.

Disengagements, vehicle immobilizations, and dynamic driving task performance relevant system failures all capture similar scenarios, in which the automated driving system ceases to perform the dynamic driving task. However, unlike immobilizations and dynamic driving task performance relevant system failures, disengagements include situations in which the system is disengaged for voluntary or routine reasons. The department agrees with the comments and will instead require that manufacturers shall report dynamic driving task performance relevant system failures to assess autonomous vehicle on-road testing performance, in alignment with SAE

J3016, when applying to implement and process changes, as described in Section 227.42, subdivision (o)(1) through (o)(7), to a Driverless Testing Permit. The manufacturer shall submit the report electronically in .csv format via the department's web portal. In addition, subdivision (c)(1) references the electronic Vehicle Miles Traveled and Dynamic Driving Task Performance Relevant System Failure Reporting Templates (Rev. 2025), which the department will make accessible to manufacturers online. These reporting templates will provide additional clarity to the regulated public on data reporting requirements. These reporting templates create a standard, structured format for manufacturers to submit required data and will include a data dictionary that describes the required data elements in detail, including data format, field names, and measurement units. This will improve standardization and streamline the application process and enhance the consistency, quality, and reliability of the data to support the department's oversight, regulation, and enforcement of autonomous vehicle operations.

Subdivision (c)(2) was amended to align with collision reporting requirements set forth in the current revision (June 2025) of the National Highway Traffic Safety Administration's (NHTSA) Standing General Order (SGO). The department is removing prior proposed language to align with federal crash reporting, instead requiring manufacturers to submit crash reports submitted to NHTSA in the year prior to the date of application to implement changes to a Driverless Testing Permit as described in Section 227.42 (o)(1) through (o)(7). The manufacturer shall submit the reports electronically in .csv format via the department's web portal. In addition, subdivision (c)(2) references the electronic Collision Reporting Template (Rev. 12/2025), which the department will make accessible to manufacturers online. This reporting template will provide additional clarity to the regulated public on collision reporting requirements. These reporting templates create a standard, structured format for manufacturers to submit required collision data and includes a data dictionary that describes the required data elements in detail, including data format, field names, and measurement units. This information improves standardization, streamlines the application process and enhances the consistency, quality, and reliability of the data to support the department's oversight, regulation, and enforcement of autonomous vehicle operations.

Subdivision (c)(3) was amended to remove reporting requirements for submitting a full description of all contributing factors that led to or caused each braking event and measures taken to remediate the cause of each braking event, where applicable. The amendments reduce potentially burdensome reporting requirements that involve manual collection and review of qualitative data and are resource and labor intensive. The department retains investigatory authority to review any incident

involving an autonomous vehicle operating on public roads through the Request for Information process.

Subdivision (c)(3) references the electronic Braking Event Reporting Template (Rev. 12/2025), which the department will make accessible to manufacturers online. This reporting template will provide additional clarity to the regulated public on braking event reporting requirements and creates a standard, structured format for manufacturers to submit required braking data and includes a data dictionary that describes the required data elements in detail, including data format, field names, and measurement units. This improves standardization, streamlines the application process, and enhances the consistency, quality, and reliability of the data to support the department's oversight, regulation, and enforcement of autonomous vehicle operations.

Subdivision (d) was adopted to provide additional regulatory clarity on the specific operational data required for a manufacturer of autonomous heavy-duty commercial motor vehicles to supplement a select portion of the mileage requirements with autonomous vehicle testing conducted outside of California on public roads in an operational design domain that is the same or comparable to that which is intended for testing with a Driverless Testing Permit, and describe the standardized process for compiling and submitting the summary of out-of-state testing to the department. An ODD is considered the same when the testing conditions are identical, including roadway type, lane configuration, speed range, environmental conditions, and traffic characteristics. An ODD is considered comparable when it is not identical but still sufficiently similar in key aspects to demonstrate the vehicle's ability to operate safely under California's intended conditions. Comparable ODDs share functional similarities in roadway type, operational constraints such as speed and lane use, environmental factors like climate, and infrastructure elements such as signage and markings. The Department will evaluate submitted evidence to ensure the out of state ODD provides a reliable basis for demonstrating safety and performance in California. The required testing data is outlined in subdivisions (d)(1), (d)(2), and (d)(3) and is equivalent to what is required for manufacturers providing evidence of testing conducted on public roads in California.

Subdivision (a) was renumbered to subdivision (e) and was amended to specify that this regulation applies to original or modifications, as described in Section 227.42, subdivision (o)(1) through (o)(7), of a Driverless Testing Permit. This addresses concerns from manufacturers for enhanced clarity on the specific requirements to modify a Driverless Testing Permit.

Subdivision (b) was renumbered to subdivision (f) and is amended to specify that this regulation applies to original or modifications, as described in Section 227.42, subdivision (o)(1) through (o)(7), of a Driverless Testing Permit. This addresses concerns from manufacturers for enhanced clarity on the specific requirements to modify a Driverless Testing Permit.

Subdivision (f)(1) was amended to include the term "remote operations support" which is defined in Subsection 227.02.

Subdivision (f)(1)(D) was amended to require manufacturers to describe the specific roles and responsibilities of team members tasked with addressing situations in which an autonomous vehicle enters a minimal risk condition. The department is removing the requirement to include response times, locations, and the number of personnel responsible for vehicle retrievals based on stakeholder comments that this information is dynamic and may vary based on operational needs and operational design domain constraints. The department retains its authority to inquire about specific safety-critical events through the Request for Information process.

Subdivision (f)(3) was amended to specify that this regulation applies exclusively to manufacturers of light-duty driverless vehicles submitting an original or modification, as described in Section 227.42, subdivision (o)(1) through (o)(7), of a Driverless Testing Permit.

Subdivisions (f)(3)(B) through (f)(3)(E) were amended to include the term "remote operations support" which is defined in Section 227.02.

Subdivision (f)(3)(F) was amended to align how manufacturers shall respond to an emergency geofencing message issued by an emergency response official with statutory requirements set forth in the California Vehicle Code section 38751 (d)(1) through (d)(4). The department received stakeholder comments addressing concerns that the proposed language is inconsistent with statute and goes beyond emergency geofencing message statutory requirements adopted by the passage of AB 1777 (2024). The amendments correct the inconsistency.

Subdivision (f)(3)(H) was amended to specify that this regulation applies if an autonomous vehicle is equipped with an override system to align with statutory requirements set forth in the California Vehicle Code section 38751 (b)(3). The department received many stakeholder comments on concerns regarding the department proposing to establish vehicle equipment and design mandates, which falls under NHTSA's regulatory authority, and new requirements that do not align with statutory language set forth in the California Vehicle Code section 38751 adopted by the passage of Assembly Bill 1777 (2024). Moreover, there were concerns about the ability of manufacturers of purpose-built vehicle platforms to comply with the

department's proposed requirements on the manual override system due to having no manual driving controls. Others brought forward safety concerns that publishing information on how to manually override the system in the first responder interaction plan could lead to misuse and safety risks.

Subdivision (f)(3)(I) is renumbered (f)(3)(H)(1) and added as a subdivision to (H) to clarify that this requirement applies to manufacturers of AVs with override systems. This renumbering is a non-substantive change.

Subdivision (f)(4) was amended to align requirements for in-vehicle visual indicators with statutory requirements set forth in the California Vehicle Code section 38750 (c)(1)(B). Vehicle equipment and design mandates fall under NHTSA's regulatory authority. As proposed, the requirements that do not align with statutory language set forth in the California Vehicle Code section 38750 can unintentionally impede innovation. The amendments correct the inconsistency.

Subdivision (f)(5) was amended to clarify that the manufacturer must provide evidence from NHTSA regarding an exemption.

Subdivision (c) was renumbered to subdivision (g) and non-substantive changes were made to subdivision (g).

Subdivision (d) was renumbered to subdivision (h) and non-substantive changes were made to subdivision (h).

Subdivision (e) was renumbered to subdivision (i) and was amended to provide additional clarity on the manufacturer requirements associated with developing, publishing, and maintaining a First Responder Interaction Plan. The amendment is based on stakeholder comments to define manufacturers' responsibilities related to the First Responder Interaction Plan.

Non-substantive changes to subdivision (i)(1).

Subdivision (i)(1)(C) was amended to align with the term "remote operations support" which is defined in Section 227.02.

Subdivision (i)(1)(D) was adopted to require the manufacturer's address to be included in the first responder interaction plan. This satisfies the existing gap that in the event law enforcement is unable to conduct a traffic stop, they would place the citation in the vehicle or mail the form to the manufacturer directly using the address provided in the first responder interaction plan.

Subdivision (e)(1)(E) was renumbered to subdivision (i)(1)(F) and was amended to specify that the requirement to provide description of how manufacturers shall immobilize the vehicle applies if an autonomous vehicle is equipped with an override

system to align with statutory requirements set forth in the California Vehicle Code section 38751 (b)(3). Industry stakeholders expressed concerns about the ability of manufacturers of purpose-built vehicle platforms lacking manual override controls to comply with the department's proposed requirements to describe how to immobilize the vehicle using such controls. The department agrees with the comments and made the proposed changes.

Subdivision (e)(1)(H) was renumbered to subdivision (i)(1)(I) and was amended to specify that the requirement to provide instructions to first responders on how to move the autonomous vehicle from the roadway applies if an autonomous vehicle is equipped with an override system to align with statutory requirements set forth in the California Vehicle Code section 38751 (b)(3). The originally proposed text did not align with statutory language set forth in the California Vehicle Code section 38751 adopted by the passage of Assembly Bill 1777 (2024).

Subdivision (e)(1)(M) was renumbered to subdivision (i)(1)(N) and was amended to align requirements for in-vehicle visual indicators with statutory requirements set forth in the California Vehicle Code section 38750 (c)(1)(B). In addition, due to the passage of Senate Bill 480 (Chapter 415, Statutes of 2025) in October 2025, this subdivision is amended to align with the Vehicle Code section 38750 (d) (4) (i), which allows autonomous vehicles to be equipped with automated driving system marker lamps that emit a turquoise light to indicate when the system is engaged.

Subdivision (i)(2) was amended to replace reference to subdivision (h)(1) with the renumbered subdivision (i)(1).

Subdivision (i)(2)(A) was amended to add the term "unreasonable," which more closely aligns with the U.S. DOT NHTSA's standard for investigating defects that pose an unreasonable risk of accident, death, or injury. The amendments ensure consistency with federal requirements and provides additional guidance to the regulated public.

Subdivision (i)(2)(C) was amended for clarity and consistency to remove the phrase "verbal and non-verbal" and add the term "unreasonable," which more closely aligns with the U.S. DOT NHTSA's standard for investigating defects that pose an unreasonable risk of accident, death, or injury.

Subdivision (i)(2)(E) was amended to align with the term "remote operations support" which is defined in Section 227.02.

Subdivision (i)(3) was amended to specify that manufacturers shall review the first responder interaction plan annually and require that such reviews shall be documented including by the issuance of a new version of the training program following the review. The department received industry stakeholder comments that it

would impose a burden and be resource intensive to require manufacturers to review and submit a revised first responder interaction plan quarterly and could create confusion amongst first responders on which changes are in effect, which could contribute to public safety risk during emergencies. The department accepts this comment, and the text has been amended.

Subdivision (i)(5) was amended to specify that requiring manufacturers to provide a copy of the first responder interaction plan to law enforcement and other first responder agencies located within the operational design domain applies to original and modification applications for a Driverless Testing Permit, and to remove the requirement of submitting the most current version of the First Responder Interaction Plan to law enforcement and other first responder agencies. The department is requiring manufacturers to submit the approved First Responder Interaction Plan during the time of application for an Original Driverless Testing Permit Application or Driverless Testing Permit Operational Parameters Modification Application to first responder agencies rather than individual first responders and each subsequent variation. This amendment will prevent unintended confusion and ensure safe interactions with driverless autonomous vehicles.

Subdivision (i)(6) was amended to specify that manufacturers are required to provide a copy of a revised first responder interaction plan to the California Highway Patrol. The amendment clarifies that any revisions must be submitted to both the California Highway Patrol (CHP) and the department, aligning with the existing process for submitting Law Enforcement Interaction Plans to the CHP. This amendment seeks to eliminate potential confusion for local first responder agencies within the operational design domain.

Subdivision (i) was renumbered to subdivision (j) and was amended for clarity to specify that this regulation applies to original and modification applications for a Driverless Testing Permit.

Subdivisions (j)(1) and (j)(3) through (j)(8) were removed. The department received stakeholder feedback that the automated driving system should be required to detect and respond to active emergency vehicles in a manner that complies with the California Vehicle Code, rather than to positively identify every variation of emergency vehicle belonging to all applicable agencies. The department agrees with the comments. This performance-based approach will ensure legal compliance and protect public safety.

Subdivision (i)(2) was renumbered to (j)(1) and was amended to specify that a manufacturer shall certify that the autonomous vehicle is designed to detect and respond to an active emergency vehicle, or first responder and ensure compliance with applicable provisions of the California Vehicle Code. For added clarity, the

department has included Sections 21806, 21809, and 21706 to specify the applicable statutes governing interactions with emergency vehicles. The department is proposing this change to ensure that an automated driving system's recognition and response to active emergency vehicles aligns with existing traffic safety laws.

Subdivision (j)(5) was removed due to duplicative requirements with section 227.42 (j)(1).

Subdivision (i)(9) was renumbered to (j)(2) and was amended for clarity to specify that submission of the course outline and description of the first responder training applies to original and modification applications for a Driverless Testing Permit.

Subdivision (i)(10) was renumbered to (j)(3) and was amended to align first responder training requirements on how to access and use the override system with statutory requirements set forth in the California Vehicle Code section 38751 (b)(3) and specify that manufacturers shall review the first responder training program annually and require that such reviews shall be documented including by the issuance of a new version of the training program following the review. The amendments ensure consistency with the provisions of Assembly Bill 1777 (2024).

The department acknowledges that the scaling and technical maturity of autonomous vehicle operations are dynamic, and that first responder training programs may not require updates as frequently as every quarter. Therefore, changes should be made on an "as needed" basis, and the requirement for quarterly updates has been revised to "at least annually."

Subdivision (k) was renumbered to subdivision (l) and was amended to specify that this regulation applies to original and modification applications for a Driverless Testing Permit. This addresses concerns from manufacturers for enhanced clarity on the specific requirements that pertain to original and modification applications of a Driverless Testing Permit.

Subdivision (i) was renumbered to subdivision (m) and was amended for clarity to specify Original Driverless Testing Permit Application. This amendment provides a clearer delineation of each application's distinct requirements and certifications applicable at each stage of the permitting lifecycle. Additionally, subdivision (m) was amended to add the word "may" back into the text as it was inadvertently deleted from the original regulatory text. This is a non-substantive change as the sentence is not grammatically correct without the word "may."

Subdivision (j) was renumbered to subdivision (n).

Subdivision (k) was renumbered to subdivision (o) and was amended for clarity to specify Driverless Testing Permit Operational Parameters Modification Application.

This amendment provides a clearer delineation of each application's distinct requirements and certifications applicable at each stage of the permitting lifecycle.

Subdivision (k)(7) was removed as including this requirement as part of a permit modification may unduly delay changes that could enhance interactions with first responders.

Subdivision (p) was adopted to enhance clarity regarding the specific requirements to modify a Driverless Testing Permit. The amendment provides guidance to the regulated public by specifying which requirements apply at each stage of the permit lifecycle. This adoption also distinguishes implementing administrative changes to a Driverless Testing Permit from more complex changes to the operational design domain or automated driving system's capabilities as prescribed in subdivision (o). The amendment ensures clarity on the specific requirements to modify a Driverless Testing Permit.

Subdivision (k)(9) was renumbered to subdivision (p)(1) and was amended to replace reference to section 227.40 (c)(5) to the renumbered section 227.40 (b)(5).

Subdivision (k)(10) was renumbered to subdivision (p)(2) and was amended to remove reference to remote assistance as permit requirements for remote assistants were removed.

Subdivision (k)(12) was renumbered to subdivision (p)(4) and was amended to remove reference to remote assistance as permit requirements for remote assistants were removed. The amendment also makes clear that this provision pertains to vehicles and remote drivers that were not previously identified on the Original Driverless Testing Permit.

Subdivision (k)(15) was renumbered to subdivision (p)(7) and was amended to replace reference to section 227.40 (b)(7) to the renumbered section 227.40 (a)(7).

§ 227.44. Refusal of Autonomous Vehicle Testing Permit or Testing Permit Renewal.

The Section 227.44 introductory paragraph was renumbered to subdivision (a) and was amended to clarify that the grounds for refusal of a drivered or driverless testing permit apply not only to original and renewal permit applications but also to modification applications. This change is necessary to ensure that the department retains the authority to evaluate and, if warranted, refuse any application—original, renewal, or modified—when the operation of a manufacturer's autonomous vehicles may pose a risk to public safety.

Modification applications for a driverless testing permit may include significant changes to the operational design domain, vehicle technology, safety features, or operational strategies. These changes can materially affect the safety profile of the

autonomous vehicles operating on California's public roads. Therefore, it is essential that the department have the ability to assess whether such changes introduce new or increased risks to the public.

Subdivision (c) was renumbered to subdivision (b). The renumbering provides additional clarity that this regulation is separate from one of the reasons that the department may refuse an original or a renewal application for a Drivered or a Driverless Testing Permit.

§ 227.46. Restriction of Autonomous Vehicles Testing Permit.

Non-substantive changes to subdivision (c) by removing the revision date from the forms referenced in the regulation. Additionally, subdivision (c) is amended to remove the duplicate items listed in (b) and instead amended to reference the types of restrictions identified in subdivision (b). The types of restrictions are identical, and this is a non-substantive change.

Paragraph (c)(1) through (4) were deleted and replaced with the following language as a non-substantive change: "Such immediate restrictions may include, but are not limited to, any or all of the items listed in subdivision (b)."

§ 227.48. Suspension, or Revocation, Restriction of Autonomous Vehicle Testing Permit.

Non-substantive changes to subdivision (a) by removing the revision date from the form referenced in the regulation.

Subdivision (a)(4) was amended to remove "affiliates" from being subject to compliance with this regulation. This amendment adds clarity based on industry concerns on defining who is responsible for compliance with reportable requirements and specifies that a manufacturer is the entity which is responsible for autonomous vehicle development and supporting its operation.

Subdivision (a)(7) was adopted to give authority to the department to issue a suspension, revocation, or restriction based on a directive, restriction, or prohibition issued by the Federal Transit Administration (FTA) to a transit agency. The provision is intended to ensure the safe operation of autonomous vehicles on public roads.

Subdivision (a)(7) was renumbered to (a)(8) and was amended to remove duplicative language.

Non-substantive changes to subdivision (b) by removing the revision date from the form referenced in the regulation.

Subdivision (b)(6) was amended to remove affiliates from being subject to compliance with this regulation. This amendment adds clarity based on industry concerns on defining who is responsible for compliance with reportable requirements

and specifies that a manufacturer is the entity which is responsible for autonomous vehicle development and supporting its operation.

Subdivision (b)(9) was adopted to give authority to the department to issue a suspension, revocation, or restriction based on a directive, restriction, or prohibition issued by the Federal Transit Administration (FTA) to a transit agency. The provision is intended to ensure the safe operation of autonomous vehicles on public roads.

Subdivision (b)(9) was renumbered to (b)(10).

Non-substantive changes to subdivision (c) to remove the revision date from the forms referenced in the regulation.

§ 227.50. Demand for Hearing.

Non-substantive changes to subdivision (a) to remove the revision date from the forms referenced in the regulation.

§ 227.52. Reinstatement of Testing Permit.

Non-substantive changes to Section 227.52 to remove the revision date from the forms referenced in the regulation.

§ 227.54. Reporting Collisions.

Section 227.54 was amended to specify that only crashes occurring within the State of California are reportable and reference the current revision date (June 2025) of NHTSA's Standing General Order. The amendment corrects ambiguity regarding which crash reports manufacturers are expected to send; that is, whether the requirement includes all crashes submitted to NHTSA or only those that occurred within California. The department also amended Section 227.54 to reference the most recent version of NHTSA's Standing General Order. In the event that the National Highway Traffic Safety Administration (NHTSA) Standing General Order (SGO) is rescinded, the department will continue to apply the existing NHTSA SGO (June 2025) reporting requirements to ensure consistency with established processes. Lastly, the modifications require the manufacturer to submit the report electronically in .csv format via the department's web portal.

Section 227.54 was amended to adopt the electronic Collision Reporting Template, which will provide additional clarity to the regulated public on collision reporting requirements, including reporting timeframe, deadline, and format. This reporting template creates a standard, structured format for manufacturers to submit required collision data and includes a data dictionary that describes the required data elements in detail, including data format, field names, and measurement units.

Subdivision (a) was removed, as crash reporting requirements from the National Highway Traffic Safety Administration Standing General Order (June 2025) shall apply in California if the Standing General Order 2021-01 is rescinded.

Subdivision (b) was renumbered to subdivision (a) and was amended to provide additional clarity on the type of safety-relevant supplemental information the department may request in its review and investigation of a collision. The amendment corrects potential lack of regulatory clarity on the type of information that shall be provided upon request by the department.

Subdivision (c) was renumbered to subdivision (b).

Subdivision (c) was adopted to establish requirements if there is no collision to report during the reporting period.

As currently written, Section 227.48, renumbered to Section 227.54 allows a manufacturer to submit form electronically. When this section was repealed, that text was inadvertently removed during editing. That sentence is added back in for clarity.

§ 227.56. Reporting Disengagement of Autonomous Mode.

Prior Section 227.56 Reporting Disengagement of Autonomous Mode was removed to eliminate disengagement reporting requirements. The department no longer considers disengagements the most meaningful metric of automated driving system safety performance

The department received many industry comments indicating that disengagements, vehicle immobilizations, and dynamic driving task performance relevant system failures all capture similar scenarios, in which the automated driving system ceases to perform the dynamic driving task. However, of those three metrics, commenters asserted that disengagements have the least direct nexus with safety, due to the fact that disengagements frequently occur for discretionary or routine operational reasons that are not necessarily indicative of a failure of the automated driving system, particularly during drivered testing. The department accepts the comments and is eliminating disengagement reporting requirements.

The department's amended regulations instead require that, for drivered testing, manufacturers shall report dynamic driving task performance relevant system failures to assess autonomous vehicle on-road testing performance, in alignment with SAE J3016, and for driverless testing, manufacturers shall report vehicle immobilizations. The data provided by these indicators will give the department a more accurate representation of a manufacturer's autonomous vehicle safety performance.

§ 227.56. Reporting Dynamic Driving Task Performance Relevant System Failures.

Section 227.56 was adopted to establish monthly reporting of dynamic driving task performance relevant system failures occurring during drivered testing. The reporting of dynamic driving task performance relevant system failures is a better alternative to disengagement reporting as it better reflects meaningful operational risks and avoids the over-reporting of routine, non-safety-related deactivations. The manufacturer is required to submit the report electronically via the department's web portal. In the event there is no dynamic driving task performance relevant system failure that occurred during the reporting period, the manufacturer shall report such to the department.

Subdivision (a) was adopted to establish a 120-day implementation period following the effective date of the regulations. This delay allows manufacturers sufficient time to establish reporting processes in compliance with the regulatory requirements. The department determined that this approach supports an orderly transition and minimizes disruption to existing operations while ensuring timely compliance.

Subdivision (b) specifies the situations in which dynamic driving task performance relevant system failures are required to be reported. These parameters capture instances in which a test driver takes over or performs the dynamic driving task fallback in response to a dynamic driving task performance relevant system failure, which is a malfunction or degradation that prevents the automated driving system from reliably performing its portion of the driving task. Unlike disengagement reporting, this new requirement does not include instances of a test driver taking over the dynamic driving task unless the driver did so in response to a dynamic driving task performance relevant system failure, reducing the need for manufacturers to report non-safety-relevant events.

Subdivision (c) was adopted to reference the electronic Dynamic Driving Task Performance Relevant System Failure Reporting Template, which the department will make accessible to manufacturers online. This reporting template will provide additional clarity to the regulated public on data reporting requirements, including reporting timeframe, deadline, and format. This reporting template creates a standard, structured format for manufacturers to submit required data and includes a data dictionary that describes the required data elements in detail, including data format, field names, and measurement units. This improves standardization, streamlines the application process, and enhances the consistency, quality, and reliability of the data to support the department's oversight, regulation, and enforcement of autonomous vehicle operations.

Subdivision (d) was adopted to establish the reporting requirements for dynamic driving task performance relevant system failures.

Subdivision (d)(1) was adopted to specify reporting of the date of the dynamic driving task performance relevant system failure in YYYY-MM-DD format and time in 24-hour format.

Subdivision (d)(2) was adopted to specify reporting of the latitude and longitude coordinates associated with where the dynamic driving task performance relevant system failure occurred using four decimal places of precision.

Subdivision (d)(3) was adopted to specify that the report shall provide a description of the underlying cause of the dynamic driving task performance relevant system failure using the following categories: type of software issue, type of hardware issue, actions of other road users, weather conditions, road surface or traffic conditions, construction, loss of communication, other emergencies, or collisions. The description should be written in plain language with enough detail that a non-technical person can understand the circumstances.

Subdivision (e) was adopted to provide additional clarity on the type of safety-relevant supplemental information the department may request in its review and investigation of a driving task performance relevant system failure. The adoption clarifies the type of information that shall be provided upon request by the department.

§ 227.58. Reporting Vehicle Immobilizations.

Subdivision (a) was adopted to establish a 120-day implementation period following the effective date of the regulations. This delay allows manufacturers sufficient time to establish reporting processes in compliance with the regulatory requirements. The department determined that this approach supports an orderly transition and minimizes disruption to existing operations while ensuring timely compliance.

Subdivision (b) was adopted to reference the electronic Vehicle Immobilization Reporting Template (Rev. 2/2025), which the department will make accessible to manufacturers online. This reporting template will provide additional clarity to the regulated public on data reporting requirements, including reporting timeframe, deadline, and format and creates a standard, structured format for manufacturers to submit required data and includes a data dictionary that describes the required data elements in detail, including data format, field names, and measurement units. The adoption requires manufacturers to submit the report electronically through the department's web portal.

Subdivision (c), and subdivisions (c)(1) through (b)(5) were renumbered.

Subdivision (c)(1) was amended to specify reporting of the date of the vehicle immobilization in YYYY-MM-DD format and time in 24-hour format.

Subdivision (c)(2) was amended to specify reporting of the latitude and longitude coordinates associated with where the vehicle immobilization occurred using four decimal places of precision.

Subdivision (c)(3) was amended to remove license plate as a reportable data element. The 17-character vehicle identification number is a unique indicator assigned to each vehicle whereas a license plate number may change. Collecting the vehicle identification number will allow the department to track the vehicle's safety performance across its operational lifecycle.

Subdivision (c)(4) was adopted to require all autonomous vehicle manufacturers to report the speed limit of the roadway where the vehicle immobilization occurred in meters per second (m/s) to ensure consistency, accuracy, and comparability in the analysis of autonomous vehicle (AV) incident data. This standardized unit of measurement aligns with international scientific and engineering norms and facilitates uniform data processing across platforms and jurisdictions.

Subdivision (c)(4) was renumbered to (c)(5) and was amended to specify that manual intervention during a vehicle immobilization event involves manual driving by a human driver for vehicles with manual driving controls or remote support by a remote driver for purpose-built vehicles (no manual driving controls).

Subdivision (c)(5) was renumbered to (c)(7).

Subdivisions (c)(6), and (c)(8) through (c)(11) were adopted to include additional reportable data for vehicle immobilizations. This aligns with stakeholder comments that expanded data reporting requirements should have clear safety relevance and objective criteria and to consolidate minimal risk condition events into immobilization reporting.

§ 227.60 Reporting Vehicle Miles Traveled.

Subdivision (a) is adopted to establish a 120-day implementation period following the effective date of the regulations. This delay allows manufacturers sufficient time to establish reporting processes in compliance with the regulatory requirements. The department determined that this approach supports an orderly transition and minimizes disruption to existing operations while ensuring timely compliance.

Subdivision (b) was adopted to establish monthly reporting of vehicle miles traveled while testing in autonomous mode on public roads under each permit. A manufacturer that holds both a Drivered Testing Permit and a Driverless Testing Permit shall submit a single report that makes clear total number vehicle miles traveled under each type of testing permit. In addition, subdivision (b) is amended to establish

requirements such that in the event no autonomous on-road testing occurred during the reporting period the manufacturer shall report such to the department.

Subdivision (c) references the electronic Vehicle Miles Traveled Reporting Template, which the department will make accessible to manufacturers online. This reporting template will provide additional clarity to the regulated public on mileage reporting requirements, including reporting timeframe, deadline, and format. This reporting template creates a standard, structured format for manufacturers to submit required mileage data and includes a data dictionary that describes the required data elements in detail, including data format, field names, and measurement units. This improves standardization, streamlines the application process, and enhances the consistency, quality, and reliability of the data to support the department's oversight, regulation, and enforcement of autonomous vehicle operations. The manufacturer shall submit the report electronically in .csv format via the department's web portal.

§ 227.62. Test Vehicle Registration and Certificates of Title.

Section 227.60 was renumbered to Section 227.62.

Non-substantive changes to subdivision (d) to remove the revision date of the forms referenced in the regulation.

§ 227.64. Transfers of Interest or Title for an Autonomous Test Vehicle.

Section 227.62 was renumbered to Section 227.64.

Non-substantive changes to subdivision (a) to remove the revision date of the forms referenced in the regulation.

Subdivision (f) was adopted to address use cases in which the original equipment manufacturer produces the base vehicle with the components necessary for autonomous operation. In these cases, the manufacturer does not modify the vehicle after it's originally manufactured. The intent of the prohibition on transfers in Section 227.64 is to prevent the transfer of vehicles that have been converted into autonomous vehicles by installing autonomous technology after the vehicle was originally manufactured.

§ 227.66. Reporting Braking Events.

Section 227.64 was renumbered to Section 227.66.

Subdivision (a) is adopted to establish a 120-day implementation period following the effective date of the regulations. This delay allows manufacturers sufficient time to establish reporting processes in compliance with the regulatory requirements. The department determined that this approach supports an orderly transition and minimizes disruption to existing operations while ensuring timely compliance.

Subdivision (b) was amended to change the reportable threshold for braking events to those that produce speed decrease of 3 meters per second (m/s) or more from braking at a deceleration rate that exceeds 5 meters per second squared (m/s/s) for at least 0.5 seconds during the operation of an autonomous vehicle in autonomous mode on a public road with a speed limit of 35 miles per hour or higher. In addition, the department amended the proposed regulatory language to reflect measurement units using the metric system instead of the U.S. customary system to align with accepted industry standards and best practices for collecting braking data. The amendment corrects the potential over-reporting of benign safety maneuvers that could indicate responsive and appropriate behavior thereby misleading public interpretation of autonomous vehicle safety. The express term has been amended based on stakeholder feedback to further clarify the reporting requirements, limiting braking event reports to roadways with higher posted speed limits—where the risk of collision from unexpected braking is greater compared to lower-speed roads. The duration of reportable braking events is amended to at least 0.5 seconds due to total speed reduction of 3 m/s/s. The manufacturer shall submit the report electronically via the department's web portal.

In addition, subdivision (b) references the electronic Braking Event Reporting Template, which the department will make accessible to manufacturers online. This reporting template will provide additional clarity to the regulated public on braking event reporting requirements, including reporting timeframe, deadline, and format. This reporting template creates a standard, structured format for manufacturers to submit required braking data and includes a data dictionary that describes the required data elements in detail, including data format, field names, and measurement units. This improves standardization, streamlines the application process, and enhances the consistency, quality, and reliability of the data to support the department's oversight, regulation, and enforcement of autonomous vehicle operations.

Subdivision (b)(1) was amended to specify reporting of the date of the braking event in YYYY-MM-DD format and time in 24-hour format.

Subdivision (b)(2) was amended to require manufacturers to provide the full, 17-character vehicle identification number associated with each vehicle that meets braking thresholds described in subdivision (a). The 17-character vehicle identification number is a unique indicator assigned to each vehicle whereas a license plate number may change. Collecting the vehicle identification number will allow the department to track the vehicle's safety performance across its operational lifecycle.

Subdivision (b)(3) was amended to specify reporting of the latitude and longitude coordinates associated with where the braking event occurred using four decimal places of precision.

Subdivision (b)(4) was amended to specify reporting of the type of object(s) recognized by the automated driving system that triggered the braking action. This addresses manufacturer concerns associated with target object recognition, which would be labor-intensive manual review and recommendations to limit reportable data to that which would be automatable and scalable.

Subdivision (b)(5) was amended to specify measurement units of the range in meters (m) and the closing rate in meters per second (m/s). To ensure consistency, accuracy, and comparability in the analysis of autonomous vehicle incident data, the department requires all autonomous vehicle manufacturers to report in meters per second (m/s). This standardized unit of measurement aligns with international scientific and engineering norms and facilitates uniform data processing across platforms and jurisdictions.

Subdivision (b)(6) was amended to require reporting of the total speed reduction of the braking event in meters per second (m/s). Capturing this data will support the department's ability to evaluate the automated driving system's braking behavior. To ensure consistency, accuracy, and comparability in the analysis of autonomous vehicle incident data, the department requires all autonomous vehicle manufacturers to report in meters per second (m/s). This standardized unit of measurement aligns with international scientific and engineering norms and facilitates uniform data processing across platforms and jurisdictions.

Subdivision (b)(7) was adopted to require reporting of the highest braking rate, which would represent the braking rate within the 0.5 second interval with the strongest braking, showing how high the sustained peak is.

Subdivision (b)(1) was renumbered to subdivision (c) and is amended from 30 days to 60 days based on stakeholder feedback regarding short reporting timelines that do not provide a sufficient or reasonable amount of time to provide the required data. This change grants manufacturers additional time to prepare their first report after receiving a drivered or driverless testing permit.

Subdivision (b)(2) was renumbered to subdivision (c)(1) and is amended based on stakeholder feedback regarding short reporting timelines that do not provide a sufficient or reasonable amount of time to provide the required data. Given the complexity of the data reporting requirements, the department will receive the data on a monthly basis, in arrears.

Subdivision (b) was renumbered to subdivision (d).

§ 227.68. Notice of Autonomous Vehicle Noncompliance.

Section 227.66 was renumbered to Section 227.68.

The Notice of Autonomous Vehicle Noncompliance form referenced in subdivision (a) has been updated to provide officers with additional guidance on reporting the location of an incident. Officers will be required to include both the roadway where the incident occurred and the GPS coordinates. In Section 3, the term "Fall Back Ready User" has been changed to "Human Driver" to use clearer and more straightforward language for the officer.

In Section 5, the phrase "Not present in the vehicle" has been revised to "No Human Driver" to improve clarity and better indicate that no human driver is present in the vehicle. These amendments will help the department more accurately determine the precise location of each incident and assist officers in capturing relevant details, which will support the department's review process.

Subdivisions (b) and (e) were amended to require the manufacturer to submit the contents of the form (e.g., digitally) to the department within 72 hours of receipt, or within 24 hours of receipt if a priority review is marked on the form. The California Vehicle Code section 38752 requires the manufacturer to submit the form to the department. Manufacturers submitted comments to the department addressing concerns that the reporting timeframe to send Notices to the department within 24 hours/72 hours of issuance does not consider situations where it may take more time for manufacturers to receive Notice due to no previously defined process for issuing/receiving Notices, for example, when the Notice is mailed by law enforcement. Industry widely supports that the timeline to submit Notices of AV Noncompliance be based on receipt instead of issuance. If a manufacturer never receives the notice, they are not out of compliance, because the obligation is based on receipt. However, manufacturers must maintain accurate contact information and ensure accessibility of the designated location for notices (as specified in the First Responder Interaction Plan) to facilitate proper delivery. The manufacturer shall submit the form electronically via the department's web page or portal. In addition, subdivision (b) references the electronic Notice of Autonomous Vehicle Noncompliance Reporting Template, which the department will make accessible to manufacturers online. This reporting template will provide additional clarity to the regulated public on required data to submit to the department from the Notice of Vehicle Noncompliance, form OL 325. This reporting template creates a standard, structured format for manufacturers to submit required data and includes a data dictionary that describes the required data elements. This improves standardization and enhances the consistency, quality, and reliability of the data to support the

department's oversight, regulation, and enforcement of autonomous vehicle operations.

Subdivision (c) was adopted to specify the placement of the form within the vehicle. The amendment is necessary to establish a defined, clear, standardized process for issuing/receiving Notices. In response to public comments, the department proposed that the form will be placed in the designated location registration, insurance, and permit information, which must be accessible to law enforcement, will be stored, as identified in the manufacturer's first responder interaction plan. The peace officer may also give the notice to the manufacturer's designee arriving at the scene of the incident. Subdivision (c) was also adopted to require the peace officer conducting the traffic stop to state their name and department and follow provisions of the California Vehicle Code section 2806.5, which addresses concerns related to identification of the peace officer.

Subdivision (d) was adopted to specify that law enforcement can also mail the form to the manufacturer's address as listed in the first responder interaction plan within 72 hours of the incident in the event the notice is issued in circumstances other than a traffic stop. This ensures that in the event there is not a traffic stop, the department and the manufacturer will still receive the Notice.

Subdivision (d) was renumbered to (f).

Subdivision (f)(3) was amended to specify reporting of the date of the alleged violation in YYYY-MM-DD format.

Subdivision (e) was renumbered to (g) and was amended to remove the term "host," replacing with "subject." This is a non-substantive change that provides greater clarity when referring to the autonomous vehicle.

Subdivision (f) was removed as it is deemed duplicative and therefore unnecessary. Enforcement authority is already addressed in Sections 227.44, 227.46, and 227.48 of Article 3.7.

§ 227.70. Preliminary Information Notice.

Section 227.68 was renumbered to Section 227.70.

Subdivision (a) was amended to specify a manufacturer's response to a Preliminary Information Notice shall make a good faith effort within a reasonable time that is informed by the nature of the issue underlying the Notice and the scope of the Notice. This removes proposed requirements that prescribe a specific timeframe for manufacturers to respond to the Notice. This change addresses concerns that the proposed timeframe to respond to the Notice was unreasonable and insufficient for

manufacturers to fully investigate the incident and provide the department with the requested information.

Non-substantive changes to subdivisions (a)(2) and (a)(4).

§ 227.72. Request for Information.

Section 227.70 was renumbered to Section 227.72.

Subdivision (a) was amended to specify a manufacturer's response to a Request for Information shall make a good faith effort within a reasonable time that is informed by the nature of the issue underlying the Request and the scope of the Request. This removes proposed requirements that prescribe a specific timeframe for manufacturers to respond to the Request. This change addresses comments that the proposed timeframe to respond to the Request was unreasonable and insufficient for manufacturers to fully investigate the incident and provide the department with the requested information.

Subdivision (a)(3) was amended to remove erroneous reference to the Deployment Permit, replacing with Drivered or Driverless Testing Permit.

Subdivision (a)(4) was adopted to provide additional clarity on the type of safety-relevant supplemental information the department may request in its review and investigation of an incident. This addresses concerns related to the lack of regulatory clarity on the type of information that shall be provided upon request by the department.

Subdivisions (a)(4) through (a)(12) were removed. Comments noted that, due to the department's enforcement authority leveraged by a Request for Information, the incidents which precipitate the department's investigation should be substantiated by reports, such as operation that violates the California Vehicle Code, poses an unreasonable risk of accident, death, injury, or exacerbating injury, or does not comply with operational parameters approved in the authorized permit.

§ 227.74 Confidential Business Information.

Section 227.72 was renumbered to Section 227.74.

Subdivision (d) was adopted to specify that "Confidential Business Information" includes information exempt from disclosure under the California Public Records Act (Government Code section 7927.205), information protected as a trade secret under the Evidence Code (section 1060), and related provisions of the Civil Code (sections 3426.1–3426.11) which will be protected when manufacturers submit applications or other data requested by the department. This amended language further clarifies the procedures the department will take for handling Confidential Business Information.

Article 3.8. Deployment of Autonomous Vehicles

§228.02. Definitions.

Subdivision (c) was amended to reference the Deployment Permit, form OL 321A.

Subdivision (d) was amended to provide additional clarity that the manufacturer may submit the application form electronically via the department's web page or portal.

Subdivisions (e) and (g) were adopted to address permitting ambiguity by providing a clearer delineation of each application's distinct requirements and certifications applicable at each stage of the permitting lifecycle. All references to an original and amended Deployment Permit Application throughout Article 3.8 are replaced by Original Deployment Permit Application and Deployment Permit Operational Parameters Amendment Application. In addition, subdivisions (e) and (g) provide additional clarity that the manufacturer may submit the application form electronically via the department's web page or portal.

Former subdivision (e) was relocated from Article 3.8 to Article 3.7 as Subdivision (z) of section 227.02 and shall apply to both Articles.

Subdivision (g) was renumbered to subdivision (h).

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

All references to the original and amended Deployment Permit Application in Section 228.08 were replaced by Original Deployment Permit Application and Deployment Permit Operational Parameters Amendment Application. This amendment was to correct potential ambiguity by providing a clearer delineation of each application's distinct requirements and certifications applicable at each stage of the permitting lifecycle.

Subdivision (a) was amended to provide additional clarity that the manufacturer may submit the Original Deployment Permit Application or Deployment Permit Operational Parameters Amendment Application electronically via the department's web page or portal.

Subdivision (a)(1) was amended to specify that this regulation applies to the Original Deployment Permit Application. This amendment enhances clarity on the specific application requirements for a Deployment Permit.

Non-substantive changes to subdivisions (a)(1)(A) to remove revision dates from the forms referenced in the regulation.

Subdivisions (a)(1)(A)(i) and (a)(1)(B)(i) were amended to require manufacturers applying for an Original Deployment Permit to submit the results of an assessment of operational data from testing with a valid Testing Permit, form OL 315 and/or form OL 315A, described in subdivision (D). Subdivision (a)(1)(A) establishes a requirement for the minimum number of miles manufacturers must test under drivered and driverless testing permits within the intended operational design domain prior to submitting a deployment application.

Subdivision (a)(1)(A)(i) was amended to remove reference to the requirement for submission of a safety case. Requirements for submitting a comprehensive description of a safety case, including core safety information elements documentation, are now specified in separate subdivision (C).

Subdivision (a)(1)(B) was amended to clarify reporting requirements outlined in subdivision (E) for manufacturers of autonomous heavy-duty commercial motor vehicles that opt to meet a portion of mileage-based permitting requirements by submitting operational data from testing conducted outside of California in an operational design domain that is the same or comparable to that which is intended for operation with a Deployment Permit. An ODD is considered the same when the testing conditions are identical, including roadway type, lane configuration, speed range, environmental conditions, and traffic characteristics. An ODD is considered comparable when it is not identical but still sufficiently similar in key aspects to demonstrate the vehicle's ability to operate safely under California's intended conditions. Comparable ODDs share functional similarities in roadway type, operational constraints such as speed and lane use, environmental factors like climate, and infrastructure elements such as signage and markings. The Department will evaluate submitted evidence to ensure the out of state ODD provides a reliable basis for demonstrating safety and performance in California. During preparation of the Final Statement of Reasons, the Department identified that the sentence "100,000 miles must occur within the intended operational design domain in California" is redundant. This requirement is already fully stated in the subsequent sentence: "100,000 miles on the Driverless Testing Permit, form OL 315A (Rev. 10/2023), must occur within the intended operational design domain in California."
Because the earlier sentence repeats the same requirement and does not alter the meaning or application of the regulation, the department is removing the text as a non-substantive change. This revision eliminates redundancy and improves clarity without modifying any regulatory obligations.

Subsection (a)(1)(B) is amended to add reference to 100,000 miles must occur within the intended operational design domain in California. The department did not

provide proper notice when removing this provision. The department may amend this section in the future.

Subdivision (a)(1)(C) was adopted to require manufacturers applying for an Original Deployment Permit to submit a comprehensive description of a safety case, supported by a description of the evidence demonstrating functional safety, safety of the intended function, artificial intelligence safety, cybersecurity, and operational safety. A safety case is a document that manufacturers must refine throughout the lifecycle of the automated driving system. Core safety information elements reflect industry best practices established by the Automated Vehicle Safety Consortium and serve as a framework for evaluating a manufacturer's overall approach to autonomous vehicle safety. The department recognizes that no single overarching safety standard exists for automated driving systems. Instead, multiple recognized approaches exist for addressing safety and engineering. The intent of the regulation is not to prescribe one specific standard but to require manufacturers to clearly articulate the standards, methodologies, and best practices they applied in the design and validation of their systems. Subdivision (a)(1)(C) also specifies that the department may consult with third-party technical experts to review a manufacturer's safety case.

The Legislature, as reflected in Vehicle Code section 38750(d)(2), encourages the Department to consult with subject matter experts in automotive vehicle technology. Given this directive and the broad authority granted to the Department under Vehicle Code section 38750, engaging outside experts to conduct technical reviews of information submitted under these regulations falls fully within the Department's discretion. The same specialized expertise required to develop effective regulations is equally essential for evaluating compliance with those standards. This interpretation aligns with the statute's purpose of ensuring public safety and reinforces the Department's ability to maintain ongoing oversight. Confidential Business Information (CBI) is protected by applicable California Public Records Act exemptions and trade secret protections, which mitigates the risk of disclosing confidential information. In addition, any third-party experts are bound by contractual confidentiality obligations that require them to safeguard CBI and prohibit unauthorized disclosure.

Subdivision (a)(1)(C) was renumbered to (a)(1)(D).

Subdivision (a)(1)(D)(i) was amended to include the correct reference to the Society of Automotive Engineers (SAE) International's Taxonomy and Definitions for Terms Related to Driving Automation Systems for On-Road Motor Vehicles, standard J3016 (APR2021).

Subdivisions (a)(1)(D)(i)(aa) and (a)(1)(D)(ii)(aa) reference the electronic Vehicle Miles Traveled Reporting Template, which the department will make accessible to manufacturers online. This reporting template will provide additional clarity to the regulated public on data reporting requirements. The information collected from the template improves standardization, streamlines the application process, and enhances the consistency, quality, and reliability of the data to support the department's oversight, regulation, and enforcement of autonomous vehicle operations. The manufacturer shall submit the report electronically in .csv format via the department's web portal.

Subdivisions (a)(1)(D)(i)(bb) and (a)(1)(D)(ii)(bb) were amended to align with collision reporting requirements set forth in the current revision (June 2025) of the National Highway Traffic Safety Administration's (NHTSA) Standing General Order (SGO). The department is removing prior proposed language to remove duplication and align with federal crash reporting, instead requiring manufacturers to submit crash reports submitted to NHTSA in the year prior to the date of application. The manufacturer shall submit the reports electronically in .csv format via the department's web portal.

Subdivisions (a)(1)(D)(i) (bb) and (a)(1)(D)(ii)(bb) reference the electronic Collision Reporting Template, which the department will make accessible to manufacturers online. This reporting template creates a standard, structured format for manufacturers to submit required collision data and includes reference to NHTSA's SGO data dictionary that describes the required data elements in detail, including data format, field names, and measurement units. This improves standardization, streamlines the application process, and enhances the consistency, quality, and reliability of the data to support the department's oversight, regulation, and enforcement of autonomous vehicle operations.

Subdivisions (a)(1)(D)(i)(cc) and (a)(1)(D)(ii)(cc) were amended to remove reporting requirements for submitting a full description of all contributing factors that led to or caused each braking event and measures taken to remediate the cause of each braking event, where applicable. The amendment reduces potentially burdensome reporting requirements that involve manual collection and review of qualitative data and are resource and labor intensive.

Subdivisions (a)(1)(D)(i)(cc) and (a)(1)(D)(ii)(cc) reference the electronic Braking Event Reporting Template, which the department will make accessible to manufacturers online. This reporting template creates a standard, structured format for manufacturers to submit required braking data and includes a data dictionary that describes the required data elements in detail, including data format, field names, and measurement units. This improves standardization, streamlines the application process, and enhances the consistency, quality, and reliability of the

data to support the department's oversight, regulation, and enforcement of autonomous vehicle operations. The manufacturer shall submit the report electronically in .csv format via the department's web portal.

Subdivision (a)(1)(D)(i)(dd) was amended to require manufacturers applying for an Original Deployment Permit to report any dynamic driving task performance relevant system failure that occurred in autonomous mode in the year prior to the date of application, which replaces disengagement reporting requirements. The amendment is necessary to remove a metric of system safety performance that is no longer valuable. Instead, the department is requiring manufacturers to report dynamic driving task performance relevant system failures to assess autonomous vehicle on-road testing performance, in alignment with SAE J3016, using the Dynamic Driving Task Performance Relevant System Failure Reporting Template. The manufacturer shall submit the report electronically in .csv format via the department's web portal. This reporting template creates a standard, structured format for manufacturers to submit required data and includes a data dictionary that describes the required data elements in detail, including data format, field names, and measurement units.

Subdivision (a)(1)(D)(ii)(dd) is removed due to the removal of disengagement reporting, which was replaced by reporting of dynamic driving task performance relevant system failures.

Subdivision (a)(1)(C)(ii) (ee) was renumbered to (a)(1)(C)(ii)(dd) and amended to include reference to the electronic Vehicle Immobilization Reporting Template. This reporting template creates a standard, structured format for manufacturers to submit required data and includes a data dictionary that describes the required data elements in detail, including data format, field names, and units. The manufacturer shall submit the report electronically in .csv format via the department's web portal.

Subdivision (a)(1)(E) was adopted to provide additional regulatory clarity on the specific operational data required to supplement a select portion of the mileage requirements with autonomous vehicle testing conducted outside of California on public roads in an operational design domain that is the same or comparable to that which is intended for operation with a Deployment Permit, and describe the standardized process for compiling and submitting the summary of out-of-state testing to the department. An ODD is considered the same when the testing conditions are identical, including roadway type, lane configuration, speed range, environmental conditions, and traffic characteristics. An ODD is considered comparable when it is not identical but still sufficiently similar in key aspects to demonstrate the vehicle's ability to operate safely under California's intended conditions. Comparable ODDs share functional similarities in roadway type,

operational constraints such as speed and lane use, environmental factors like climate, and infrastructure elements such as signage and markings. The Department will evaluate submitted evidence to ensure the out of state ODD provides a reliable basis for demonstrating safety and performance in California. The required testing data is outlined in subdivisions (a)(1)(E)(i), (a)(1)(E)(ii), and (a)(1)(E)(iii) and is equivalent to what is required for manufacturers providing evidence of testing conducted on public roads in California. This enables the department to evaluate safety-relevant and safety-critical incidents that occur out-of-state when assessing the safety of an autonomous heavy-duty commercial motor vehicle, thereby supporting the department's oversight, regulation, and enforcement of autonomous vehicle operations.

Subdivision (a)(2) was amended to specify that this regulation applies to amendments, as described in Section 228.12, subdivision (b), of a Deployment Permit. This addresses concerns from manufacturers for enhanced clarity on the specific requirements to amend a Deployment Permit.

Subdivision (a)(2)(A) was adopted to require manufacturers submitting a Deployment Permit Operational Parameters Amendment Application to provide a comprehensive description of a safety case, supported by a description of the evidence demonstrating functional safety, safety of the intended function, artificial intelligence safety, cybersecurity, and operational safety. The originally proposed text required the safety case to be complete and accompanied by data collected by on-road testing or virtual simulations. Subdivision (a) (2) (A) was amended based on stakeholder feedback and removes the terms "completed", "accompanied", and "compliance with the following areas" from the regulatory text. A safety case is a document that manufacturers must refine throughout the lifecycle of the automated driving system. The department recognizes that no single overarching safety standard exists for automated driving systems. Instead, multiple recognized approaches exist for addressing safety and engineering. The intent of the regulation is not to prescribe one specific standard but to require manufacturers to clearly articulate the standards, methodologies, and best practices they applied in the design and validation of their systems. The amendment further specifies that the required description of a safety case should articulate how the manufacturer's evidence supports the safety case, rather than requiring submission of all supporting evidence, which may be highly technical and voluminous. The amendment removes capitalization from the phrase "Artificial Intelligence (AI) safety," as it does not reference a specific standard or defined term within the regulations. AI safety addresses risks unique to machine learning, and industry best practices and safety frameworks—such as those developed by the AV Safety Consortium—are increasingly recognizing AI safety as a distinct domain that warrants explicit consideration. In

addition, subdivision (a) (2) (A) is amended to include the correct reference to the definition of safety case in section 227.02 (xx).

Subdivision (a)(2)(B) was adopted to allow the department to request additional information related to the application it deems necessary from the manufacturer if the department ascertains a necessity for more information to assess the safety of operating an autonomous vehicle on public roads. This regulation is adopted to provide the department with specific information involving the operation of autonomous vehicles on public roads and supports the department's oversight, regulation, and enforcement of autonomous vehicle operations.

Subdivision (a)(2)(A) was renumbered to (a)(2)(C) and was amended to provide additional clarity when referencing manufacturers of autonomous heavy-duty commercial motor vehicles in subsection (a)(1)(B). Additionally form revision dates have been removed, as they were already introduced in Article 3.7 when the form was incorporated by reference. This is a non-substantive change.

Subdivision (a)(2)(B) was renumbered to (a)(2)(D) and was amended to provide additional regulatory clarity on the operational data required to supplement a select portion of the mileage requirements with autonomous vehicle testing conducted outside of California on public roads in an operational design domain that is the same or comparable to that which is intended for operation with a Deployment Permit, and describe the standardized process for compiling and submitting the summary of out-of-state testing to the department. An ODD is considered the same when the testing conditions are identical, including roadway type, lane configuration, speed range, environmental conditions, and traffic characteristics. An ODD is considered comparable when it is not identical but still sufficiently similar in key aspects to demonstrate the vehicle's ability to operate safely under California's intended conditions. Comparable ODDs share functional similarities in roadway type, operational constraints such as speed and lane use, environmental factors like climate, and infrastructure elements such as signage and markings. The Department will evaluate submitted evidence to ensure the out of state ODD provides a reliable basis for demonstrating safety and performance in California. The required testing data is outlined in subdivisions (a)(1)(E)(i), (a)(1)(E)(ii), and (a)(1)(E)(iii) and is equivalent to what is required for manufacturers providing evidence of testing conducted on public roads in California. This enables the department to evaluate safety-relevant and safety-critical incidents that occur out-of-state when assessing the safety of an autonomous heavy-duty commercial motor vehicle, thereby supporting the department's oversight, regulation, and enforcement of autonomous vehicle operations. Additionally form revision dates have been removed, as they were already introduced in Article 3.7 when the form was incorporated by reference. This is a non-substantive change.

Subdivision (a)(2)(D) was amended to remove the 100,000-mile testing requirement within the operational design domain (ODD) in California. This requirement was inadvertently included in the initial draft of the express terms and does not reflect the intent outlined in the Initial Statement of Reasons.

Subdivision (a)(3) was amended to specify that this regulation applies to original and amendments, as described in Section 228.12, subdivision (b), of a Deployment Permit. This amendment enhances clarity on the specific requirements to submit a Deployment Permit Application and provides clearer delineation of the requirements applicable at each stage of the permit lifecycle.

Subdivision (a)(3)(A) was amended to limit the driverless testing and deployment of autonomous heavy-duty commercial motor vehicles—except for medium-duty vehicles used to transport passengers, as described in section 227.26(a)(6)(B)—on local roads with a posted speed limit of 25 miles per hour or less. These vehicles may only operate on such roads if the roads fall within a direct route between hubs, motor carrier and shipper facilities, distribution centers, fueling or charging stations, maintenance facilities or terminals as defined in California Vehicle Code 34515, or other non-residential facilities, and if the roads permit travel by that vehicle weight class. The term "direct route" establishes a clear standard for acceptable routes for deployment of autonomous heavy-duty commercial motor vehicles—those that are the most linear, geographically logical, and efficient, while preserving safety and regulatory compliance.

The department appreciates receiving stakeholder comments regarding the department's proposed restriction of autonomous heavy-duty commercial motor vehicle operation on roads with posted speed limits of 25 miles per hour or less. The department maintains this operational design domain restriction due to public safety considerations associated with the complexity of certain roadway environments, such as residential neighborhoods, school zones, and urban cores, while amending the allowable exceptions to clarify that routes need not include freeways and removing the requirement for manufacturers to submit all specific routes on which they will operate, in response to feasibility concerns raised by commenters.

Subdivision (a)(3)(A)(i) was amended based on stakeholder comments to clarify that a remote assistant does not assume control of the vehicle. This revision aligns with SAE J3016.

Subdivisions (a)(4) through (a)(7) and (a)(9) through (a)(12) were amended to specify that this regulation applies to original and amendments, as described in Section 228.12, subdivision (b), of a Deployment Permit. This amendment ensures clarity on the specific requirements to submit a Deployment Permit Application and provides

clearer delineation of the requirements applicable at each stage of the permit lifecycle.

Non-substantive changes made to subdivision (a)(8).

Subdivision (a)(9) was amended to align the provision with Article 3.7, Section 227.54 (b).

Subdivision (a)(12)(B) was amended to specify that a manufacturer shall certify that it has established processes for making updates to location and mapping, which includes consideration of reliable public information. The department is proposing this change to require manufacturers to have established methods of developing, validating, and releasing software updates due to expected/planned or dynamic changes within the operational design domain to ensure that the automated driving system's perception of the driving environment accurately reflects real-time conditions.

Subdivision (a)(12)(C) was amended based on stakeholder comments and aligns with the definition of "end user" provided in Article 3.7. The department received comments to define this term, which is already referenced in Article 3.8, to distinguish manufacturers' distinct responsibilities from end users of the autonomous technology.

Subdivision (a)(12)(D) was amended to prohibit the manufacturer from allowing the automated driving system equipped to a vehicle owned or leased by a person other than the manufacturer to operate until available updates have been fully validated and released by the manufacturer. The department is proposing this added language to ensure that the autonomous vehicle does not operate on public roads until necessary software updates are developed, validated, and released.

Subdivision (a)(14) was amended to clarify both the meaning of a safety case and the requirement that manufacturers must provide a comprehensive description. The amendment enhances clarity for the regulated public regarding the contents of a safety case submission and ensures the department receives safety-relevant information. The originally proposed text required the safety case to be complete and accompanied by evidence supporting functional safety, safety of the intended function, AI safety, cybersecurity, and operational safety. Subdivision (a) (14) (A) is amended based on stakeholder feedback and removes the terms "completed", "accompanied", and "compliance with the following areas" from the regulatory text. A safety case is a document that manufacturers must refine throughout the lifecycle of the automated driving system. The department recognizes that no single overarching safety standard exists for automated driving systems. Instead, multiple recognized approaches exist for addressing safety and engineering. The intent of the regulation is not to prescribe one specific standard but to require manufacturers to

clearly articulate the standards, methodologies, and best practices they applied in the design and validation of their systems. The amendment further specifies that the required description of a safety case should articulate how the manufacturer's evidence supports the safety case, rather than requiring submission of all supporting evidence, which may be highly technical and voluminous.

Subdivision (a)(14) was amended to specify that the department may consult with third-party technical experts to review a manufacturer's safety case. This aligns with the California Vehicle Code section 38750 (d)(2), which allows the department to consult with any entity that has expertise in automotive technology, automotive safety, and autonomous system design.

Subdivision (a)(14) also removes the proposed requirement for manufacturers to submit a modified version of the safety case, including a summary of the modifications made, within 10 business days. The department received public comments that it is unclear what is considered a "material" change to a safety case and submitting all changes could impose burden to industry, given the technical evidence that would need to be provided to substantiate each safety claim. Description of the safety case shall be provided during the application process or when requested by the department through a Request for Information.

Subdivision (b) was amended to specify that this regulation applies to original and amendments, as described in Section 228.12, subdivision (b), of a Deployment Permit. This amendment ensures clarity related to the specific requirements to submit a Deployment Permit Application and provides clearer delineation of the requirements applicable at each stage of the permit lifecycle.

Subdivision (b)(1) was amended to align with the term 'remote operations support' provided in Article 3.7.

Subdivision (b)(1)(D) was amended to clarify the requirement that manufacturers describe how situations will be addressed when an autonomous vehicle reaches a minimal risk condition. The revised description removes the requirement to specify response time, number of personnel, and personnel location, recognizing the dynamic nature of supporting autonomous vehicles across various operational design domains. The department retains the authority to request specific information regarding vehicle immobilizations and retrievals through the Request for Information process.

Subdivision (b)(1)(F) was amended to align requirements for in-vehicle visual indicators with statutory requirements set forth in the California Vehicle Code section 38750 (c)(1)(B). Vehicle equipment and design mandates fall under NHTSA's regulatory authority and establishing new requirements that do not align with

statutory language set forth in the California Vehicle Code section 38750 can unintentionally impede innovation.

Subdivision (c) was amended to specify that this regulation applies to original and amendments, as described in Section 228.12, subdivision (b), of a Deployment Permit. This amendment clarifies specific requirements to submit a Deployment Permit Application and provides clearer delineation of the requirements applicable at each stage of the permit lifecycle.

Subdivision (c)(1) was amended to align with the definition of 'end user' provided in Article 3.7, removing the reference to persons other than the manufacturer and replacing it with 'end user' to clarify the parties for whom manufacturers must provide an end user education plan.

Subdivision (c)(1)(B) was amended to align with the definition of 'end user' provided in Article 3.7. The amendment removes references to operator, registered owner, and lessee and replaces with end user, to distinguish the responsibilities and obligations of the manufacturer from the end user regarding the operation of autonomous vehicles.

Subdivision (c)(1)(C)(iii) was adopted to require manufacturers to explain to the end user how the ADS will function if any sensors are damaged in a way that could degrade performance and to provide guidance on how to remediate such issues. This adoption is necessary in circumstances where a manufacturer selling an autonomous vehicle for end-user use may not be aware of a salvage condition noted on the vehicle's registration record, making compliance with the proposed regulation difficult to enforce.

Former subdivision (c)(1)(C)(iii) was renumbered to (c)(1)(C)(iv) and was amended to align with the definition of 'end user' provided in Article 3.7.

Subdivision (c)(1)(E) was amended to remove redundancies and to improve clarity. An autonomous vehicle is also defined as a vehicle equipped with an automated driving system service. The amendment also clarifies that the use of an autonomous vehicle is contingent upon the manufacturer maintaining a valid and applicable authorization. A manufacturer may hold a valid permit that covers multiple operational design domains.

Subdivision (c)(1)(F) was amended to reflect an update from Section 227.42 (h) to Section 227.42 (i).

Subdivision (c)(2) was amended to clarify the manufacturer's obligations when a non-manufacturer acquires an autonomous vehicle and reflect an update from Section 227.42 (h)(4) to Section 227.42 (i)(4).

Subdivision (c)(3) was amended to clarify the requirement for manufacturers to describe how an autonomous vehicle can safely come to a controlled stop in the event of an automated driving system failure. The terms 'automated driving system' and 'autonomous vehicle' are defined in Article 3.7.

Subdivision (c)(3)(B) was amended to reflect a non-substantive grammatical change.

Subdivision (c)(4) was amended to reflect an update from Section 227.42 (h) to Section 227.42 (i).

Subdivision (c)(5) was amended to clarify that information relevant to first responders regarding SAE International's J3016 Level 3 systems must be made available through a publicly accessible website to ensure ease of access.

Subdivision (c)(5)(A) was amended to align requirements for in-vehicle visual indicators with statutory requirements set forth in the California Vehicle Code section 38750 (c)(1)(B). Vehicle equipment and design mandates fall under NHTSA's regulatory authority and establishing new requirements that do not align with statutory language set forth in the California Vehicle Code section 38750 can unintentionally impede innovation.

Subdivision (c)(9) was amended based on stakeholder comments to clarify that manufacturers must comply with applicable hours-of-service requirements. In the case of a driverless vehicle, these requirements apply to the remote driver and not to the automated driving system itself.

Subdivision (c)(10) was amended to specify that this regulation applies only to light-duty vehicles equipped with SAE level 4 or 5 automated driving systems. This provides added specificity on requirements associated with each SAE level of autonomy. This amendment clarifies the application requirements for manufacturers to better understand how to meet compliance.

Subdivisions (c)(10)(A) through (c)(10)(D) were amended based on stakeholder comments to align with the definition of 'remote operations support' provided in Article 3.7.

Subdivision (c)(10)(E) was amended to align how manufacturers shall respond to an emergency geofencing message issued by an emergency response official with statutory requirements set forth in the California Vehicle Code section 38751 (d)(1) through (d)(4). The amendments are necessary to avoid inconsistencies with statute and prevent the implementation of requirements that go beyond emergency geofencing message requirements set forth in the California Vehicle Code section 38751 adopted by the passage of Assembly Bill 1777 (2024).

Subdivision (c)(10)(G) was amended to specify that the requirement to enable emergency response officials to move the autonomous vehicle from the roadway applies only if an autonomous vehicle is equipped with an override system. The requirement to train law enforcement and firefighters on how to access and use the override system was relocated to new subdivision (c)(10)(H). This change addresses commenter concerns about the ability of manufacturers of purpose-built vehicle platforms lacking manual controls to comply with the department's proposed requirements to describe how to move the vehicle from the roadway using an override system.

Subdivision (c)(10)(H) was adopted for clarity, relocating provisions regarding training requirements from (c)(10)(G) and amending them to replace the reference to first responders with law enforcement and firefighters and align with statutory language set forth in the California Vehicle Code section 38751 (b)(3) based on many stakeholder comments regarding consistency between statutory and regulatory requirements.

Former Subdivisions (d) through (d)(3) were removed because manufacturers are already subject to existing California law, including inspections conducted by the California Highway Patrol.

Subdivision (e) was renumbered to subdivision (d).

§228.12. Amendment of Application.

Non-substantive changes made to subdivisions (a) and (b) to remove the revision dates of the forms referenced in the regulation.

Subdivision (b)(8) was removed in response to stakeholder comments. Requiring this regulation could impose unnecessary delays on manufacturers—for example, when they make quick software updates to help first responders disengage the ADS more efficiently when needed. The department retains authority to review such changes when other material modifications are made to the permit, such as geographic expansion, or through the Request for Information process.

Subdivision (c), which is adopted in the current regulations, was unintentionally removed from the proposed draft regulatory text and is being maintained.

§228.14. Reporting Safety Defects.

Section 228.14 was amended based on stakeholder comments and clarifies that the manufacturer must submit a Part 573 defect report on the same day it is filed with the U.S. DOT NHTSA, though not necessarily at the exact same time.

§ 228.16. Conditions Related to the Term of Permit.

Non-substantive changes made to Section 228.16 to remove the revision date of the forms referenced in the regulation.

§ 228.18. Refusal of an Application for a Permit to Deploy.

The Section 228.18 introductory paragraph is renumbered to subdivision (a) and clarifies that the grounds for refusal of a permit to deploy autonomous vehicles (AVs) apply not only to original deployment permit applications but also to amended applications. This change is necessary to ensure that the department retains the authority to evaluate and, if warranted, refuse any application—original or amended—when the operation of a manufacturer's autonomous vehicles may pose a risk to public safety. Amendment applications may include significant changes to the operational design domain, vehicle technology, safety features, or deployment strategies. These changes can materially affect the safety profile of the autonomous vehicles operating on California's public roads. Therefore, it is essential that the department have the ability to assess whether such changes introduce new or increased risks to the public.

Subdivision (a) was renumbered to subdivision (a)(1) as it supports subdivision (a) as one of the reasons the department may refuse an Original Deployment Permit Application or a Deployment Permit Operational Parameters Amendment Application.

Subdivision (b) was renumbered to subdivision (a)(2) as it supports subdivision (a) as one of the reasons the department may refuse an Original Deployment Permit Application or a Deployment Permit Operational Parameters Amendment Application.

Subdivision (c) was renumbered to subdivision (a)(3) as it supports subdivision (a) as one of the reasons the department may refuse an Original Deployment Permit Application or a Deployment Permit Operational Parameters Amendment Application.

Subdivision (c) is renumbered to subdivision (b) to provide additional clarity that this regulation is separate from one of the reasons that the department may refuse an original or amended application for a Deployment Permit.

§ 228.20. Demand for Hearing on Refusal of Permit.

Non-substantive changes made to subdivision (a) to remove the revision date of the forms referenced in the regulation.

§ 228.22. Restriction of Autonomous Vehicles Deployment Permit.

Non-substantive changes made to subdivisions (a) and (c) to remove the revision date of the form referenced in the regulation.

§ 228.24. Suspension, Revocation, or Restriction of Permit.

The title of Section 228.24 was amended to reflect the department's ability to impose an operational restriction.

Non-substantive changes made to subdivision (a) to remove the revision date of the form referenced in the regulation.

Subdivision (a)(2) was adopted to include violations of Vehicle Code section 38750 as a reason the department may suspend, revoke, or restrict a Deployment Permit.

Subdivision (a)(2) was renumbered to (a)(3) and was amended to include any act or omission whereby the manufacturer or one of its agents, employees, contractors, or designees have submitted incorrect or misleading information in the Original Deployment Permit Application or any other submission to the department as a reason the department may suspend, revoke, or restrict a Deployment Permit.

Subdivision (a)(3) was renumbered to (a)(4).

Subdivision (a)(4) was renumbered to (a)(5) and is amended to establish the department may immediately suspend the deployment permit if an autonomous vehicle, that is classified as a commercial motor vehicle, is placed on the list of Out-of-Service Orders by the Federal Motor Carrier Safety Administration for any of the reasons defined in Title 49, Code of Federal Regulations, Parts 385.13, 386.72, and 386.83. This requirement aligns with sanctions that are imposed on commercial motor vehicles when placed out of service by the Federal Motor Carrier Safety Administration and ensures traffic safety.

Subdivision (a)(5) was renumbered to (a)(6).

Subdivision (a)(6) was renumbered to (a)(7) and non-substantive grammatical change made to subdivision (a)(7).

Subdivision (a)(8) was adopted to establish that the department may suspend the deployment permit if the Motor Carrier Permit associated with an autonomous vehicle, that is classified as a commercial motor vehicle, has been suspended by the department for any of the reasons defined in Vehicle Code Division 14.85. This requirement aligns with motor carrier permit sanctions imposed on commercial motor vehicles by the department and ensures traffic safety.

Subdivisions (a)(9) and (b)(8) were adopted in response to stakeholder comments. It relates to the AV medium-duty passenger service exemption and specifies that the department may issue a suspension, revocation, or restriction based on a directive

from the Federal Transit Administration. The provision is intended to ensure the safe operation of autonomous vehicles on public roads.

Subdivision (a)(10) was adopted to establish the department may suspend the deployment permit if the manufacturer fails to comply with any of the provisions of this article related to the deployment of autonomous vehicles.

Non-substantive changes made to subdivisions (b) and (b)(2).

Subdivision (b)(7) was adopted to establish that the Department may immediately suspend, revoke or impose an operational restriction if the Motor Carrier Permit associated with an autonomous vehicle, that is classified as a commercial motor vehicle, has been suspended by the Department for any of the reasons defined in Vehicle Code Division 14.85. This requirement aligns with motor carrier permit sanctions imposed on commercial motor vehicles by the Department and ensures traffic safety.

Subdivision (b)(8) was adopted to give authority to the department to issue an immediate suspension, revocation, or restriction based on a directive, restriction, or prohibition issued by the Federal Transit Administration (FTA) to a transit agency. The provision is intended to ensure the safe operation of autonomous vehicles on public roads.

Subdivision (b) (9) is amended to enable the department to immediately suspend, revoke, or impose operational restrictions if the deployment of autonomous vehicles pursuant to the manufacturer's permit poses an imminent hazard. The regulation is adopted to provide clarity for incidents requiring more immediate enforcement action and aligns with thresholds established by the United States Department of Transportation.

Subdivision (b)(8) was renumbered to (b)(9).

Subdivision (c) was amended to specify that the department shall lift any associated operational restriction, pursuant to the manufacturer satisfactorily addressing the deficiencies that led to the suspension, revocation, or restriction. Manufacturers expressed concerns that there was not a clear regulatory pathway to become operational after submitting evidence that demonstrates they have remediated the deficiencies that led to or caused the department to invoke the operational restriction, suspension, or revocation.

Non-substantive changes made to subdivision (d).

§ 228.26. Administrative Procedures for a Suspension, Revocation, or Restriction of Permit.

The title of Section 228.26 is amended to include the department's ability to impose an operational restriction.

A non-substantive grammatical change has been made to subdivision (a) (2).

§ 228.28. Information Privacy.

Subdivision (b) was amended to remove references to the customer, registered owner, and lessee, replacing with "end user", to clarify this refers to collection of personal information of persons that are using the vehicle for transportation services and not the manufacturer. The department received comments to define this term, which is already referenced in Article 3.8, to distinguish manufacturers' distinct responsibilities from end users of the autonomous technology. The department accepts the recommendations, and the text has been amended.

§ 228.30. Registration of Autonomous Vehicles.

Subdivision (c) was removed in response to stakeholder comments. A manufacturer selling an autonomous vehicle for end-user use may not be aware of a salvage condition noted on the vehicle's registration record, making compliance with the proposed regulation difficult to enforce. To address this, the department has adopted Section 228.08 (c)(1)(C)(iii), which requires manufacturers to explain to the end user how the ADS will function if any sensors are damaged in a way that could degrade performance, and to provide guidance on how to remediate such issues.

§ 228.34. Reporting Collisions.

Section 228.34 was amended to specify that only crashes occurring within the State of California are reportable and reference the current revision date (June 2025) of NHTSA's Standing General Order. In the event that the National Highway Traffic Safety Administration (NHTSA) Standing General Order (SGO) is rescinded, the department will continue to apply the existing NHTSA SGO (June 2025) reporting requirements to ensure consistency with established processes. This revision updates the SGO version referenced in the regulations to the most recent version issued in June 2025. This approach maintains continuity and balances manufacturers' existing reporting mechanisms with the department's need to obtain data on safety incidents occurring on public roads. This addresses industry comments that the prior proposed language is ambiguous and unclear regarding which crash reports manufacturers are expected to send, whether all that are submitted to NHTSA or limited to those that occurred within California. Manufacturers indicated that they should not be required to submit out-of-state crash reports, which they stated would be overly burdensome,

resource intensive, and does not provide any safety relevance. In addition, the department received comments to update the referenced version of NHTSA's Standing General Order to the most current. The manufacturer shall submit the report electronically in .csv format via the department's web portal. In addition, section 228.34 references the electronic Collision Reporting Template, which the department will make accessible to manufacturers online. This reporting template will provide additional clarity to the regulated public on collision reporting requirements, including reporting timeframe, deadline, and format. This reporting template creates a standard, structured format for manufacturers to submit required collision data and references NTHSA's SGO data dictionary that describes the required data elements in detail, including data format, field names, and measurement units. This improves standardization, streamlines the application process, and enhances the consistency, quality, and reliability of the data to support the department's oversight, regulation, and enforcement of autonomous vehicle operations.

Subdivision (a) was proposed to align with NHTSA's Standing General Order collision reporting requirements and allow manufacturers to electronically submit a Report of Traffic Collision Involving an Autonomous Vehicle, form OL 316 through the department's web page or portal. Stakeholders provided comments demonstrating support for nonduplicative collision reporting requirements. The department ultimately removed the provisions of subdivision (a) as crash reporting requirements from the National Highway Traffic Safety Administration Standing General Order (June 2025) shall now apply in California if the Standing General Order 2021-01 is rescinded.

Subdivision (b) was renumbered to subdivision (a) and was amended to provide additional clarity on the type of safety-relevant supplemental information the department may request in its review and investigation of a collision. This addresses stakeholder concerns on lack of regulatory clarity on the type of information that shall be provided upon request by the department.

Subdivision (c) was renumbered to subdivision (b) and was adopted pursuant to Vehicle Code 38750 and requires that an autonomous vehicle has a separate mechanism, in addition to, and separate from, any other mechanism required by law, to capture and store the autonomous technology sensor data for at least 30 seconds before a collision occurs between the autonomous vehicle and another vehicle, object, or natural person while the vehicle is operating in autonomous mode. The autonomous technology sensor data shall be captured and stored in a read-only format by the mechanism so that the data is retained until extracted from the mechanism by an external device capable of downloading and storing the data. The data shall be preserved for three years after the date of the collision. This regulation is adopted to align with the vehicle code and ensures the safe operation of autonomous test vehicles on public roads.

Subdivision (d) was renumbered to subdivision (c) and was adopted to establish requirements if there is no collision to report during the reporting period.

§ 228.36. Reporting Vehicle Immobilizations.

Subdivision (a) is amended in response to stakeholder comments. It clarifies that the reporting requirements apply to SAE Level 4 and 5 autonomous vehicles and aligns the reporting elements with Section 227.58 (b) to ensure consistency in data collection.

The department's originally proposed text required reports to be submitted on a monthly basis. The department then modified the text to require reports to be submitted on a quarterly basis. The department amended subdivision (a) again to require that reports be submitted to the department at the end of each quarter, specifically on March 31, June 30, September 30, and December 31. The department determined that this approach supports an orderly transition, minimizes disruption to existing operations, and ensures timely compliance.

This reporting template will provide additional clarity to the regulated public on data reporting requirements, including reporting timeframe, deadline, and format. This reporting template creates a standard, structured format for manufacturers to submit required data and includes a data dictionary that describes the required data elements in detail, including data format, field names, and measurement units. The manufacturer shall submit the report electronically in .csv format via the department's web portal. This will improve standardization and streamline the application process and enhance the consistency, quality, and reliability of the data to support the department's oversight, regulation, and enforcement of autonomous vehicle operations. In addition, subdivision (a) is amended to establish requirements if there is no vehicle immobilization to report during the reporting period. Subdivision (a) also specifies that manufacturers of privately owned vehicles intended for non-commercial use must report each immobilization. However, to protect user privacy, these manufacturers are not required to report the precise date and time of the event, vehicle identification number, or the geographic coordinates. The department received feedback from stakeholders regarding considerations for privately owned vehicles.

Subdivision (b) was amended to specify that this regulation aligns with Section 227.58 (b) to ensure consistency in data collection.

Subdivision (b)(1) through (b)(5) were removed to align reporting elements already described in Article 3.7 to ensure consistency in data reporting.

§ 228.38. Reporting Dynamic Driving Task Performance Relevant System Failures.

Subdivision (a) was amended in response to stakeholder comments. It clarifies that the reporting requirements apply to SAE Level 3 autonomous vehicles and aligns the reporting elements with Section 227.56 (c) to ensure consistency in data reporting. In addition, subdivision (a) specifies that manufacturers of privately owned vehicles intended for non-commercial use must report each dynamic driving task performance relevant system failure. However, to protect user privacy, these manufacturers are not required to report the precise date and time of the event, the geographic coordinates, or the vehicle identification number. This regulation is amended based on stakeholder feedback regarding considerations for privately owned vehicles.

Deletion of the language regarding monthly reports of dynamic driving task performance relevant system failures is a non-substantive change.

Subdivisions (b) and (b)(1) through (b)(6) were removed to align reporting elements already described in Article 3.7 to ensure consistency in data reporting.

Subdivision (b) was adopted to require that every manufacturer with an authorized Deployment Permit, form OL 321A, shall prepare and submit to the department a quarterly report summarizing occurrences of dynamic driving task performance relevant system failures. The department proposed that the quarterly reports be submitted by the first business day on or after the thirtieth day following the end of the quarter. The department later amended these dates to require the quarterly reports to be submitted on March 31, June 30, September 30, and December 31. In the event there is no dynamic driving task performance relevant system failure that occurred during the reporting period, the manufacturer shall report such to the department. The department determined that this approach supports an orderly transition, minimizes disruption to existing operations, and ensures timely compliance.

Subdivision (c) was added to require the report shall include requirements described in section 227.56 (c) of Article 3.7. The report shall be submitted using the electronic Dynamic Driving Task Performance Relevant System Failure Reporting Template provided by the department and will be accessible to manufacturers online. This reporting template will provide additional clarity to the regulated public on braking event reporting requirements, including reporting timeframe, deadline, and format. This reporting template creates a standard, structured format for manufacturers to submit required data and includes a data dictionary that describes the required data elements in detail, including data format, field names, and measurement units. This improves standardization, streamlines the application process, and enhances the consistency, quality, and reliability of the data to support the department's oversight, regulation, and enforcement of autonomous vehicle operations.

§ 228.40. Reporting Vehicle Miles Traveled

Section 228.40 was adopted to clarify the reporting requirements for autonomous vehicle miles traveled operating on public roads. Every manufacturer with an authorized Deployment Permit shall prepare and submit to the department a quarterly report summarizing total number of vehicle miles traveled while operating on public roads. The department originally proposed the quarterly reports be submitted by the first business day on or after the thirtieth day following the end of the quarter through the department's web portal. The department later amended the quarterly schedule to require the reports to be submitted on March 31, June 30, September 30, and December 31, through the department's web portal. The report shall be submitted using the electronic Vehicle Miles Traveled Reporting Template provided by the department. This reporting template will provide additional clarity to the regulated public on mileage reporting requirements, including reporting timeframe, deadline, and format. This reporting template creates a standard, structured format for manufacturers to submit required mileage data and will include a data dictionary that describes the required data elements in detail, including data format, field names, and units. This will improve standardization and streamline the application process and enhance the consistency, quality, and reliability of the data to support the department's oversight, regulation, and enforcement of autonomous vehicle operations. In addition, subdivision (a) is adopted to establish requirements if there is no mileage to report during the reporting period.

§ 228.42. Notice of Autonomous Vehicle Noncompliance.

Section 228.40 was renumbered to Section 228.42.

The Notice of Autonomous Vehicle Noncompliance form referenced in subdivision (a) has been updated to provide officers with additional guidance on reporting the location of an incident. Officers will be required to include both the roadway where the incident occurred and the GPS coordinates. In Section 3, the term "Fall Back Ready User" has been changed to "Human Driver" to use clearer and more straightforward language for the officer. In Section 5, the phrase "Not present in the vehicle" has been revised to "No Human Driver" to improve clarity and better indicate that no human driver is present in the vehicle. These amendments will help the department more accurately determine the precise location of each incident and assist officers in capturing relevant details, which will support the department's review process.

Subdivisions (b) and (e) were amended to require the manufacturer to submit the contents of the form (e.g., digitally) to the department within 72 hours of receipt, or within 24 hours of receipt if a priority review is marked on the form. The California Vehicle Code section 38752 requires the manufacturer to submit the form to the department. Manufacturers submitted comments to the department addressing

concerns that reporting timeframe to send Notices to the department within 24 hours/72 hours of issuance does not consider situations where it may take more time for manufacturers to receive Notice due to no previously defined process for issuing/receiving Notices, for example, when the Notice is mailed by law enforcement. Industry widely supports that the timeline to submit Notices of AV Noncompliance be based on receipt instead of issuance. The manufacturer shall submit the form electronically via the department's web page or portal. The manufacturer's obligation to report the Notice will not be triggered if they never receive the Notice. In addition, subdivision (b) references the electronic Notice of Autonomous Vehicle Noncompliance Reporting Template (Rev. 12/2025), which the department will make accessible to manufacturers online. This reporting template will provide additional clarity to the regulated public on required data to submit to the department from the Notice of Vehicle Noncompliance, form OL 325. This reporting template creates a standard, structured format for manufacturers to submit required data and will include a data dictionary that describes the required data elements. This improves standardization and enhances the consistency, quality, and reliability of the data to support the department's oversight, regulation, and enforcement of autonomous vehicle operations.

Subdivision (c) was adopted to specify the placement of the form within the vehicle. Manufacturers submitted comments to the department addressing concerns on no defined, clear, standardized process for issuing/receiving Notices. Manufacturers provided that regulatory uncertainty and ambiguity on the transmission process could lead to inefficiencies or other issues with meeting compliance requirements. In response to public comments, the department is proposing that the form will be placed in the same designated location that registration, insurance, and permit information will be stored for access by law enforcement, as identified in the manufacturer's first responder interaction plan. The peace officer may also give the notice to the manufacturer's designee arriving at the scene of the incident. Subdivision (c) is also adopted to require the peace officer conducting the traffic stop to state their name and department and follow provisions of the California Vehicle Code section 2806.5, which addresses concerns from stakeholders regarding identification of the peace officer.

Subdivision (d) was adopted to specify that law enforcement can also mail the form to the manufacturer's address as listed in the first responder interaction plan within 72 hours of the incident in the event the notice is issued in circumstances other than a traffic stop. This ensures that in the event there is not a traffic stop, the department and the manufacturer will still receive the Notice.

Subdivision (c) was renumbered to subdivision (e).

Subdivision (d) was renumbered to (f).

Subdivision (f)(3) was amended to specify reporting of the date of the alleged violation in YYYY-MM-DD format.

Subdivision (e) was renumbered to (g) and was amended to remove the term "host," replacing with "subject." This is a non-substantive change that provides greater clarity when referring to the autonomous vehicle.

Subdivision (f) was removed as it is deemed duplicative and therefore unnecessary. Enforcement authority is already addressed in Sections 228.22 and 228.24.

Subdivision (g) was renumbered to (h). Non-substantive grammatical changes to subdivision (h).

Subdivision (j)(3) was amended to remove reference to autonomous vehicle of the manufacturer that are equipped with override systems. This removal is due to an unforeseen APA issue. The department may revise in the future.

§ 228.44. Preliminary Information Notice.

Section 228.42 was renumbered to Section 228.44.

Subdivision (a) was amended to specify a manufacturer's response to a Preliminary Information Notice shall make a good faith effort within a reasonable time that is informed by the nature of the issue underlying the Notice and the scope of the Notice. This removes proposed requirements that prescribe a specific timeframe for manufacturers to respond to the Notice. This change addresses manufacturer comments that the proposed timeframe to respond to the Notice is unreasonably insufficient for manufacturers to fully investigate the incident and provide the department with the requested information. The department will exercise its broad authority to require manufacturers to make a good faith effort to respond, rather than imposing a default 72-hour deadline. A good faith effort includes being timely, cooperative, and diligent in providing relevant facts or documents related to an incident. The department retains the authority to shorten response times based on the circumstances and severity of the incident. This will allow the department to receive quicker turnaround for incidents that pose an imminent hazard to public safety.

Subdivision (a) is amended to add in text related to unsafe driving behaviors or hazards that pose an unreasonable risk of injury or exacerbating injury, was added back in to prevent the unnoticed repeal of regulatory text. The department may amend at a later date to remove that text.

Non-substantive changes to subdivisions (a)(2) and (a)(5).

Subdivision (a)(6) was amended to include instances that necessitate a preliminary information report and represent incidents that may pose an unreasonable risk of accident, injury or death. This regulation is necessary for the safe operation of autonomous vehicles on public roads.

§ 228.46. Request for Information.

Section 228.44 was renumbered to Section 228.46.

Subdivision (a) was amended to specify a manufacturer's response to a Request for Information shall make a good faith effort within a reasonable time that is informed by the nature of the issue underlying the Request and the scope of the Request. This removes proposed requirements that prescribe a specific timeframe for manufacturers to respond to the Request. This change addresses manufacturer comments that the proposed timeframe to respond to the Request is unreasonably insufficient for manufacturers to fully investigate the incident and provide the department with the requested information. The department will exercise its broad authority to require manufacturers to make a good faith effort to respond, rather than imposing a default 10-day deadline. A good faith effort includes being timely, cooperative, and diligent in providing relevant facts or documents related to an incident.

Non-substantive changes to subdivision (a)(2).

Subdivision (a)(4) was adopted to provide additional clarity on the type of safety-relevant supplemental information the department may request in its review and investigation of an incident. This addresses stakeholder concerns on lack of regulatory clarity on the type of information that shall be provided upon request by the department.

Subdivisions (a)(4) through (a)(12) were removed due to comments from the autonomous vehicle industry that due to the department's enforcement authority leveraged by a Request for Information, the incidents which precipitate the department's investigation should be substantiated reports, such as operation that violates the California Vehicle Code, poses an unreasonable risk of accident, death, injury, or exacerbating injury, or does not comply with operational parameters approved in the authorized permit.

2) Imposition of Mandate on Local Agencies or School Districts

The department's regulatory action amending Sections 227.00, 227.02, 227.04, 227.14, 227.16, 227.34, 227.36, 227.38, 227.40, 227.42, 227.44, 227.46, 227.48, 227.50, 227.52, and 227.54, and adopting Sections 227.56, 227.58, 227.60, 227.62, 227.64, 227.66, 227.68, 227.70, 227.72, and 227.74 in Article 3.7, and amending Sections 228.02, 228.04, 228.06,

228.08, 228.10, 228.12, 228.14, 228.16, 228.18, 228.20, 228.22, 228.24, 228.26, and 228.28, and adopting Sections 228.30, 228.32, 228.34, 228.36, 228.38, 228.40, 228.42, 228.44, 228.46, in Article 3.8, Chapter 1, Division 1, of Title 13, does not impose any mandate on local agencies or school districts and imposes (1) no cost or savings to any state agency, (2) no cost to any local agency or school district that is required to be reimbursed under Part 7 (commencing with Section 17500) of Division 4 of the Government Code, (3) no other discretionary cost or savings to local agencies, and (4) no cost or savings in federal funding to the state. No studies or data were relied upon to make this determination.

3) Summary of Comments Received During the 45-Day Comment Period and Department's Response

The proposal was noticed on April 25, 2025, and made available to the public from April 25, 2025 through June 9, 2025. The Department received 80 written comments during the 45-day comment period. On June 10, 2025, the Department conducted a public hearing in San Francisco. The Department heard oral comments at the public hearing from 30 individuals representing vehicle and technology manufacturers, transportation networks, local transportation agencies and private citizens.

The Department received written comments from the following interested parties during the 45-day comment period:

Comments submitted during the 45-day comment period are denoted with "-45d" following the name of the commenter.

	Name	Entity Date	Comment Submitted
1	Alexis Bartlo	General Public	4/25/2025
2	Capt. Dane Faber	General Public	4/25/2025
3	Concerned Citizens	General Public	4/25/2025
4	Deb Cady	General Public	4/25/2025
5	Samir Elsaidi	General Public	4/26/2025
6	Jerome Strach	General Public	4/26/2025
7	James Kaen, Esq.	General Public	4/26/2025
8	Laura Vossman	General Public	4/28/2025
9	John M. Fleming	General Public	4/28/2025
10	Drew Sperling	General Public	4/28/2025
11	Lieutenant David Fawson	California Highway Patrol	4/30/2025
12	Peter Ciriscioli	General Public	5/1/2025
13	Liv Scott	General Public	5/3/2025
14	Jeffrey Filgo	General Public	5/3/2025
15	James Drabos	General Public	5/4/2025
16	Aaron Buckles	General Public	5/4/2025

17	Michael Mosesman	General Public	5/5/2025
18	Mark Whitney	General Public	5/6/2025
19	Unnamed	General Public	5/7/2025
20	Ken Zangwill	General Public	5/7/2025
21	Jesse Lopez	General Public	5/8/2025
22	Jesse Wiza	General Public	5/12/2025
23	Danielle Moody	General Public	5/6/2025
24	Lauren Barker	General Public	5/18/2025
25	Rochelle Odell	General Public	5/24/2025
26	Murray Armstrong	LiveRoad Analytics	5/30/2025
27	Peter Katz	Mountain View Chamber of Commerce	5/30/2025
28	Dominic Marinelli	United Spinal Association's Accessibility Services	6/1/2025
29	Ray LaHood	General Public	6/2/2025
30	Caitlin O'Malior	Lighthouse for the Blind and Visually Impaired	6/3/2025
31	Jared Sanchez	California Bicycle Coalition	6/3/2025
32	MaryAnn Hogan	on behalf of Jiao Yang United States Department of Commerce, National Institute of Standards and Technology on behalf of China World Trade Organization	6/4/2025
33	Grigor and Susan Mamian	General Public	6/5/2025
34	Nabil Mai	Consumer Technology Association	6/5/2025
35	Jessica Grove	California Department of Rehabilitation	6/5/2025
36	Brett A. Sant	Knight-Swift Transportation Holdings, Inc.	6/6/2025
37	Philip M. Vermeulen	Philip M. Vermeulen Governmental Relations on behalf of Coalition of Small and Disabled Veterans, Flasher Barricade Association	6/6/2025
38	Matt Broad	Broad & Gusman on behalf of Teamsters California	6/6/2025
39	Matt Broad	Broad & Gusman on behalf of Conference Board of Amalgamated Transit Union, California Conference of Machinists	6/6/2025
40	Greg Reading	Weideman Group, Inc. on behalf of Blinded Veterans Association, California Foundation for Independent Living, Marin Center for Independent Living	6/6/2025
41	Greg Reading	Weideman Group, Inc. on behalf of Beep, Holon, Benteler Mobility	6/6/2025
42	Aravind Kailas	Volvo Autonomous Solutions	6/6/2025
43	Sarah Gates	Wayve.ai	6/8/2025
44	Jeffrey Sutter	Public	6/8/2025
45	Richard Steiner	Gatik AI, Inc.	6/9/2025
46	Luca Gervasoni	Mobileye Global, Inc.	6/9/2025
47	Louie Costa	SMART-Transportation Division, California	

		Safety and Legislative Board on behalf of Teamsters California	6/9/2025
48	Nick Chiappe	California Trucking Association	6/9/2025
49	Katie Stevens	Nuro	6/9/2025
50	Peter Kurdock	Advocates for Highway & Auto Safety	6/9/2025
51	Lindsay Abate	Alliance for Automotive Innovation	6/9/2025
52	Amy Klinkenberger	Mercedes-Benz Research & Development North America, Inc., Mercedes-Benz USA, LLC	6/9/2025
53	Grant Baker	Association for Uncrewed Vehicle Systems International	6/9/2025
54	Ruth Whittaker	Chamber of Progress	6/9/2025
55	Gerardo Interiano	Aurora Operations, Inc.	6/9/2025
56	Ritchie Huang	Daimler Truck North America	6/9/2025
57	John Lobsiger	Volkswagen Group of America, Inc.	6/9/2025
58	Peter Leroe-Muñoz	Silicon Valley Leadership Group	6/9/2025
59	Jordan Coleman	Kodiak Robotics	6/9/2025
60	Eddie Gates	Tesla, Inc.	6/9/2025
61	Allison Drutchas	Waymo LLC	6/9/2025
62	Emily Loper	Bay Area Council	6/9/2025
63	Jose Torres	TechNet	6/9/2025
64	James Kliesch	American Honda Motor Co., Inc.	6/9/2025
65	Silvia Solis Shaw	California City Transportation Initiative	6/9/2025
66	Timothy Haile	Contra Costa Transportation Authority	6/9/2025
67	Timothy Haile	On behalf of Contra Costa Transportation Authority, The Automated Connected Electric Shared Mobility Coalition, County Connection, Napa Valley Transportation Authority, West Contra Costa Transit Authority, Livermore Amador Valley Transit Authority, Redding Area Bus Authority	6/9/2025
68	Perry Holmes	Coalition for Safe Autonomous Vehicles and Electrification	6/9/2025
69	Tim Valderrama	Weideman Group, Inc. on behalf of Redding Area Bus Authority, Contra Costa Transportation Authority, Institute of Transportation Studies Berkley, Town of Yountville	6/9/2025
70	Saveena Takhar	Consumer Attorneys of California	6/9/2025
71	Jarvis Murray	Los Angeles Department of Transportation	6/9/2025
72	Jean Paul Velez	San Francisco County Transportation Authority	6/9/2025
73	Alex Poirot	On behalf of Beep, Holon, Benteler, ADASTEC	6/9/2025
74	Ariel Wolf	Autonomous Vehicle Industry Association	6/9/2025
75	Elizabeth Fishback	Stack AV Co.	6/9/2025
76	Viktoriya Wise	On behalf of San Francisco Municipal Transportation Authority, San Francisco Police Department, San Francisco Fire Department	6/9/2025

77	Sam Loesche	Waabi Innovation U.S. Inc.	6/9/2025
78	Kate Miller	Napa Valley Transportation Authority	6/9/2025
79	Christopher Nalevanko	Zoox Inc.	6/9/2025
80	Darcyne Foldenauer	Automated Vehicle Safety Consortium	6/30/2025

The Department heard oral comment from the following interested parties during the public hearing held on June 10, 2025:

Oral testimony comments provided at the public hearing are denoted with "-OT" following the name of the commenter.

	Name	Entity	Date Comment Submitted
1	Randle Thomas	Gatik AI, Inc.	6/10/2025
2	Clint Kneip	Gatik AI, Inc.	6/10/2025
3	Richard Steiner	Gatik AI, Inc.	6/10/2025
4	Daniel Goff	Kodiak Robotics	6/10/2025
5	Brett Fabbri	Kodiak Robotics	6/10/2025
6	Peter Katz	Mountain View Chamber of Commerce	6/10/2025
7	Adrian Campbell	Applied Intuition	6/10/2025
8	Eve Torres	Volkswagen Group of America, Inc.	6/10/2025
9	Courtney Park	Volkswagen Group of America, Inc.	6/10/2025
10	Chiu Zhang	Volkswagen Group of America, Inc.	6/10/2025
11	Alison Pascale	Volkswagen Group of America, Inc.	6/10/2025
12	Nils Kaepper	Volkswagen Group of America, Inc.	6/10/2025
13	Earl Adams Jr.	Plus AI	6/10/2025
14	James Clark	Plus AI	6/10/2025
15	Nat Beuse	Aurora Operations, Inc.	6/10/2025
16	Ariel Wolf	Autonomous Vehicle Industry Association	6/10/2025
17	David Bonelli	Autonomous Vehicle Industry Association	6/10/2025
18	Jeff Farrah	Autonomous Vehicle Industry Association	6/10/2025
19	Katie Stevens	Nuro	6/10/2025
20	Timothy Haile	Contra Costa Transportation Authority	6/10/2025
21	Sam Loesche	Waabi Innovation US Inc.	6/10/2025
22	Robert Singleton	Chamber of Progress	6/10/2025
23	Timothy Burr Jr.	TechNet	6/10/2025
24	Peter Leroe-Muñoz	Silicon Valley Leadership Group	6/10/2025
25	Alex Poirot	Beep	6/10/2025
26	Paul Escobar	Zoox Inc.	6/10/2025
27	Elizabeth Fishback	Stack AV Co.	6/10/2025
28	Emily Loper	Bay Area Council	6/10/2025
29	Michael Magee	Waymo LLC	6/10/2025
30	Mark Gruberg	San Francisco Taxi Workers Alliance	6/10/2025

Letters and oral testimonies from the following commenters expressed support of the proposed regulations and described possible benefits to businesses, customers, and local economies. The Department acknowledges and thanks these commenters for providing comment, but does not respond as they are general comments of support:

- James Kliesch, American Honda Motor Co., Inc., -45d
- Jared Sanchez, California Bicycle Coalition -45d
- Caitlin O'Malior, Lighthouse for the Blind and Visually Impaired, -45d
- Nabil Mai, Consumer Technology Association, -45d
- Jerome Strach, -45d
- Drew Sperling, -45d
- Peter Katz, Mountain View Chamber of Commerce, -45d, -OT
- Kate Miller, Napa Valley Transportation Authority, -45d
- Philip M. Vermeulen, Philip M. Vermeulen Governmental Relations, on behalf of Coalition of Small and Disabled Veterans, Flasher Barricade Association, -45d
- Dominic Marinelli, United Spinal Association, Accessibility Services, -45d
- Adrian Campbell, Applied Intuition, -OT

Letters from the following commenters opposed the proposed regulations. The Department acknowledges these comments, but does not respond as they are general comments of opposition.

- Capt. Dane Faber, -45d
- Alexis Bartlo, -45d•Concerned Citizens, -45d
- Samir Elsaidi, -45d
- Deb Cady, -45d
- Dawn Gray Siemer, -45d
- Laura Vossman, -45d
- John M. Fleming, -45d
- Aaron Buckles, -45d
- James Drabos, -45d
- Jeffrey Filgo, -45d
- Liv Scott, -45d
- Michael Mosesman, -45d
- Mark Whitney, -45d

- Ken Zangwill, -45d
- Unnamed, -45d
- Jesse Lopez, -45d
- Jesse Wiza, -45d
- Danielle Moody, -45d
- Rochelle Odell, -45d
- Grigor and Susan Mamian, -45d
- Jeffrey Sutter, -45d
- ***James Kaen, Esq., General Public, -45d***

Comment: Mr. Kaen argues that the proposed autonomous vehicle (AV) regulations are overly burdensome and risk delaying deployment, which could worsen transportation costs for Californians. He recommends streamlining the multi-tiered permitting process into a single phase with clear milestones to accelerate progress. He also urges reducing mandatory mileage requirements for companies with proven safety records to avoid unnecessary delays. He suggests offering incentives, such as expedited reviews or fee reductions, for companies that demonstrate safe AV operations and promote shared mobility models to lower consumer costs. Additionally, he calls for harmonizing California's rules with federal standards to prevent duplication and maintain competitiveness in AV innovation. Mr. Kaen emphasizes that faster AV deployment is critical for reducing transportation expenses, improving efficiency, and ensuring California remains a leader in this technology.

Department Response: A multi-tiered permitting process is essential for public safety and statutory compliance. The adopted framework clarifies permit stages—Drivered Testing, Driverless Testing, Deployment—and enables electronic submissions to streamline processing while preserving oversight. A single, one-time authorization would diminish the Department's ability to tailor operational parameters to evolving operational design domains (ODDs), technology updates, and local conditions, particularly as driverless operations expand. The adopted framework balances innovation with targeted controls (e.g., operational restrictions when needed, enabling proportionate responses to specific issues).

The minimum mileage thresholds were established based on California's operational design domain (ODD) experience and industry data to ensure a sufficient evidence base before allowing driverless operation or deployment. At the same time, the regulations incorporate flexibility to avoid unnecessary delays. For low-speed autonomous vehicles, the threshold is reduced to 10,000 miles, recognizing their

distinct and less complex use cases. Additionally, for heavy-duty AVs, the rules permit manufacturers to count out-of-state mileage in comparable ODDs and submit standardized summaries of that testing data. This approach ensures the Department can assess safety relevance without requiring duplicative accumulation of miles exclusively within California.

Incentives such as expedited reviews or fee reductions were not adopted to avoid inequities, but efficiency improvements like standardized templates and removal of disengagement reporting were implemented to reduce burden. The Department harmonized rules with federal standards by aligning definitions with SAE J3016 and crash reporting with NHTSA's Standing General Order, eliminating duplicative requirements. Additional changes, such as annual rather than quarterly updates to First Responder Interaction Plans and removal of route-listing mandates, further reduce unnecessary complexity. These measures balance innovation with safety, ensuring California remains competitive while protecting the public.

- **"Concerned Citizen" and Jerome Strauch, -45d**

Comment: These commenters suggested the department implement a "Strike System" whereby a close call incident is recorded and proven to be the AV's inability to avoid incident, or guidelines where, if there are more than 3 accidents, the company must have a public hearing with the department and lawmakers, with consequences including suspension of the A/V services.

Department's Response: A fixed "three-accident" or any hearing requirement is not being adopted because it would impose a rigid, event count threshold rather than the system based safety evaluation framework. The adopted regulations provide robust public safety oversight through comprehensive safety case submissions, mandatory reporting of collisions and other safety relevant events, and the Department's authority to issue restrictions, suspensions, or revocations whenever a manufacturer's vehicles demonstrate unsafe operation or present an unreasonable risk to the public. This structure ensures that safety critical patterns or incidents can be addressed directly and immediately, without the need for numeric caps or fixed event triggers. The Department is not adopting mandates such as DMV administered pre-permit testing, or a "strike system," as these rely on a driver centric enforcement model. The adopted regulations strengthen oversight through a comprehensive safety case requirement, which mandates that manufacturers demonstrate system safety using clearly defined core safety information elements, and through robust, standardized data reporting requirements, including collision data aligned with federal standards, dynamic driving task performance relevant system failures, braking events, vehicle immobilizations, and vehicle miles traveled.

- **Murray Armstrong, LiveRoad Analytics, -45d**

Comment: LiveRoad Analytics recommends that the regulations require autonomous driving systems to incorporate advanced weather intelligence capabilities, including forecasting, real time condition monitoring, and weather related incident analysis. They further urge the Department to systematically document instances where ADS outperform human drivers in adverse weather. They assert that these measures would strengthen safety and support continuous improvement in AV technology and regulatory frameworks.

Department Response: The Department is not adopting additional prescriptive mandates for weather forecast integration, real time atmospheric monitoring, or comparative performance documentation in adverse weather. The Department's regulatory authority focuses on ensuring safe operation through performance based requirements, including the safety case, expanded operational data reporting, and alignment with statutory and federal frameworks, rather than prescribing specific sensing, analytics, or system design features. Manufacturers remain responsible for ensuring their automated driving systems can safely operate within the intended operational design domain, including environmental and weather related conditions, and must demonstrate such capability through the comprehensive description of a safety case and through safety relevant operational reporting. The Department will continue to monitor technological developments and evaluate whether future rulemaking is warranted to address emerging capabilities or risks.

- ***Ray LaHood, General Public, -45d***

Comment: Mr. LaHood urges the Department to include a targeted exemption for first and last mile transit autonomy.

Department Response: The Department adopted an exemption for medium-duty autonomous vehicles with a gross vehicle weight rating under 14,001 pounds that meet the statutory definition of a bus and carry no more than 15 passengers, including an attendant. This exemption applies only when operated by or in partnership with public entities, such as transit agencies, local governments, universities, airports, or independent institutions of higher education, to enable first- and last-mile connections and fill service gaps. To ensure safety, exempt vehicles remain subject to annual California Highway Patrol inspections, and manufacturers must submit Safety Compliance Reports, Driver/Vehicle Examination Reports, and related documentation within 30 business days of receipt. The Department also retains enforcement authority to restrict, suspend, or revoke permits based on CHP findings or directives from the Federal Transit Administration. Heavy-duty passenger vehicles above 14,000 pounds remain excluded due to higher safety risks, and the Department will revisit those use cases in future rulemaking. This targeted exemption balances innovation with public safety, aligns with stakeholder recommendations,

and provides a clear regulatory pathway for expanding mobility options without compromising oversight.

- ***Gerardo Interiano, Nat Beuse, Aurora Operations, Inc. (Aurora), -45d, -OT***

Comment: Aurora opposes the DMV's proposed restriction on autonomous trucks operating on roads with speed limits of 25 mph or less, arguing that it is incompatible with real-world logistics, may compromise safety during fallback maneuvers, and recommends removing detour or alternate routing regulations to align with those that apply to conventionally driven commercial motor vehicles. Aurora recommends leveraging the safety case for manufacturers to demonstrate the ADS' ability to safely operate within the ODD. Also, Aurora recommends removing the requirement for manufacturers to provide all specific routes and local roads within the ODD as this would be burdensome for manufacturers to maintain, especially as operations scale. Aurora recommends removing or clarifying this restriction and allowing AV trucks to operate on any legally permissible road.

Department Response: The Department will maintain the operational design domain restriction proposed in Section 227.18 (c) and Section 228.08 (a)(3)(A) due to public safety considerations associated with the complexity of certain roadway environments, such as residential neighborhoods, school zones, and urban cores, while amending the allowable exceptions to clarify that routes need not include freeways and removing the requirement for manufacturers to submit all specific routes on which they will operate, in response to feasibility concerns raised by commenters. By referencing a new definition of "direct route" in Section 227.02 (o), this amendment establishes a clear standard for acceptable routes for driverless testing and deployment of autonomous heavy-duty commercial motor vehicles—those that are the most linear, geographically logical, and efficient, while preserving safety and regulatory compliance.

The Department is removing the proposed requirement for manufacturers to provide all specific routes and local roads within the operational design domain as described in former Section 227.18 (c)(1) due to widespread stakeholder comments that provided this would be burdensome for manufacturers to maintain, especially as operations scale. The Department will continue its statutory role to evaluate the automated driving system's ability to safely operate within the intended operational design domain, including routes that traverse high density areas, through reviewing the manufacturer's comprehensive description of a safety case and operational data submitted at the time of application and on a monthly or quarterly cadence as part of expanded data reporting requirements, and leveraging post-permitting controls, such as the Request for Information process, which will give the Department authority to request specific information on incidents involving the operation of

autonomous vehicles on public roads. These measures will provide the Department with safety-relevant data that will enhance the Department's regulatory oversight on safety performance, amplify its visibility on roadway incidents that occur during testing or deployment, as well as establish mechanisms for ongoing engagement with manufacturers throughout the permit lifecycle.

Comment: Aurora supports the DMV's recognition of out-of-state autonomous mileage but requests clarification on which types of permit modifications would trigger the proposed 250,000-mile testing requirement. Aurora requests clarity on acceptable out-of-state mileage, proposing that manufacturers be allowed to provide out-of-state mileage accrued before the regulations take effect. Aurora contends that on-road mileage is not a reliable indicator of an ADS's ability to safely operate within the intended ODD, but rather the safety case that provides such evidence, recommending that safety case submission be leveraged for incremental ODD changes. The company also recommends limiting mileage thresholds to significant expansions of the operational design domain (ODD), rather than applying them to minor or administrative changes.

Department Response: The Department appreciates Aurora's comment and acknowledges the importance of providing regulatory clarity regarding the use of out-of-state mileage and the role of safety case submissions in evaluating the safe operation of autonomous vehicles. In response to stakeholder feedback, including Aurora's, the Department has amended the regulatory text to allow manufacturers of autonomous heavy-duty commercial motor vehicles to submit a summary of out-of-state testing conducted in an operational design domain that is the same or comparable to that which is intended for operation with a Deployment Permit. An ODD is considered the same when the testing conditions are identical, including roadway type, lane configuration, speed range, environmental conditions, and traffic characteristics. An ODD is considered comparable when it is not identical but still sufficiently similar in key aspects to demonstrate the vehicle's ability to operate safely under California's intended conditions. Comparable ODDs share functional similarities in roadway type, operational constraints such as speed and lane use, environmental factors like climate, and infrastructure elements such as signage and markings. The Department will evaluate submitted evidence to ensure the out of state ODD provides a reliable basis for demonstrating safety and performance in California. This includes mileage accrued prior to the effective date of the regulations, provided the manufacturer submits all required reports equivalent to those required for in-state testing. The intent of the mileage requirement is to ensure that manufacturers of autonomous heavy-duty commercial motor vehicles have demonstrated sufficient operational experience in real-world conditions that reflect the complexity of their intended ODD. The regulation does not impose a temporal restriction on when the

out-of-state mileage must be accrued. Instead, it focuses on the quality, relevance, and completeness of the data submitted to support the manufacturer's application.

The regulation allows up to 400,000 miles to be accumulated in other jurisdictions, contingent upon the submission of California-equivalent data, including:

- Crash reports
- Braking events
- System failures (dynamic driving task performance relevant system failures)
- Comparable ODD conditions

The Department has incorporated these provisions into Section 228.08(a)(1)(E) and Section 228.08(a)(2)(D) of Article 3.8. These amendments ensure that out-of-state testing data is treated with parity, contingent upon the submission of safety-relevant and safety-critical incident data in a standardized format. This flexibility reflects the Department's goal of balancing rigorous safety oversight with practical pathways for manufacturers to demonstrate readiness, especially those with substantial testing history outside California.

Regarding the role of the safety case, the Department agrees that the safety case is a critical component in evaluating the safe operation of an ADS. Accordingly, the Department has revised the regulatory text to require manufacturers to submit a comprehensive description of a safety case, supported by core safety information elements and safety metrics, when applying for an original or amended Deployment Permit. This requirement is outlined in Section 228.08(a)(1)(C) and Section 228.08(a)(2)(A) of Article 3.8.

The Department has also clarified that the safety case must demonstrate functional safety, safety of the intended function, artificial intelligence safety, cybersecurity, and operational safety, in accordance with relevant standards and best practices. The Department may consult with third-party experts to review the safety case, as authorized by Vehicle Code section 38750(d)(2).

The Department is providing additional regulatory clarity on specific requirements to modify a Driverless Testing Permit and amend a Deployment Permit, distinguishing requirements for implementing administrative changes to a permit from more complex changes. The Department is adopting the terms "Driverless Testing Permit Operational Parameters Modification Application," defined in Section 227.02 (w), and "Deployment Permit Operational Parameters Amendment Application," defined in Section in 228.02 (e), to specify that these applications are required for processing changes to the operational design domain or automated driving system's capabilities. The Department clarifies that the mileage requirements set forth in

Section 227.42 (b) apply to modifications, as described in Section 227.42 (o)(1) through (o)(7), of a Driverless Testing Permit, which require submission of a Driverless Testing Permit Operational Parameters Modification Application. Moreover, the Department clarifies that the mileage requirements set forth in Section 228.08 (a)(2) applies to amendments, as described in Section 228.12 (b), of a Deployment Permit, which require submission of a Deployment Permit Operational Parameters Amendment Application. This amendment provides a clearer delineation of each application's distinct requirements and certifications applicable at each stage of the permitting lifecycle.

Comment: Aurora opposes the DMV's proposed in-cabin indicator and event data recorder requirements, contending that they are overly prescriptive, inflexible, and potentially in conflict with federal regulatory authority. Instead, Aurora advocates for a performance-based approach that permits alternative solutions—such as external indicators—and recommends aligning event data recording standards with AVSC Best Practices.

Department Response: The Department is amending the proposed regulatory draft language on vehicle design and equipment requirements in Section 227.38 (b)(5), Section 227.40 (a)(4), Sections 227.42 (f)(3)(H), (f)(3)(I), (f)(4), (i)(1)(F), (i)(1)(I), (i)(1)(N), and (j)(3), and Sections 228.08 (b)(1)(F), (c)(5)(A), (c)(10)(G), (c)(10)(H), to align with the legislative intent of Assembly Bill 1777 (Chapter 682; Statutes of 2024) and Senate Bill 480 (Chapter 415, Statutes of 2025) and statutory amendments set forth in the California Vehicle Code sections 38750 and 38751 adopted through the passage of these Bills, and to prevent encroachment on the United States Department of Transportation, National Highway Traffic Safety Administration's federal authority to promulgate and enforce vehicle design and performance equipment standards.

Comment: Aurora supports transparency in autonomous vehicle operations but expresses concern that the DMV's proposed reporting requirements include overly broad disengagement definitions and subjective triggers—such as "blocking" emergency vehicles—which could lead to inconsistent reporting and public misinterpretation. Aurora recommends shifting to quarterly reporting, focusing on objective, safety-relevant metrics, and providing contextualized data alongside human-driver baselines.

Department Response: The Department is removing disengagement reporting requirements, set forth in former Section 227.56, in favor of reporting dynamic driving task performance relevant system failures in alignment with SAE International's standard J3016 (APR2021), and reporting vehicle immobilizations for enhanced visibility, oversight, and enforcement of safety-relevant or safety-critical situations that occur while operating autonomous vehicles on public roads. Reporting requirements

for dynamic driving task performance relevant system failures are described in Section 227.56 and Section 228.38; requirements for vehicle immobilizations are described in Section 227.58 and Section 228.36.

Comment: Aurora requests clarification that non-commercial passengers—such as employees, regulators, or business partners—may be transported in autonomous trucks.

Department Response: The Department is adopting an exemption for passenger service in Section 227.26 (a)(6)(A) that will allow autonomous heavy-duty commercial motor vehicles designed to transport property to carry passengers (e.g., third-party validators, business partners, and manufacturer personnel) for testing and demonstration purposes. This exemption aligns with existing regulations which allow light-duty manufacturers operating under a testing permit to have employees, contractors, or designees to be physically located in the vehicle while it is operating in autonomous mode on public roads.

Comment: Aurora recommends limiting hazardous materials restrictions to placarded quantities, excluding small consumer goods.

Department Response: The Department is making the recommended change in Section 227.26 (a)(3) to prohibit the operation of vehicles that transport hazardous materials of the type and in quantities that require the display of placards or markings on the vehicle exterior by the United States Department of Transportation pursuant to Parts 172, 173, and 177 of Title 49 of the Code of Federal Regulations, as defined in the Vehicle Code Section 27903 (a). This prevents unintentionally restricting manufacturers of autonomous heavy-duty commercial motor vehicles from transporting common household and consumer goods that do not require a placard or marking issued by the United States Department of Transportation.

Comment: For first responder training, Aurora suggests flexible, scalable formats like online modules and updates only as needed.

Department Response: The Department is removing requirements for manufacturers to make changes to the first responder interaction plan and training program on a fixed, quarterly cadence in Section 227.42 (i)(3), instead requiring manufacturers to review the first responder interaction plan and training program at least annually, document such reviews, and make updates as needed. This ensures that substantive or safety-related changes are provided in new versions of the first responder interaction plan and training program.

Comment: Aurora supports aligning crash reporting requirements with federal (NHTSA) standards and recommends broadening the language to accommodate future federal rules.

Department Response: The Department is aligning collision reporting requirements described in Section 227.54 and Section 228.34 with federal crash reporting requirements set forth in the current revision (June 2025) of the National Highway Traffic Safety Administration's (NHTSA) Standing General Order (SGO).

- ***Alex Poirot, on behalf of Beep, Holon, Benteler Mobility, ADASTEC, -45d, -OT***

Comment: This coalition of AV industry stakeholders urges the DMV to include medium-duty (Class II and III) shared autonomous vehicles in the final regulatory framework, emphasizing their role in providing accessible, zero-emission, and public-serving transportation. They argue that excluding these vehicles would hinder mobility for people with disabilities, reduce transit connectivity, and limit environmental and economic benefits. The coalition supports full regulatory oversight and recommends allowing deployment of ADA-compliant, all-electric vehicles operated in partnership with public entities, integrated into shared, demand-responsive systems.

Department Response: The Department is adopting a targeted exemption in Section 227.26 (a)(6)(B) that will allow vehicles with a gross vehicle weight rating of less than 14,001 pounds that meet the statutory definition of a bus set forth in the California Vehicle Code Section 233 (b) and are designed to transport no more than 15 passengers, which includes the attendant, to conduct passenger service when operated by or in partnership with a public entity as defined in the Government Code 811.2 or independent institutions of higher education as defined in the California Education Code 66010 (b). This carve-out for medium-duty passenger service will provide a regulatory pathway for manufacturers to partner with public entities and private universities to test and deploy shared mobility transit solutions beyond the single-passenger use-case and will align with vehicle inspection requirements for medium-duty vehicles. Manufacturers operating under this exemption shall be required to provide to the Department any complete and unredacted Safety Compliance Report/Terminal Record Update (form CHP 343), Driver/Vehicle Examination Report (form CHP 407F), Notice to Carrier (form CHP 345), if applicable, and all attachments issued by the California Highway Patrol (CHP) within 30 business days of receipt. During these inspections, CHP may identify violations related to vehicle maintenance or driver records. If a passenger reports feeling unsafe due to the vehicle's mechanical condition, CHP also has the authority to conduct an inspection at any time in response to the complaint. The Department may then exercise its Request for Information or restriction, suspension, or revocation authority in response to any vehicle maintenance or driver record issues identified by CHP.

- ***Ritchie Huang, Daimler Truck North America (DTNA), -45d***

Comment: Daimler Truck North America (DTNA) opposes the proposed operational design domain (ODD) restrictions that limit AV operation on roads with speed limits of

25 mph or less, arguing they would hinder long-haul, middle-mile, and last-mile use cases without a clear safety basis.

Department Response: The Department will maintain the operational design domain restriction proposed in Section 227.18 (c) and Section 228.08 (a)(3)(A) due to public safety considerations associated with the complexity of certain roadway environments, such as residential neighborhoods, school zones, and urban cores, while amending the allowable exceptions to clarify that routes need not include freeways and removing the requirement for manufacturers to submit all specific routes on which they will operate, in response to feasibility concerns raised by commenters. By referencing a new definition of "direct route" in Section 227.02 (o), this amendment establishes a clear standard for acceptable routes for driverless testing and deployment of autonomous heavy-duty commercial motor vehicles—those that are the most linear, geographically logical, and efficient, while preserving safety and regulatory compliance.

Comment: DTNA objects to expanded data reporting requirements, including monthly disengagement and braking event reports, recommending instead the use of safety cases, NHTSA crash reports, and noncompliance notices for oversight.

Department Response: The Department is removing disengagement reporting requirements, set forth in former Section 227.56, in favor of reporting dynamic driving task performance relevant system failures that occur during operation of SAE International's level 3 systems, in alignment with SAE International's standard J3016 (APR2021), and reporting vehicle immobilizations that occur during operation of SAE International's level 4 or 5 systems for enhanced visibility, oversight, and enforcement of safety-relevant or safety-critical situations that occur while operating autonomous vehicles on public roads. Reporting requirements for dynamic driving task performance relevant system failures are described in Section 227.56 and Section 228.38; requirements for vehicle immobilizations are described in Section 227.58 and Section 228.36.

As described in Section 227.66 (a), the Department is limiting reportable braking events to roadways with higher posted speed limits—where the risk of collision from unexpected braking is greater compared to lower-speed roads. In addition, the Department is amending the reportable threshold for braking events, as described in Section 227.66 (a), to those that produce speed decrease of 3 meters per second (m/s) or more from braking at a deceleration rate that exceeds 5 meters per second squared (m/s/s) for at least 0.5 seconds on a public road with a speed limit of 35 miles per hour or higher. The Department is narrowing the scope of reportable braking events to capture safety-relevant or safety-critical data to evaluate the vehicle's safety performance; however, the Department retains its investigatory authority to

request specific information on and to review any incident involving the operation of an autonomous vehicle on public roads through the Request for Information process.

Comment: DTNA further opposes shortening permit terms from two years to one, citing increased administrative burden, and urges flexibility in vehicle design requirements to ensure consistency with federal standards and interstate operations. They emphasize that a performance-based, safety-driven regulatory framework is essential for enabling innovation and investment in California's autonomous trucking sector.

Department Response: The Department will maintain the existing two-year term for testing permits set forth in Section 227.20. The Department agrees that a performance-based, safety-driven framework is essential and has incorporated this principle throughout the modified regulations. The changes emphasize outcome-oriented standards rather than prescriptive mandates, requiring manufacturers to submit a comprehensive description of a safety case aligned with industry best practices, including functional safety, cybersecurity, and operational safety. Reporting requirements were streamlined by replacing disengagement reporting with dynamic driving task performance relevant system failures and vehicle immobilizations, focusing on safety-critical events. The regulations also align with federal standards, such as NHTSA's Standing General Order, and allow flexibility for innovation by permitting out-of-state testing data when comparable to California's operational design domain. These modifications collectively support innovation while maintaining rigorous safety oversight.

- **Richard Steiner, Randle Thomas, Clint Kneip, Gatik AI, Inc. (Gatik), -45d, -OT**

Comment: Gatik AI, Inc. supports the California DMV's efforts to authorize autonomous heavy-duty commercial motor vehicle (CMV) operations and commends the inclusion of compensated testing in the proposed regulations. However, Gatik opposes the restriction on operating AVs on roads with speed limits of 25 mph or less, arguing it limits operational flexibility, reduces efficiency, and lacks a safety basis. They recommend using the safety case as the primary tool for evaluating operational design domain (ODD) suitability rather than imposing blanket restrictions.

Department Response: The Department will maintain the operational design domain restriction proposed in Section 227.18 (c) and Section 228.08 (a)(3)(A) due to public safety considerations associated with the complexity of certain roadway environments, such as residential neighborhoods, school zones, and urban cores, while amending the allowable exceptions to clarify that routes need not include freeways and removing the requirement for manufacturers to submit all specific routes on which they will operate, in response to feasibility concerns raised by commenters. By referencing a new definition of "direct route" in Section 227.02 (o), this amendment establishes a clear standard for acceptable routes for driverless

testing and deployment of autonomous heavy-duty commercial motor vehicles—those that are the most linear, geographically logical, and efficient, while preserving safety and regulatory compliance.

Comment: Gatik raises concerns about applying traditional CMV inspection standards to driverless vehicles and urges the DMV to recognize the Enhanced CMV Inspection Standard, developed with the Commercial Vehicle Safety Alliance (CVSA) and FMCSA, as a valid compliance method. These changes, they argue, would better support safe, efficient, and scalable AV deployment in California.

Department Response: The Department is removing the proposed regulatory language on vehicle inspections in former Sections 227.28 (e), (e)(1), (e)(2), and (e)(3) as commercial motor vehicles that operate on public roads in California are already subject to existing federal, state, and local requirements, which include inspections conducted by the California Highway Patrol. While the Department is not adopting the CVSA standard in this rulemaking, it will continue to engage with the California Highway Patrol (CHP) and other stakeholders to evaluate the feasibility of incorporating enhanced inspection protocols for driverless CMVs in future regulatory updates.

- ***Brett A. Sant, Knight-Swift Transportation Holdings, Inc. (Knight-Swift Transportation), -45d***

Comment: Knight-Swift Transportation urges the DMV to prohibit driverless testing for temperature-controlled food shipments and flatbed loads due to the need for constant monitoring and securement.

Department Response: The final regulations implement a risk-based framework that limits certain higher risk cargo operations while allowing property carriage subject to robust safety and commercial vehicle oversight. Specifically, the rules prohibit testing or deployment for hazardous materials requiring placards under federal regulations, bulk liquid/tank operations, oversize loads, and household mover operations, and maintain CHP inspection and motor carrier oversight pathways, ensuring continuous compliance with securement and monitoring requirements applicable to commercial carriers. Taken together, these controls provide the Department with targeted mechanisms to address the specific monitoring and securement concerns raised, while preserving a pathway for safe, innovation-driven freight testing under existing statutory authority.

Comment: Knight-Swift Transportation argues that the proposed 500,000-mile testing threshold is insufficient to evaluate AV safety compared to manned vehicles and recommend increasing it.

Department Response: The Department has determined that 500,000 miles is a sufficient minimum mileage threshold for autonomous heavy-duty commercial motor vehicles based on fleetwide testing mileage conducted in other state jurisdictions and the longer routes and higher speeds generally associated with the use case.

Comment: Knight-Swift Transportation also questions how roadside inspections and vehicle maintenance enforcement will be conducted for driverless vehicles and calls for clarity to ensure regulatory parity with manned operations.

Department Response: The Department is removing the proposed regulatory language on vehicle inspections in former Sections 227.28 (e), (e)(1), (e)(2), and (e)(3) as commercial motor vehicles that operate on public roads in California are already subject to existing federal, state, and local requirements, which include inspections conducted by the California Highway Patrol.

Comment: Knight-Swift Transportation challenges the DMV's economic impact assessment, requesting transparency on cost assumptions and job impact analyses, particularly regarding potential effects on small carriers and truck driving jobs.

Department Response: The Department has no evidence that the regulations will adversely impact businesses and anticipates a positive economic effect on California businesses as more manufacturers enter the state to develop, test, and deploy autonomous technology. However, the rollout in California beyond the initial 12 months following implementation is expected to be gradual, as the development of terminals and testing will depend on manufacturer readiness. The timing of these activities remains subject to industry factors outside the scope of the regulatory process.

The initial impact on other businesses and jobs is expected to be minimal due to the limited number of manufacturers. Additionally, new jobs are likely to be created to support the operation and maintenance of these terminals.

The Department has also prepared a Standard Form 399 (STD. 399), which is available for review.

- ***Jordan Coleman, Daniel Goff, Brett Fabbri, Kodiak Robotics (Kodiak), -45d, -OT***

Comment: Kodiak supports the DMV's initiative to regulate autonomous trucks but expresses concern that the proposed regulations impose excessive administrative burdens without improving safety. They argue that the volume of required reporting—such as disengagements, braking events, and training updates—is costly and unnecessary, and recommend eliminating training material reporting altogether. Kodiak also challenges the expanded disengagement reporting requirements, stating

that disengagements are not reliable indicators of safety and advocating for alignment with NHTSA's Standing General Order instead.

Department Response: The Department is removing disengagement reporting requirements, set forth in former Section 227.56, in favor of reporting dynamic driving task performance relevant system failures that occur during operation of SAE International's level 3 systems, in alignment with SAE International's standard J3016 (APR2021), and reporting vehicle immobilizations that occur during operation of SAE International's level 4 or 5 systems for enhanced visibility, oversight, and enforcement of safety-relevant or safety-critical situations that occur while operating autonomous vehicles on public roads. Reporting requirements for dynamic driving task performance relevant system failures are described in Section 227.56 and Section 228.38; requirements for vehicle immobilizations are described in Section 227.58 and Section 228.36.

As described in Section 227.66 (a), the Department is limiting reportable braking events to roadways with higher posted speed limits—where the risk of collision from unexpected braking is greater compared to lower-speed roads. In addition, the Department is amending the reportable threshold for braking events, as described in Section 227.66 (a), to those that produce speed decrease of 3 meters per second (m/s) or more from braking at a deceleration rate that exceeds 5 meters per second squared (m/s/s) for at least 0.5 seconds on a public road with a speed limit of 35 miles per hour or higher. The Department is narrowing the scope of reportable braking events to capture safety-relevant or safety-critical data to evaluate the vehicle's safety performance; however, the Department retains its investigatory authority to request specific information on and to review any incident involving the operation of an autonomous vehicle on public roads through the Request for Information process.

The Department is removing requirements for manufacturers to make changes to the first responder interaction plan on a fixed, quarterly cadence in Section 227.42 (i)(3), instead requiring manufacturers to review the first responder interaction plan at least annually, document such reviews, and make updates as needed. This ensures that substantive or safety-related changes are provided in new versions of the first responder interaction plan and training program.

The Department is aligning collision reporting requirements described in Section 227.54 and Section 228.34 with federal crash reporting requirements set forth in the current revision (June 2025) of the National Highway Traffic Safety Administration's (NHTSA) Standing General Order (SGO).

Comment: Kodiak opposes rigid operational design domain (ODD) restrictions, suggesting that safety should be assessed through the Safety Case process rather than blanket limitations.

Department Response: The Department will maintain the operational design domain restriction proposed in Section 227.18 (c) and Section 228.08 (a)(3)(A) due to public safety considerations associated with the complexity of certain roadway environments, such as residential neighborhoods, school zones, and urban cores, while amending the allowable exceptions to clarify that routes need not include freeways and removing the requirement for manufacturers to submit all specific routes on which they will operate, in response to feasibility concerns raised by commenters. By referencing a new definition of "direct route" in Section 227.02 (o), this amendment establishes a clear standard for acceptable routes for driverless testing and deployment of autonomous heavy-duty commercial motor vehicles—those that are the most linear, geographically logical, and efficient, while preserving safety and regulatory compliance.

Comment: Kodiak views the proposed mileage thresholds for permit eligibility and modifications as arbitrary and potentially wasteful, recommending a more flexible, case-by-case evaluation.

Department Response: The Department will maintain the proposed mileage-based permitting requirements described in Sections 227.42 (a)(1), (a)(2), (b)(1), and (b)(2) and Sections 228.08 (a)(1)(A), (a)(1)(B), (a)(2)(C), and (a)(2)(D). The Department has determined that these minimum mileage thresholds will allow manufacturers to obtain sufficient on-road testing data for the Department to evaluate manufacturers' safety performance with claims in the comprehensive safety case description. The minimum thresholds for light-duty autonomous vehicles are based on testing data provided by manufacturers that have previously applied and been approved for Driverless Testing Permits. The lower minimum threshold for low-speed autonomous vehicles aligns with the more limited routes associated with the use case. The threshold for autonomous heavy-duty commercial motor vehicles is based on fleetwide testing mileage conducted in other jurisdictions and is higher than light-duty vehicles due to the longer routes and higher speeds at which heavy-duty vehicles generally travel. The Department appreciates that manufacturers are already testing autonomous heavy-duty commercial motor vehicles on public highways in other jurisdictions and therefore will allow manufacturers to submit evidence of out-of-state testing, provided that the operational design domain (e.g., single lane use case, interstate, freeway) is the same or comparable to that which is intended for operations in California. An ODD is considered the same when the testing conditions are identical, including roadway type, lane configuration, speed range, environmental conditions, and traffic characteristics. An ODD is considered comparable when it is not identical but still sufficiently similar in key aspects to demonstrate the vehicle's ability to operate safely under California's intended conditions. Comparable ODDs share functional similarities in roadway type, operational constraints such as speed and lane use, environmental

factors like climate, and infrastructure elements such as signage and markings. The Department will evaluate submitted evidence to ensure the out of state ODD provides a reliable basis for demonstrating safety and performance in California. If the manufacturer provides testing from other jurisdictions, they still need to submit a summary of out-of-state testing, which includes all the reports that California requires (e.g., vehicle miles traveled, collisions, braking events, dynamic driving task performance relevant system failures, vehicle immobilizations) to demonstrate the automated driving system's ability to safely operate within the intended operational design domain. Given California's unique traffic and roadway conditions on freeways (e.g., Los Angeles, Long Beach, Bay Area), manufacturers of autonomous heavy-duty commercial motor vehicles must test a minimum number of miles on California public roads. This approach strikes a balance between supporting traffic safety and innovation. The manufacturer's evidence of testing on public roads will be one of the safety indicators that the Department will use to evaluate a manufacturer's readiness to progress to a new phase of operations; however, the Department will not solely rely on minimum mileage thresholds. The Department will continue its statutory role to evaluate the safe operation of autonomous vehicles by reviewing the manufacturer's comprehensive description of a safety case and operational data submitted at the time of application and on a monthly or quarterly cadence as part of expanded data reporting requirements and leveraging its regulatory authority to request specific information on incidents involving the operation of autonomous vehicles on public roads.

Comment: Kodiak finds the proposed commercial vehicle inspection requirements unworkable for driverless trucks and urges the DMV to adopt the CVSA Enhanced Inspection Standard to avoid regulatory conflict.

Department Response: The Department is removing the proposed regulatory language on vehicle inspections in former Sections 227.28 (e), (e)(1), (e)(2), and (e)(3) as commercial motor vehicles that operate on public roads in California are already subject to existing federal, state, and local requirements, which include inspections conducted by the California Highway Patrol. While the Department is not adopting the CVSA standard in this rulemaking, it will continue to engage with the California Highway Patrol (CHP) and other stakeholders to evaluate the feasibility of incorporating enhanced inspection protocols for driverless CMVs in future regulatory updates.

Comment: Kodiak recommends narrowing the definition of "Remote Assistant" to exclude routine dispatchers and align with SAE standards.

Department Response: The Department is amending the definition of remote assistant in Section 227.02 (tt) to align with the Society of Automotive Engineers (SAE)

International's Taxonomy and Definitions for Terms Related to Driving Automation Systems for On-Road Motor Vehicles, standard J3016 (APR2021).

Comment: While they commend the DMV for including protections for confidential business information, Kodiak encourages ongoing stakeholder engagement to refine the regulatory framework and ensure it supports safe, scalable deployment of autonomous trucking technology in California.

Department Response: The Department is removing the existing prohibition of testing and deployment of autonomous vehicles with a gross vehicle weight rating above 10,000 pounds. The proposed regulations will allow manufacturers of autonomous heavy-duty commercial motor vehicles to receive compensation for transporting property under a Testing Permit. In addition, the Department is adopting a targeted exemption for autonomous heavy-duty commercial motor vehicles to transport passengers under certain situations. This will allow autonomous heavy-duty commercial motor vehicles designed to transport property to carry passengers (e.g., third-party validators, business partners, and manufacturer personnel) for testing and demonstration purposes, and manufacturers of commercial motor vehicles with a gross vehicle weight rating under 14,001 pounds, classified as buses under Vehicle Code section 233 (b) and designed to carry no more than 15 passengers (including the attendant), to conduct passenger service when operated by or in partnership with public entities and private universities to test and deploy shared mobility transit solutions. Moreover, the Department will allow manufacturers to leverage public road testing conducted out-of-state to meet a select portion of mileage requirements to apply for a Driverless Testing Permit or Deployment Permit. This regulatory framework will provide a clear, viable pathway for manufacturers of autonomous heavy-duty commercial motor vehicles to test and deploy various use cases and scale operations across operational design domains while considering the unique safety implications and configurations of this technology to ensure safe operations and regulatory compliance.

- ***Earl Adams Jr., James Clark, Plus AI (Plus), -OT***

Comments (via Public Hearing): Plus AI (Plus) expressed support for the DMV's efforts to develop autonomous vehicle regulations and emphasized the importance of keeping California at the forefront of innovation and deployment. Plus highlighted the role of experienced safety drivers in validating AV systems and urged the DMV to adopt rules that enable Level 4 autonomous trucking in California, citing the economic and safety benefits currently flowing to other states due to regulatory limitations. Plus expressed support for industry comments, including those from AVIA, particularly regarding the proposed reporting requirements and disengagement metrics. Mr. Adams emphasized that while mileage-based eligibility may serve as one

indicator of safety, it should not be the sole criterion. Plus advocated for the use of operational data—such as safety case documentation and first responder interaction plans—as more meaningful indicators of readiness for permit issuance or modification. They also recommended that miles driven in similar operational design domains (ODDs) outside California be considered equivalent to in-state testing for permit eligibility.

Department Response: The Department appreciates Plus's comments and acknowledges the importance of using meaningful safety indicators in evaluating AV permit applications. In response to stakeholder feedback, including comments from Plus, the Department has revised the reporting framework to replace disengagement reporting with dynamic driving task performance relevant system failure reporting, which better captures safety-critical events. This change is reflected in both Articles 3.7 and 3.8. Regarding mileage-based eligibility, the Department agrees that mileage alone does not fully represent safety performance. Accordingly, the Modified Statement of Reasons clarifies that mileage thresholds are supplemented by operational data, including safety case documentation, collision reports, braking events, and vehicle immobilization data. Additionally, the Department has incorporated provisions allowing manufacturers to submit out-of-state testing data to satisfy portions of the mileage requirements, provided the testing occurred in an ODD comparable to that intended for California deployment, and is supported by the rationale in the Modified Statement of Reasons.

- ***Elizabeth Fishback, Stack AV Co. (Stack), 45d, -OT***

Comment: Stack argues that the phased, mileage-based, and time-limited permitting structure is overly burdensome, with arbitrary thresholds that disproportionately impact heavy-duty AVs compared to light-duty vehicles.

Department Response: The Department will maintain the proposed mileage-based permitting requirements described in Sections 227.42 (a)(1), (a)(2), (b)(1), and (b)(2) and Sections 228.08 (a)(1)(A), (a)(1)(B), (a)(2)(C), and (a)(2)(D). The Department has determined that these minimum mileage thresholds will allow manufacturers to obtain sufficient on-road testing data for the Department to evaluate manufacturers' safety performance with claims in the comprehensive description of a safety case. The minimum thresholds for light-duty autonomous vehicles are based on testing data provided by manufacturers that have previously applied and been approved for Driverless Testing Permits. The lower minimum threshold for low-speed autonomous vehicles aligns with the more limited routes associated with the use case. The threshold for autonomous heavy-duty commercial motor vehicles is based on fleetwide testing mileage conducted in other jurisdictions and is higher than light-duty vehicles due to the longer routes and higher speeds at which heavy-duty vehicles

generally travel. The Department appreciates that manufacturers are already testing autonomous heavy-duty commercial motor vehicles on public highways in other jurisdictions and therefore, will allow manufacturers to submit evidence of out-of-state testing, provided that the operational design domain (e.g., single lane use case, interstate, freeway) is the same or comparable to that which is intended for operations in California. An ODD is considered the same when the testing conditions are identical, including roadway type, lane configuration, speed range, environmental conditions, and traffic characteristics. An ODD is considered comparable when it is not identical but still sufficiently similar in key aspects to demonstrate the vehicle's ability to operate safely under California's intended conditions. Comparable ODDs share functional similarities in roadway type, operational constraints such as speed and lane use, environmental factors like climate, and infrastructure elements such as signage and markings. The Department will evaluate submitted evidence to ensure the out-of-state ODD provides a reliable basis for demonstrating safety and performance in California. If the manufacturer provides testing from other jurisdictions, they still need to submit a summary of out-of-state testing, which includes all the reports that California requires (e.g., vehicle miles traveled, collisions, braking events, dynamic driving task performance relevant system failures, vehicle immobilizations) to demonstrate the automated driving system's ability to safely operate within the intended operational design domain. Given California's unique traffic and roadway conditions on freeways (e.g., Los Angeles, Long Beach, Bay Area), manufacturers of autonomous heavy-duty commercial motor vehicles must test a minimum number of miles on California public roads. This approach strikes a balance between supporting traffic safety and innovation. The manufacturer's evidence of testing on public roads will be one of the safety indicators that the Department will use to evaluate a manufacturer's readiness to progress to a new phase of operations; however, the Department will not solely rely on minimum mileage thresholds. The Department will continue its statutory role to evaluate the safe operation of autonomous vehicles by reviewing the manufacturer's comprehensive description of a safety case and operational data submitted at the time of application and on a monthly or quarterly cadence as part of expanded data reporting requirements and leveraging its regulatory authority to request specific information on incidents involving the operation of autonomous vehicles on public roads.

Comment: Stack also opposes the reduction of testing permit durations from two years to one, citing the already extensive engagement requirements.

Department Response: The Department will maintain the existing two-year term for testing permits set forth in Section 227.20. The proposed expanded data reporting and permitting requirements and post-permitting enforcement authority will

collectively equip the Department with safety-relevant, incident-specific data to oversee and regulate the safe operation of autonomous vehicles on public roads by providing enhanced visibility on roadway incidents that occur during testing or deployment and establishing mechanisms for ongoing engagement with manufacturers throughout the permit lifecycle.

Comment: Stack recommends eliminating disengagement reporting, asserting that disengagements are not reliable safety indicators, and that the DMV should instead align with NHTSA's June 2025 Third Amended Standing General Order.

Department Response: The Department is removing disengagement reporting requirements, set forth in former Section 227.56, in favor of reporting dynamic driving task performance relevant system failures that occur during operation of SAE International's level 3 systems, in alignment with SAE International's standard J3016 (APR2021), and reporting vehicle immobilizations that occur during operation of SAE International's level 4 or 5 systems for enhanced visibility, oversight, and enforcement of safety-relevant or safety-critical situations that occur while operating autonomous vehicles on public roads. Reporting requirements for dynamic driving task performance relevant system failures are described in Section 227.56 and Section 228.38; requirements for vehicle immobilizations are described in Section 227.58 and Section 228.36. The Department is aligning collision reporting requirements described in Section 227.54 and Section 228.34 with federal crash reporting requirements set forth in the current revision (June 2025) of the National Highway Traffic Safety Administration's (NHTSA) Standing General Order (SGO).

Comment: Stack requests the removal of the prohibition on AV operations on roads with speed limits under 25 mph, noting their safe operation on similar roads in other states.

Department Response: The Department will maintain the operational design domain restriction proposed in Section 227.18 (c) and Section 228.08 (a)(3)(A) due to public safety considerations associated with the complexity of certain roadway environments, such as residential neighborhoods, school zones, and urban cores, while amending the allowable exceptions to clarify that routes need not include freeways and removing the requirement for manufacturers to submit all specific routes on which they will operate, in response to feasibility concerns raised by commenters. By referencing a new definition of "direct route" in Section 227.02 (o), this amendment establishes a clear standard for acceptable routes for driverless testing and deployment of autonomous heavy-duty commercial motor vehicles—those that are the most linear, geographically logical, and efficient, while preserving safety and regulatory compliance.

Comment: Stack recommends amending the passenger transport ban to allow for non-driver personnel, such as company staff or regulators, to ride in AVs for monitoring or demonstration purposes.

Department Response: The Department is adopting an exemption for passenger service in Section 227.26 (a)(6)(A) that will allow autonomous heavy-duty commercial motor vehicles designed to transport property to carry passengers (e.g., third-party validators, business partners, and manufacturer personnel) for testing and demonstration purposes. This exemption aligns with existing regulations which allow light-duty manufacturers operating under a testing permit to have employees, contractors, or designees to be physically located in the vehicle while it is operating in autonomous mode on public roads.

- ***Aravind Kailas, Volvo Autonomous Solutions (V.A.S.), -45d***

Comment: Volvo Autonomous Solutions (V.A.S.) argues that the proposed permitting structure is overly rigid, citing fixed mileage thresholds and route-specific approvals that do not align with the operational realities of freight logistics. V.A.S. recommends adopting a more flexible, risk-based approach that supports corridor-based ODD approvals and recognizes out-of-state mileage from comparable environments.

Department Response: The Department will maintain the proposed mileage-based permitting requirements described in Sections 227.42 (a)(1), (a)(2), (b)(1), and (b)(2) and Sections 228.08 (a)(1)(A), (a)(1)(B), (a)(2)(C), and (a)(2)(D). The Department has determined that these minimum mileage thresholds will allow manufacturers to obtain sufficient on-road testing data for the Department to evaluate manufacturers' safety performance with claims in the comprehensive description of a safety case. The minimum thresholds for light-duty autonomous vehicles are based on testing data provided by manufacturers that have previously applied and been approved for Driverless Testing Permits. The lower minimum threshold for low-speed autonomous vehicles aligns with the more limited routes associated with the use case. The threshold for autonomous heavy-duty commercial motor vehicles is based on fleetwide testing mileage conducted in other jurisdictions and is higher than light-duty vehicles due to the longer routes and higher speeds at which heavy-duty vehicles generally travel. The Department appreciates that manufacturers are already testing autonomous heavy-duty commercial motor vehicles on public highways in other jurisdictions and therefore will allow manufacturers to submit evidence of out-of-state testing, provided that the operational design domain (e.g., single lane use case, interstate, freeway) is the same or comparable to that which is intended for operations in California. An ODD is considered the same when the testing conditions are identical, including roadway type, lane configuration, speed range, environmental conditions, and traffic characteristics. An ODD is considered

comparable when it is not identical but still sufficiently similar in key aspects to demonstrate the vehicle's ability to operate safely under California's intended conditions. Comparable ODDs share functional similarities in roadway type, operational constraints such as speed and lane use, environmental factors like climate, and infrastructure elements such as signage and markings. The Department will evaluate submitted evidence to ensure the out of state ODD provides a reliable basis for demonstrating safety and performance in California. If the manufacturer provides testing from other jurisdictions, they still need to submit a summary of out-of-state testing, which includes all the reports that California requires (e.g., vehicle miles traveled, collisions, braking events, dynamic driving task performance relevant system failures, vehicle immobilizations) to demonstrate the automated driving system's ability to safely operate within the intended operational design domain. Given California's unique traffic and roadway conditions on freeways (e.g., Los Angeles, Long Beach, Bay Area), manufacturers of autonomous heavy-duty commercial motor vehicles must test a minimum number of miles on California public roads. This approach strikes a balance between supporting traffic safety and innovation. The manufacturer's evidence of testing on public roads will be one of the safety indicators that the Department will use to evaluate a manufacturer's readiness to progress to a new phase of operations; however, the Department will not solely rely on minimum mileage thresholds. The Department will continue its statutory role to evaluate the safe operation of autonomous vehicles by reviewing the manufacturer's comprehensive description of a safety case and operational data submitted at the time of application and on a monthly or quarterly cadence as part of expanded data reporting requirements and leveraging its regulatory authority to request specific information on incidents involving the operation of autonomous vehicles on public roads.

The Department is removing the proposed requirement for manufacturers to provide all specific routes and local roads within the operational design domain as described in former Section 227.18 (c)(1) due to widespread stakeholder comments that provided this would be burdensome for manufacturers to maintain, especially as operations scale. The Department will continue its statutory role to evaluate the automated driving system's ability to safely operate within the intended operational design domain, including routes that traverse high density areas, through reviewing the manufacturer's comprehensive description of a safety case and operational data submitted at the time of application and on a monthly or quarterly cadence as part of expanded data reporting requirements, and leveraging post-permitting controls, such as the Request for Information process, which will give the Department authority to request specific information on incidents involving the operation of autonomous vehicles on public roads. These measures will provide the Department with safety-relevant data that will enhance the Department's regulatory oversight on

safety performance, amplify its visibility on roadway incidents that occur during testing or deployment, as well as establish mechanisms for ongoing engagement with manufacturers throughout the permit lifecycle.

Comment: V.A.S. calls for a secure digital platform to manage Safety Case submissions. Additionally, they suggest modernizing the DMV's AV portal to better accommodate commercial-scale operations.

Department Response: The Department will establish a secure webpage or online portal that is equipped to receive application materials, including a manufacturer's comprehensive description of a safety case, and operational data submitted at the time of application and during monthly or quarterly reporting.

Comment: V.A.S. urges the DMV to focus reporting requirements on safety-relevant events, rather than broad disengagement or braking thresholds.

Department Response: The Department is removing disengagement reporting requirements, set forth in former Section 227.56, in favor of reporting dynamic driving task performance relevant system failures that occur during operation of SAE International's level 3 systems, in alignment with SAE International's standard J3016 (APR2021), and reporting vehicle immobilizations that occur during operation of SAE International's level 4 or 5 systems for enhanced visibility, oversight, and enforcement of safety-relevant or safety-critical situations that occur while operating autonomous vehicles on public roads. Reporting requirements for dynamic driving task performance relevant system failures are described in Section 227.56 and Section 228.38; requirements for vehicle immobilizations are described in Section 227.58 and Section 228.36.

As described in Section 227.66 (a), the Department is limiting reportable braking events to roadways with higher posted speed limits—where the risk of collision from unexpected braking is greater compared to lower-speed roads. In addition, the Department is amending the reportable threshold for braking events, as described in Section 227.66 (a), to those that produce speed decrease of 3 meters per second (m/s) or more from braking at a deceleration rate that exceeds 5 meters per second squared (m/s/s) for at least 0.5 seconds on a public road with a speed limit of 35 miles per hour or higher. The Department is narrowing the scope of reportable braking events to capture safety-relevant or safety-critical data to evaluate the vehicle's safety performance; however, the Department retains its investigatory authority to request specific information on and to review any incident involving the operation of an autonomous vehicle on public roads through the Request for Information process.

Comment: V.A.S. seeks clarification on what constitutes a permit modification, recommending that routine updates not trigger full revisions and proposing batch reporting for such changes.

Department Response: The Department is providing additional regulatory clarity on specific requirements to modify a Driverless Testing Permit, distinguishing requirements for implementing administrative changes to the permit from more complex changes. This amendment provides a clearer delineation of each application's distinct requirements and certifications applicable at each stage of the permitting lifecycle. The Department is adopting the term "Driverless Testing Permit Operational Parameters Modification Application," defined in Section 227.02 (w), to specify that this application is required for processing changes to the operational design domain or automated driving system's capabilities as prescribed in Section 227.42 (o). Additionally, the Department is adopting Section 227.42 (p) to describe the process for making administrative changes to a Driverless Testing Permit and outlining what these changes constitute. These administrative changes provide the Department with updated information on vehicles, remote drivers, or remote assistants operating under the Driverless Testing Permit, or the training program.

Comment: V.A.S. advocates for adapting in-cabin indicator requirements to Class 8 truck designs, aligning first responder tools with national standards.

Department Response: The Department is amending the proposed regulatory draft language on in-vehicle visual indicators in Sections 227.42 (f)(4) and (i)(1)(N), and Sections 228.08 (b)(1)(F) and (c)(5)(A) to align with statutory requirements set forth in the California Vehicle Code section 38750 (c)(1)(B), and to prevent encroachment on the United States Department of Transportation, National Highway Traffic Safety Administration's federal authority to promulgate and enforce vehicle design and performance equipment standards.

Comment: V.A.S. advocates for permitting non-commercial passengers such as technical staff or observers.

Department Response: The Department is adopting an exemption for passenger service in Section 227.26 (a)(6)(A) that will allow autonomous heavy-duty commercial motor vehicles designed to transport property to carry passengers (e.g., third-party validators, business partners, and manufacturer personnel) for testing and demonstration purposes. This exemption aligns with existing regulations which allow light-duty manufacturers operating under a testing permit to have employees, contractors, or designees to be physically located in the vehicle while it is operating in autonomous mode on public roads.

Comment: V.A.S. requests clarification on hours-of-service applicability for remote operators.

Department Response: The Department is providing additional regulatory clarity that, in the case of a driverless vehicle, hours-of-service requirements apply to the remote driver, not the automated driving system.

Comment: V.A.S. encourages the DMV to recognize the distinct roles of manufacturers, system developers, and operators.

Department Response: The Department is adding the term "end user" in Section 227.02 (ee) to define the person who owns or leases an autonomous vehicle and is not the manufacturer of the automated driving system. The definition allows for a clear distinction on who is responsible for regulatory compliance to manufacturer requirements.

Comment: V.A.S. encourages the DMV to prioritize regulatory changes that are clearly tied to safety outcomes while enabling scalable AV deployment.

Department Response: The Department is removing the existing prohibition of testing and deployment of autonomous vehicles with a gross vehicle weight rating above 10,000 pounds. The proposed regulations will allow manufacturers of autonomous heavy-duty commercial motor vehicles to receive compensation for transporting property under a Testing Permit. In addition, the Department is adopting a targeted exemption for autonomous heavy-duty commercial motor vehicles to transport passengers under certain situations. This will allow autonomous heavy-duty commercial motor vehicles designed to transport property to carry passengers (e.g., third-party validators, business partners, and manufacturer personnel) for testing and demonstration purposes, and manufacturers of commercial motor vehicles with a gross vehicle weight rating under 14,001 pounds, classified as buses under Vehicle Code section 233 (b) and designed to carry no more than 15 passengers (including the attendant), to conduct passenger service when operated by or in partnership with public entities and private universities to test and deploy shared mobility transit solutions. Moreover, the Department will allow manufacturers to leverage public road testing conducted out-of-state to meet a select portion of mileage requirements to apply for a Driverless Testing Permit or Deployment Permit. This regulatory framework will provide a clear, viable pathway for manufacturers of autonomous heavy-duty commercial motor vehicles to test and deploy various use cases and scale operations across operational design domains while considering the unique safety implications and configurations of this technology to ensure safe operations and regulatory compliance.

In addition to fostering innovation for existing and emerging autonomous technologies, the Department prioritizes the safe operation of autonomous vehicles on public roads when promulgating the proposed regulations. Manufacturers of autonomous heavy-duty commercial motor vehicles will be required to meet existing federal, state, and local requirements commercial vehicle requirements for the type of vehicle being operated and the type of commerce being carried out, including compliance with all California weigh-station regulatory signs and devices and vehicle inspections requirements. The Department is expanding both the frequency and type of data reporting, which will provide the Department with safety-relevant data that will enhance the Department's regulatory oversight on safety performance, amplify its visibility on roadway incidents that occur during testing or deployment, as well as establish mechanisms for ongoing engagement with manufacturers throughout the permit lifecycle. Moreover, the Department is broadening its post-permitting authority, which will enable the Department to take necessary enforcement action through suspension, restriction, or revocation of a permit, and to request specific information on incidents involving the operation of autonomous vehicles on public roads through the Request for Information process.

- ***Sam Loesche, Waabi Innovation US Inc. (Waabi), -45d, -OT***

Comment: Waabi argues for allowing validated virtual testing to count toward required on-road mileage, indicating that fixed mileage minimums are an imperfect safety metric. They request that the 250,000-mile threshold for permit amendments apply only to significant changes, not minor updates like adding identical vehicles.

Department Response: The Department is providing additional regulatory clarity on specific requirements to modify a Driverless Testing Permit and amend a Deployment Permit, distinguishing requirements for implementing administrative changes to a permit from more complex changes. The Department is adopting the terms "Driverless Testing Permit Operational Parameters Modification Application," defined in Section 227.02 (w), and "Deployment Permit Operational Parameters Amendment Application," defined in Section in 228.02 (e), to specify that these applications are required for processing changes to the operational design domain or automated driving system's capabilities. The Department clarifies that the mileage requirements set forth in Section 227.42 (b) apply to modifications, as described in Section 227.42 (o)(1) through (o)(7), of a Driverless Testing Permit, which require submission of a Driverless Testing Permit Operational Parameters Modification Application. Moreover, the Department clarifies that the mileage requirements set forth in Section 228.08 (a)(2) applies to amendments, as described in Section 228.12 (b), of a Deployment Permit, which require submission of a Deployment Permit Operational Parameters Amendment Application. This amendment provides a clearer delineation of each

application's distinct requirements and certifications applicable at each stage of the permitting lifecycle.

The Department has determined that these minimum mileage thresholds will allow manufacturers to obtain sufficient on-road testing data for the Department to evaluate manufacturers' safety performance with claims in the comprehensive description of a safety case. The minimum thresholds for light-duty autonomous vehicles are based on testing data provided by manufacturers that have previously applied and been approved for Driverless Testing Permits. The lower minimum threshold for low-speed autonomous vehicles aligns with the more limited routes associated with the use case. The threshold for autonomous heavy-duty commercial motor vehicles is based on fleetwide testing mileage conducted in other jurisdictions and is higher than light-duty vehicles due to the longer routes and higher speeds at which heavy-duty vehicles generally travel. The Department appreciates that manufacturers are already testing autonomous heavy-duty commercial motor vehicles on public highways in other jurisdictions and therefore will allow manufacturers to submit evidence of out-of-state testing, provided that the operational design domain (e.g., single lane use case, interstate, freeway) is the same or comparable to that which is intended for operations in California. An ODD is considered the same when the testing conditions are identical, including roadway type, lane configuration, speed range, environmental conditions, and traffic characteristics. An ODD is considered comparable when it is not identical but still sufficiently similar in key aspects to demonstrate the vehicle's ability to operate safely under California's intended conditions. Comparable ODDs share functional similarities in roadway type, operational constraints such as speed and lane use, environmental factors like climate, and infrastructure elements such as signage and markings. The Department will evaluate submitted evidence to ensure the out of state ODD provides a reliable basis for demonstrating safety and performance in California. If the manufacturer provides testing from other jurisdictions, they still need to submit a summary of out-of-state testing, which includes all the reports that California requires (e.g., vehicle miles traveled, collisions, braking events, dynamic driving task performance relevant system failures, vehicle immobilizations) to demonstrate the automated driving system's ability to safely operate within the intended operational design domain. Given California's unique traffic and roadway conditions on freeways (e.g., Los Angeles, Long Beach, Bay Area), manufacturers of autonomous heavy-duty commercial motor vehicles must test a minimum number of miles on California public roads. This approach strikes a balance between supporting traffic safety and innovation. The manufacturer's evidence of testing on public roads will be one of the safety indicators that the Department will use to evaluate a manufacturer's readiness to progress to a new phase of operations; however, the Department will not solely rely on minimum mileage thresholds. The Department will

continue its statutory role to evaluate the safe operation of autonomous vehicles by reviewing the manufacturer's comprehensive description of a safety case and operational data submitted at the time of application and on a monthly or quarterly cadence as part of expanded data reporting requirements and leveraging its regulatory authority to request specific information on incidents involving the operation of autonomous vehicles on public roads.

Comment: Waabi urges the DMV to expand the definition of "manufacturer" to include AV developers, enabling them to apply for permits independently of OEMs.

Department Response: The Department is maintaining the existing definition of manufacturer in Section 227.02 (jj), which includes any person who modifies any vehicle by installing autonomous technology. Autonomous vehicle developers fall within the current regulatory framework and therefore are allowed to apply for a permit to operate autonomous vehicles on public roads in California.

Comment: Waabi expresses concern over reporting requirements for disengagements and braking events, particularly for out-of-state testing, and recommends limiting such reporting to in-state activity.

Department Response: The Department is removing disengagement reporting requirements, set forth in former Section 227.56, in favor of reporting dynamic driving task performance relevant system failures that occur during operation of SAE International's level 3 systems, in alignment with SAE International's standard J3016 (APR2021), and reporting vehicle immobilizations that occur during operation of SAE International's level 4 or 5 systems for enhanced visibility, oversight, and enforcement of safety-relevant or safety-critical situations that occur while operating autonomous vehicles on public roads. Reporting requirements for dynamic driving task performance relevant system failures are described in Section 227.56 and Section 228.38; requirements for vehicle immobilizations are described in Section 227.58 and Section 228.36. The Department appreciates that manufacturers have conducted testing of autonomous heavy-duty commercial motor vehicles in other jurisdictions and will allow manufacturers to leverage out-of-state testing conducted in an operational design domain that is the same or comparable to that which is intended for operation in California to meet a select portion of mileage requirements to apply for a Driverless Testing Permit or Deployment Permit, provided that manufacturers submit a summary of out-of-state testing which includes all the reports that California requires (e.g., mileage, collisions, braking events, dynamic driving task performance relevant system failures, vehicle immobilizations). An ODD is considered the same when the testing conditions are identical, including roadway type, lane configuration, speed range, environmental conditions, and traffic characteristics. An ODD is considered comparable when it is not identical but still sufficiently similar in key

aspects to demonstrate the vehicle's ability to operate safely under California's intended conditions. Comparable ODDs share functional similarities in roadway type, operational constraints such as speed and lane use, environmental factors like climate, and infrastructure elements such as signage and markings. The Department will evaluate submitted evidence to ensure the out of state ODD provides a reliable basis for demonstrating safety and performance in California.

Comment: Waabi supports recognizing the CVSA Enhanced CMV Inspection Standard for autonomous truck compliance.

Department Response: The Department is removing the proposed regulatory language on vehicle inspections in former Sections 227.28 (e), (e)(1), (e)(2), and (e)(3) as commercial motor vehicles that operate on public roads in California are already subject to existing federal, state, and local requirements, which include inspections conducted by the California Highway Patrol.

Comment: Waabi proposes replacing the "shortest distance" rule for surface street use with a "most direct route" standard to avoid unsafe routing. They advocate for allowing AVs to perform minimal risk maneuvers when directed by first responders, even if outside the vehicle's operational design domain (ODD), and for removing restrictions on alternate routing for commercial purposes.

Department Response: The Department will maintain the operational design domain restriction proposed in Section 227.18 (c) and Section 228.08 (a)(3)(A) due to public safety considerations associated with the complexity of certain roadway environments, such as residential neighborhoods, school zones, and urban cores, while amending the allowable exceptions to clarify that routes need not include freeways and removing the requirement for manufacturers to submit all specific routes on which they will operate, in response to feasibility concerns raised by commenters. By referencing a new definition of "direct route" in Section 227.02 (o), this amendment establishes a clear standard for acceptable routes for driverless testing and deployment of autonomous heavy-duty commercial motor vehicles—those that are the most linear, geographically logical, and efficient, while preserving safety and regulatory compliance. The Department will maintain the proposed detour or alternate routing regulations described in Section 227.18 (c)(1)(A) through (c)(1)(E) to require that manufacturers take certain actions to ensure safety of the vehicle and any other road users when an autonomous heavy-duty commercial motor vehicle is directed to make a detour or alternate route. Manufacturers shall determine whether the vehicle is able to legally and safely travel on the designated detour or alternate route, and, under circumstances that it is not, the vehicle shall make a safe stop, and the manufacturer shall establish processes to manually retrieve or drive the vehicle from the scene, if applicable, or make alternate routing decisions.

These alternate routing decisions include not relying only on commercially available mapping programs (e.g., Google maps or Apple maps) as these tools may not provide routes legal for the size, weight, and loading of the vehicle or vehicle combination. In addition, the Department will continue to limit detour or alternate routing to operation of the vehicle that is safety-critical and not for commercial purposes to ensure that manufacturers utilize pre-planned, fixed routes within the approved operational design domain, where possible.

Comment: Waabi calls for aligning crash reporting with NHTSA's Standing General Order to reduce administrative burden.

Department Response: The Department is aligning collision reporting requirements described in Section 227.54 and Section 228.34 with federal crash reporting requirements set forth in the current revision (June 2025) of the National Highway Traffic Safety Administration's (NHTSA) Standing General Order (SGO).

Comment: Waabi seeks clarification that federal hours-of-service rules do not apply to fully driverless operations, allowing continuous AV freight movement.

Department Response: The Department is providing additional clarity to the regulated public that, in the case of a driverless vehicle, hours-of-service requirements apply to the remote driver, not the automated driving system.

- ***Amy Klinkenberger, R. Thomas Brunner, Mercedes-Benz Research & Development North America, Inc., Mercedes-Benz USA, LLC (collectively Mercedes-Benz), -45d***

Comment: Mercedes-Benz highlights the need for regulations to specifically address the distinct characteristics and operational requirements of Level 3 systems. Mercedes Benz urges the DMV to ensure that the regulatory framework is flexible and inclusive of Level 3 technologies, especially for privately owned vehicles.

Department Response: The Department is delineating data reporting requirements that apply specifically to SAE Level 3 autonomous vehicles. This includes reporting dynamic driving task performance relevant system failures, as described in Section 227.56 and Section 228.38. In addition, Section 228.38 (a) specifies that manufacturers of privately owned Level 3 vehicles intended for non-commercial use are not required to report the date, time, and geographic coordinates associated with the dynamic driving task performance relevant system failure, or the vehicle identification number to protect user privacy.

- ***Luca Gervasoni, Mobileye Global, Inc. (Mobileye), -45d***

Comment: Mobileye argues that the proposed definition of "manufacturer" is overly broad, as it conflates distinct roles such as OEMs, ADS developers, integrators, and

service operators. They recommend clearly distinguishing these entities to avoid legal ambiguity.

Department Response: The Department is maintaining the existing definition of manufacturer in Section 227.02 (jj), which includes any person who modifies any vehicle by installing autonomous technology. Original equipment manufacturers, automated driving system developers, integrators, and service operators fall within the current regulatory framework and therefore are allowed to apply for a permit to operate autonomous vehicles on public roads in California.

Comment: Mobileye critiques the definition of "remote driver," noting that it lacks clarity regarding responsibilities and the need for real-time situational awareness, which is critical for safe remote operation.

Department Response: The Department is amending the definition of remote driver in Section 227.02 (uu) to align with the Society of Automotive Engineers (SAE) International's Taxonomy and Definitions for Terms Related to Driving Automation Systems for On-Road Motor Vehicles, standard J3016 (APR2021).

Comment: Mobileye objects to the proposed monthly disengagement reporting, arguing that it may be overly burdensome, particularly during early testing phases. They propose quarterly reporting as a more manageable alternative.

Department Response: The Department is removing disengagement reporting requirements, set forth in former Section 227.56, in favor of reporting dynamic driving task performance relevant system failures that occur during operation of SAE International's level 3 systems, in alignment with SAE International's standard J3016 (APR2021), and reporting vehicle immobilizations that occur during operation of SAE International's level 4 or 5 systems for enhanced visibility, oversight, and enforcement of safety-relevant or safety-critical situations that occur while operating autonomous vehicles on public roads. Reporting requirements for dynamic driving task performance relevant system failures are described in Section 227.56 and Section 228.38; requirements for vehicle immobilizations are described in Section 227.58 and Section 228.36.

- ***Katie Stevens, Nuro, -45d, -OT***

Comment: Nuro expressed concerns about the DMV's proposed data reporting requirements, particularly the expansion of disengagement reporting. They argue that disengagements are not a reliable safety metric and that including non-safety-related disengagements would overwhelm both manufacturers and the DMV with excessive, low-value data. Instead, Nuro recommends eliminating disengagement reporting and focusing on events directly tied to safety outcomes, such as immobilizations and hard braking.

Department Response: The Department is removing disengagement reporting requirements, set forth in former Section 227.56, in favor of reporting dynamic driving task performance relevant system failures that occur during operation of SAE International's level 3 systems, in alignment with SAE International's standard J3016 (APR2021), and reporting vehicle immobilizations that occur during operation of SAE International's level 4 or 5 systems for enhanced visibility, oversight, and enforcement of safety-relevant or safety-critical situations that occur while operating autonomous vehicles on public roads. Reporting requirements for dynamic driving task performance relevant system failures are described in Section 227.56 and Section 228.38; requirements for vehicle immobilizations are described in Section 227.58 and Section 228.36.

Comment: Nuro express strong privacy concerns regarding data collection for personally-owned AVs, especially requirements involving VINs, geolocation, and timestamps. Nuro urges the DMV to clarify how these rules would apply to consumer-owned Level 3 and 4 vehicles, which are expected to become more common.

Department Response: The Department is amending Sections 228.36 (a), 228.38 (a), and 228.40 (a) to specify that manufacturers of privately owned vehicles intended for non-commercial use are not required to report certain data elements, which include the date, time, and geographic coordinates associated with an incident, or the vehicle identification number, to protect user privacy.

Comment: Nuro critiques the proposed process for issuing Notices of Noncompliance, recommending direct electronic notification to both manufacturers and the DMV, a formal dispute resolution process, and clarification on applicability to privately-owned AVs.

Department Response: The Department is amending Sections 227.68 (b) and (e) to require manufacturers to submit the contents of the Notice of Autonomous Vehicle Noncompliance form (e.g., digitally) to the Department within 72 hours of receipt or 24 hours of receipt, if a priority review is marked on the form. The manufacturer's obligation to report the Notice will not be triggered if they never receive the Notice. As stated on the form, the issuance of a Notice of Autonomous Vehicle Noncompliance shall not create a presumption that the autonomous vehicle is unsafe and shall not limit the manufacturer's ability to contest the nature or occurrence of an alleged violation identified in the Notice. The manufacturer may contest an alleged traffic violation through the existing process of meeting directly with the Department and providing additional information for the Department to review and investigate the manufacturer's claims regarding the alleged incident.

Comment: Nuro finds the emergency geofencing rule—requiring AVs to exit designated zones within two minutes—impractical, and suggests redefining

compliance as prompt acknowledgment and initiation of action. Nuro calls for a standardized, statewide communication protocol for emergency data exchange.

Department Response: The Department is aligning proposed regulatory language in Section 227.42 (f)(3)(F) on how manufacturers shall respond to an emergency geofencing message issued by an emergency response official with statutory requirements set forth in the California Vehicle Code section 38751 (d)(1) through (d)(4). At this time, the Department is not prescribing standardized requirements on the communication tools for emergency response officials to issue emergency geofencing messages and manufacturers to receive such. The process for disseminating information varies amongst jurisdiction and first responders and therefore would require large-scale procedural changes and cost impacts to develop, integrate, and adopt a statewide solution.

Comment: Nuro recommends that first responder training be tied to system updates or local agency requests.

Department Response: The Department is removing requirements for manufacturers to make changes to the first responder interaction plan and training program on a fixed, quarterly cadence in Section 227.42 (i)(3), instead requiring manufacturers to review the first responder interaction plan and training program at least annually, document such reviews, and make updates as needed. This ensures that substantive or safety-related changes are provided in new versions of the first responder interaction plan and training program.

Comment: Nuro requests clarification on emergency vehicle detection requirements, advocating for functional recognition (e.g., lights and sirens) rather than identification of specific vehicle models.

Department Response: As described in Section 227.42 (j)(1), the Department will require that the automated driving system instead be designed to detect and respond to active emergency vehicles in a manner that complies with the California Vehicle Code Sections 21806, 21809, and 21706. The Department is proposing this change to ensure that an automated driving system's recognition and response to active emergency vehicles aligns with existing traffic safety laws. The Department retains investigatory authority to review any incident involving an autonomous vehicle operating on public roads through the Request for Information process.

Comment: To streamline compliance, Nuro proposes automating reporting processes, removing frequent software version reporting, and enabling multi-user access and draft-saving features in DMV systems.

Department Response: The Department will establish a secure webpage or online portal that is equipped to receive application materials and operational data

submitted at the time of application and during monthly or quarterly reporting. In addition, the Department established Reporting Templates, which will be accessible to manufacturers online. These reporting templates will provide additional clarity to the regulated public on data reporting requirements. These reporting templates create a standard, structured format for manufacturers to submit required data and will include a data dictionary that describes the required data elements in detail, including data format, field names, and measurement units. This will improve standardization and streamline the application process and enhance the consistency, quality, and reliability of the data to support the Department's oversight, regulation, and enforcement of autonomous vehicle operations.

The Department will require manufacturers to provide the automated driving system's software version at the time of adding vehicles to a Drivered Testing or Driverless Testing Permit. The Department is aware that software version numbers may change periodically and will instead leverage other indicators for identifying vehicles and tracking the efficacy and performance of the software across its lifecycle.

- ***Eddie Gates, Tesla Inc. (Tesla), -45d***

Comment: Tesla asks about transparency and clarity in the permit review process, particularly regarding how the DMV will evaluate Safety Cases and the timeline for decisions.

Department Response: The Department is providing additional regulatory clarity on both the definition of a safety case and the contents of a safety case submission to ensure that the Department receives safety-relevant information that supports application review and permitting. Manufacturers will be required to provide a comprehensive description of a safety case during the application process, as prescribed in Section 227.28 (d) and Sections 228.08 (a)(1)(C), (a)(2)(A), (a)(14), or when requested by the Department through a Request for Information, as described in Section 227.72 (a) and Section 228.46 (a). The comprehensive description of a safety case shall be supported by core safety information elements documentation, as outlined in Section 227.02 (xx), and shall provide a description of the evidence demonstrating functional safety, safety of the intended function, artificial intelligence safety, cybersecurity, and operational safety. These core safety information elements reflect industry best practices and serve as a framework for evaluating the manufacturer's overall approach to autonomous vehicle safety. In addition, the Department specifies in Section 227.28 (d) and Sections 228.08 (a)(1)(C), (a)(2)(A), (a)(14) that it may consult with third-party technical experts to review a manufacturer's safety case. This aligns with the California Vehicle Code section 38750 (d)(2), which allows the Department to consult with any entity that has expertise in automotive technology, automotive safety, and autonomous system

design. The Department's application review is taken on a case-by-case basis as every application received is unique by the subject autonomous technology's technical capabilities, complexity of the manufacturer's intended use case and operational design domain, and manufacturer's ability to demonstrate compliance with the permitting requirements. Therefore, the Department does not prescribe fixed, standard thresholds for application review timeline.

Comment: Tesla opposes the use of fixed minimum mileage thresholds for driverless permit eligibility, arguing that such metrics oversimplify system readiness and fail to account for the complexity of driving environments. Tesla recommends a performance-based approach that considers real-world scenarios and operational challenges. Tesla also urges the DMV to allow flexibility in where qualifying miles are accumulated, suggesting a percentage-based model that includes out-of-state testing.

Department Response: The Department will maintain the proposed mileage-based permitting requirements described in Sections 227.42 (a)(1), (a)(2), (b)(1), and (b)(2). The Department has determined that these minimum mileage thresholds will allow manufacturers to obtain sufficient on-road testing data for the Department to evaluate manufacturers' safety performance with claims in the comprehensive description of a safety case. The minimum thresholds for light-duty autonomous vehicles are based on testing data provided by manufacturers that have previously applied and been approved for Driverless Testing Permits. The lower minimum threshold for low-speed autonomous vehicles aligns with the more limited routes associated with the use case. The threshold for autonomous heavy-duty commercial motor vehicles is based on fleetwide testing mileage conducted in other jurisdictions and is higher than light-duty vehicles due to the longer routes and higher speeds at which heavy-duty vehicles generally travel. The Department appreciates that manufacturers are already testing autonomous heavy-duty commercial motor vehicles on public highways in other jurisdictions and therefore will allow manufacturers to submit evidence of out-of-state testing, provided that the operational design domain (e.g., single lane use case, interstate, freeway) is the same or comparable to that which is intended for operations in California. An ODD is considered the same when the testing conditions are identical, including roadway type, lane configuration, speed range, environmental conditions, and traffic characteristics. An ODD is considered comparable when it is not identical but still sufficiently similar in key aspects to demonstrate the vehicle's ability to operate safely under California's intended conditions. Comparable ODDs share functional similarities in roadway type, operational constraints such as speed and lane use, environmental factors like climate, and infrastructure elements such as signage and markings. The Department will evaluate submitted evidence to ensure the out of state ODD

provides a reliable basis for demonstrating safety and performance in California. If the manufacturer provides testing from other jurisdictions, they still need to submit a summary of out-of-state testing, which includes all the reports that California requires (e.g., vehicle miles traveled, collisions, braking events, dynamic driving task performance relevant system failures, vehicle immobilizations) to demonstrate the automated driving system's ability to safely operate within the intended operational design domain. Given California's unique traffic and roadway conditions on freeways (e.g., Los Angeles, Long Beach, Bay Area), manufacturers of autonomous heavy-duty commercial motor vehicles must test a minimum number of miles on California public roads. This approach strikes a balance between supporting traffic safety and innovation. The manufacturer's evidence of testing on public roads will be one of the safety indicators that the Department will use to evaluate a manufacturer's readiness to progress to a new phase of operations; however, the Department will not solely rely on minimum mileage thresholds. The Department will continue its statutory role to evaluate the safe operation of autonomous vehicles by reviewing the manufacturer's comprehensive description of a safety case and operational data submitted at the time of application and on a monthly or quarterly cadence as part of expanded data reporting requirements and leveraging its regulatory authority to request specific information on incidents involving the operation of autonomous vehicles on public roads.

Comment: Tesla expresses strong concerns about expanded reporting requirements, including monthly reports on disengagements, hard braking, and system failures. They argue these requirements are overly burdensome, duplicative of federal reporting (e.g., NHTSA's Standing General Order), and risk misrepresenting vehicle performance.

Department Response: The Department is removing disengagement reporting requirements, set forth in former Section 227.56, in favor of reporting dynamic driving task performance relevant system failures that occur during operation of SAE International's level 3 systems, in alignment with SAE International's standard J3016 (APR2021), and reporting vehicle immobilizations that occur during operation of SAE International's level 4 or 5 systems for enhanced visibility, oversight, and enforcement of safety-relevant or safety-critical situations that occur while operating autonomous vehicles on public roads. Stakeholders advocated for this to replace disengagement reporting to avoid potentially burdensome or resource intensive overreporting of routine, non-safety deactivations, thereby allowing the Department to capture safety-relevant and safety-critical incidents and more meaningful operational safety risks. The Department supports replacing disengagement reporting in favor of enhanced visibility, oversight, and enforcement of safety-relevant or safety-critical situations whereby a test driver took over performance of the dynamic driving task, or

performed the dynamic driving task fallback, in response to a dynamic driving task performance relevant system failure. Reporting requirements for dynamic driving task performance relevant system failures are described in Section 227.56 and Section 228.38; requirements for vehicle immobilizations are described in Section 227.58 and Section 228.36.

As described in Section 227.66 (a), the Department is limiting reportable braking events to roadways with higher posted speed limits—where the risk of collision from unexpected braking is greater compared to lower-speed roads. In addition, the Department is amending the reportable threshold for braking events, as described in Section 227.66 (a), to those that produce speed decrease of 3 meters per second (m/s) or more from braking at a deceleration rate that exceeds 5 meters per second squared (m/s/s) for at least 0.5 seconds on a public road with a speed limit of 35 miles per hour or higher. The Department is narrowing the scope of reportable braking events to capture safety-relevant or safety-critical data to evaluate the vehicle's safety performance; however, the Department retains its investigatory authority to request specific information on and to review any incident involving the operation of an autonomous vehicle on public roads through the Request for Information process.

The Department is aligning collision reporting requirements described in Section 227.54 and Section 228.34 with federal crash reporting requirements set forth in the current revision (June 2025) of the National Highway Traffic Safety Administration's (NHTSA) Standing General Order (SGO).

Comment: Tesla recommends narrowing the scope of reportable events and extending response timelines for Preliminary Information Notices.

Department Response: The Department is maintaining the proposed regulatory language in Section 227.70 and Section 228.44 that describes the reasons it may issue a Preliminary Information Notice as regulatory oversight of these roadway incidents involving an autonomous vehicle supports the Department's broad statutory authority set forth in the California Vehicle Code Section 38750 (d)(3) that allows "The Department may establish additional requirements by the adoption of regulations, which it determines…are necessary to ensure the safe operation of autonomous vehicles on public roads."

The Department will exercise its broad authority to require manufacturers to make a good faith effort to respond to a Preliminary Information Notice, rather than imposing a default 72-hour deadline. A good faith effort, as described in Section 227.70 (a) and Section 228.44 (a)includes being timely, cooperative, and diligent in providing relevant facts or documents related to an incident. The Department retains the authority to shorten response times based on the circumstances and severity of the incident. This will allow the Department to receive quicker turnaround for incidents

that pose an imminent hazard to public safety. This change provides manufacturers with reasonably sufficient timeframe for manufacturers to fully investigate the incident and provide the Department with the requested information.

Comment: Tesla objects to the broad definition of "peace officer" authorized to issue AV noncompliance notices, citing safety and legal risks, and recommend limiting this authority to trained law enforcement.

Department Response: The Department is providing additional regulatory clarity in Section 227.68 (c) and Section 228.42 (c) that will require the peace officer conducting the traffic stop to state their name and Department and follow provisions of the California Vehicle Code Section 2806.5. This addresses safety and legal concerns from stakeholders regarding identification of the peace officer and will ensure traffic stops of autonomous vehicles are conducted lawfully and by trained officers.

Comment: Tesla challenges proposed equipment mandates—such as in-vehicle indicators and extended data recording—arguing they may conflict with federal authority and stifle innovation. They urge the DMV to avoid prescriptive design requirements and instead focus on outcome-based safety standards.

Department Response: The Department is amending the proposed regulatory draft language on in-vehicle visual indicators in Sections 227.42 (f)(4) and (i)(1)(N), and Sections 228.08 (b)(1)(F) and (c)(5)(A) to align with statutory requirements set forth in the California Vehicle Code section 38750 (c)(1)(B), and to prevent encroachment on the United States Department of Transportation, National Highway Traffic Safety Administration's federal authority to promulgate and enforce vehicle design and performance equipment standards and unintentionally impeding innovation of existing or emerging technology.

- ***John Lobsiger, Eve Torres, Courtney Park, Chiu Zhang, Alison Pascale, Nils Kaepper, Volkswagen Group of America, Inc. (VWGoA), -45d, -OT***

Comment: Volkswagen Group of America (VWGoA) Volkswagen supports the DMV's alignment with AVSC best practices for Safety Cases but notes that many elements are designed for L4–L5 fleet vehicles and may not apply to personally owned L3 vehicles. They request clarification on whether safety case requirements apply only to driverless testing and deployment or also to drivered deployment.

Department Response: The Department is providing additional regulatory clarity on both the definition of a safety case and the contents of a safety case submission to ensure that the Department receives safety-relevant information that supports application review and permitting. Manufacturers will be required to provide a comprehensive description of a safety case during the application process, as

prescribed in Section 227.28 (d) and Sections 228.08 (a)(1)(C), (a)(2)(A), (a)(14), or when requested by the Department through a Request for Information, as described in Section 227.72 (a) and Section 228.46 (a). As outlined in the proposed regulations, a manufacturer is required to submit a safety case description for autonomous vehicles configured with or without the presence of a driver physically located in the vehicle. The comprehensive description of a safety case shall be supported by core safety information elements documentation, as outlined in Section 227.02 (xx), and shall provide a description of the evidence demonstrating functional safety, safety of the intended function, artificial intelligence safety, cybersecurity, and operational safety. These core safety information elements reflect industry best practices and serve as a framework for evaluating the manufacturer's overall approach to autonomous vehicle safety. If any element of the core safety information is not applicable, the manufacturer shall provide a justification explaining its exclusion.

Comment: VWGoA recommends that the 25,000-mile testing requirement for permit modifications apply only to material changes in ODD or hardware (e.g., new vehicle models or sensors), not to administrative updates like personnel or training plans.

Department Response: The Department is providing additional regulatory clarity on specific requirements to modify a Driverless Testing Permit and amend a Deployment Permit, distinguishing requirements for implementing administrative changes to a permit from more complex changes. The Department is adopting the terms "Driverless Testing Permit Operational Parameters Modification Application," defined in Section 227.02 (w), and "Deployment Permit Operational Parameters Amendment Application," defined in Section in 228.02 (e), to specify that these applications are required for processing changes to the operational design domain or automated driving system's capabilities. The Department clarifies that the mileage requirements set forth in Section 227.42 (b)(1) apply to modifications, as described in Section 227.42 (o)(1) through (o)(7), of a Driverless Testing Permit, which require submission of a Driverless Testing Permit Operational Parameters Modification Application. Moreover, the Department clarifies that the mileage requirements set forth in Section 228.08 (a)(2)(C) applies to amendments, as described in Section 228.12 (b), of a Deployment Permit, which require submission of a Deployment Permit Operational Parameters Amendment Application. This amendment provides a clearer delineation of each application's distinct requirements and certifications applicable at each stage of the permitting lifecycle.

Additionally, the Department is adopting Section 227.42 (p) to describe the process for making administrative changes to a Driverless Testing Permit and outlining what these changes constitute. These administrative changes provide the Department with updated information on vehicles, remote drivers, or remote assistants operating under the Driverless Testing Permit, or the training program.

Comment: VWGoA requests that the DMV define what constitutes a "material change." VWGoA requests clarification on several technical and procedural points, including definitions of "material change," "unsafe driving behavior," and "anomalous behavior."

Department Response: The Department qualifies "material changes" to a first responder interaction plan or autonomous vehicle test driver, remote driver, remote assistant, or first responder interaction training program as safety-relevant changes that impact how law enforcement and other first responders interact with the autonomous vehicle, as prescribed in Section 227.42 (i)(6), or substantive updates to the course outline and description of the training program, as prescribed in Section 227.36, 227.38 (c)(5), 227.40 (b)(5).

"Unsafe driving behavior" pursuant to the proposed regulations, is considered a violation of the Vehicle Code or local traffic ordinance while an autonomous vehicle is operating on public roads.

The term "anomalous behavior" was previously incorporated in the proposed regulatory draft language of Section 227.56; however, the Department is removing disengagement reporting requirements, set forth in former Section 227.56, in favor of reporting dynamic driving task performance relevant system failures that occur during operation of SAE International's level 3 systems, in alignment with SAE International's standard J3016 (APR2021), and reporting vehicle immobilizations that occur during operation of SAE International's level 4 or 5 systems for enhanced visibility, oversight, and enforcement of safety-relevant or safety-critical situations that occur while operating autonomous vehicles on public roads. Reporting requirements for dynamic driving task performance relevant system failures are described in Section 227.56 and Section 228.38; requirements for vehicle immobilizations are described in Section 227.58 and Section 228.36.

Comment: VWGoA proposes extending permit terms from one to two years to reduce administrative burden.

Department Response: The Department will maintain the existing two-year term for testing permits set forth in Section 227.20. The proposed expanded data reporting and permitting requirements and post-permitting enforcement authority will collectively equip the Department with safety-relevant, incident-specific data to oversee and regulate the safe operation of autonomous vehicles on public roads by providing enhanced visibility on roadway incidents that occur during testing or deployment and establishing mechanisms for ongoing engagement with manufacturers throughout the permit lifecycle.

Comment: VWGoA suggests rewording the requirement to "recognize and respond to all types of emergency vehicles as required by law," noting the impracticality of identifying every vehicle type.

Department Response: As described in Section 227.42 (j)(1), the Department will require that the automated driving system instead be designed to detect and respond to active emergency vehicles in a manner that complies with the California Vehicle Code Sections 21806, 21809, and 21706. The Department is proposing this change to ensure that an automated driving system's recognition and response to active emergency vehicles aligns with existing traffic safety laws. The Department retains investigatory authority to review any incident involving an autonomous vehicle operating on public roads through the Request for Information process.

Comment: VWGoA recommends that California establish a mechanism to resolve conflicts between AV behavior and traffic laws, similar to systems in other states.

Department Response: The Department appreciates receiving VWGoA's comments on manufacturers working in concert with state transportation agencies to develop the automated driving system's driving behavior to handle complex and dynamic driving scenarios. This recommendation is out of scope for the purposes of this rulemaking and the Department's statutory role pursuant to the California Vehicle Code Section 38750.

Comment: VWGoA proposes quarterly rather than monthly disengagement reporting and recommends limiting it to ADS behavioral performance.

Department Response: The Department is amending data reporting requirements for a Deployment Permit to be submitted on a quarterly basis, reflecting the manufacturer's transition from testing to commercial deployment.

Comment: VWGoA suggests replacing disengagement reporting with more meaningful metrics such as harsh braking, DDT system failures, and traffic violations.

Department Response: The Department is removing disengagement reporting requirements, set forth in former Section 227.56, in favor of reporting dynamic driving task performance relevant system failures that occur during operation of SAE International's level 3 systems, in alignment with SAE International's standard J3016 (APR2021), and reporting vehicle immobilizations that occur during operation of SAE International's level 4 or 5 systems for enhanced visibility, oversight, and enforcement of safety-relevant or safety-critical situations that occur while operating autonomous vehicles on public roads. Stakeholders advocated for this to replace disengagement reporting to avoid potentially burdensome or resource intensive overreporting of routine, non-safety deactivations, thereby allowing the Department to capture safety-relevant and safety-critical incidents and more meaningful operational safety

risks. The Department supports replacing disengagement reporting in favor of enhanced visibility, oversight, and enforcement of safety-relevant or safety-critical situations whereby a test driver took over performance of the dynamic driving task or performed the dynamic driving task fallback in response to a dynamic driving task performance relevant system failure. Reporting requirements for dynamic driving task performance relevant system failures are described in Section 227.56 and Section 228.38; requirements for vehicle immobilizations are described in Section 227.58 and Section 228.36.

Comment: VWGoA recommends refining intersection proximity reporting to only include intersections on the vehicle's current roadway.

Department Response: As outlined in Section 227.56 (c)(2), 227.58 (b)(2), and 227.66 (a)(3), all manufacturers are required to report the longitude and latitude coordinates with four decimal places of precision where an incident occurred, except manufacturers of privately owned vehicles for non-commercial use, which are not required to provide the geographic coordinates to protect user privacy.

Comment: VWGoA supports referencing NHTSA's Standing General Order for collision reporting and recommends making the regulation adaptable to future federal updates.

Department Response: The Department is aligning collision reporting requirements described in Section 227.54 and Section 228.34 with federal crash reporting requirements set forth in the current revision (June 2025) of the National Highway Traffic Safety Administration's (NHTSA) Standing General Order (SGO). The Department shall incorporate by reference any future iterations of the SGO in a modified version of the adopted regulations.

Comment: For Preliminary Information Notices, VWGoA proposes requiring immediate mitigations within 72 hours but allowing more time for full root cause analysis and long-term corrective actions.

Department Response: The Department will exercise its broad authority to require manufacturers to make a good faith effort to respond to a Preliminary Information Notice, rather than imposing a default 72-hour deadline. A good faith effort, as described in Section 227.70 (a) and Section 228.44 (a)includes being timely, cooperative, and diligent in providing relevant facts or documents related to an incident. The Department retains the authority to shorten response times based on the circumstances and severity of the incident. This will allow the Department to receive quicker turnaround for incidents that pose an imminent hazard to public safety. This change provides manufacturers with reasonably sufficient timeframe for

manufacturers to fully investigate the incident and provide the Department with the requested information.

Comment: VWGoA seeks clarification on whether a separate testing permit is required alongside a deployment permit and recommends streamlining the process.

Department Response: As set forth in Section 228.08, a valid Testing Permit is a prerequisite to submit a Deployment Permit Application and must be maintained at all times to possess a Deployment Permit.

Comment: VWGoA argues that requirements such as remote operation centers, emergency geofencing, and first responder access are inappropriate for personally owned L3 vehicles and should be exempted, as these vehicles always have a driver present.

Department Response: The Department is amending the proposed regulatory draft language on in-vehicle indicators, law enforcement and firefighters' access and use of an override system, and response to emergency geofencing messages issued by emergency officials in Section 227.38 (b)(5), Section 227.40 (a)(4), Sections 227.42 (f)(3)(H), (f)(3)(I), (f)(4), (i)(1)(F), (i)(1)(I), (i)(1)(N), and (j)(3), and Sections 228.08 (b)(1)(F), (c)(5)(A), (c)(10)(G), (c)(10)(H), to align with the legislative intent of Assembly Bill 1777 (Chapter 682; Statutes of 2024) and Senate Bill 480 (Chapter 415, Statutes of 2025) and statutory amendments set forth in the California Vehicle Code sections 38750 and 38751 adopted through the passage of these Bills, and to prevent encroachment on the United States Department of Transportation, National Highway Traffic Safety Administration's federal authority to promulgate and enforce vehicle design and performance equipment standards.

All requirements on remote operations support pertain to vehicles that are not required to have a driver physically present behind the wheel of the vehicle to operate.

Comment: VWGoA recommends exempting personally owned L3 vehicles from DDT system failure and noncompliance reporting due to limited manufacturer access to relevant data.

Department Response: The Department is delineating data reporting requirements that apply specifically to SAE Level 3 autonomous vehicles. This includes reporting dynamic driving task performance relevant system failures, as described in Section 227.56 and Section 228.38. In addition, Section 228.38 (a) specifies that manufacturers of privately owned Level 3 vehicles intended for non-commercial use are not required to report the date, time, and geographic coordinates associated with the dynamic driving task performance relevant system failure, or the vehicle identification number to protect user privacy. Manufacturers of privately owned

Level 3 vehicles intended for non-commercial use shall report receipt of Notices of Autonomous Vehicle Noncompliance to the Department when they receive them, which models the current reporting framework for NHTSA SGO crash reporting.

Comment: VWGoA suggests that law enforcement—not manufacturers—should notify the DMV of noncompliance involving personally owned vehicles.

Department Response: The California Vehicle Code Section 38752 requires the manufacturer to submit the Notice of Autonomous Vehicle Noncompliance form to the Department. If a Notice is issued by a peace officer in circumstances other than a traffic stop, the peace officer shall provide a copy of the notice to the department and to the manufacturer at the address listed in the First Responder Interaction Plan, within 72 hours of the incident.

Comment: VWGoA requests clarification on override systems, insurance bond responsibilities, and how braking events are measured when both ADS and human drivers are involved.

Department Response: The Department is amending the proposed regulatory draft language on access and use of the override system in Section 227.38 (b)(5), Section 227.40 (a)(4), Sections 227.42 (f)(3)(H), (f)(3)(I), (f)(4), (i)(1)(F), (i)(1)(I), (i)(1)(N), and (j)(3), and Sections 228.08 (b)(1)(F), (c)(5)(A), (c)(10)(G), (c)(10)(H), to align with the legislative intent of Assembly Bill 1777 (Chapter 682; Statutes of 2024) and statutory requirements set forth in the California Vehicle Code section 38751 (b)(3) adopted through the passage of this Bill, and to prevent encroachment on the United States Department of Transportation, National Highway Traffic Safety Administration's federal authority to promulgate and enforce vehicle design and performance equipment standards.

The Department is maintaining the existing regulations on financial responsibilities adopted in the current autonomous vehicle regulations.

The Department is amending the reportable threshold for braking events to those that produce speed decrease of 3 meters per second (m/s) or more from braking at a deceleration rate that exceeds 5 meters per second squared (m/s/s) for at least 0.5 seconds during the operation of an autonomous vehicle in autonomous mode on a public road with a speed limit of 35 miles per hour or higher. The manufacturer shall submit the report electronically in .csv format via the Department's web portal using the electronic Braking Event Reporting Template, which the Department will make accessible to manufacturers online. This reporting template will provide additional clarity to the regulated public on braking event reporting requirements, including reporting timeframe, deadline, and format. This reporting template creates a standard, structured format for manufacturers to submit required braking data and

includes a data dictionary that describes the required data elements in detail, including data format, field names, and measurement units. This improves standardization, streamlines the application process, and enhances the consistency, quality, and reliability of the data to support the Department's oversight, regulation, and enforcement of autonomous vehicle operations.

- ***Allison Drutchas, Michael Magee, Waymo LLC (Waymo), -45d, -OT***

Comment: These comments summarize Waymo's submission, which include suggested markup changes to the regulatory text.

Waymo advocates for an alternative reporting framework for experienced manufacturers called "Human-Relative Collision Reporting." This approach would replace disengagement and braking event reporting with statistically significant comparisons of collision rates—such as airbag deployments, injury-causing crashes, and police-reported incidents—against validated human driver benchmarks. Waymo argues that this method offers a more direct and meaningful measure of safety performance, reduces administrative burden, and aligns with industry best practices and peer-reviewed methodologies.

Waymo recommends that the Department maintain the current two-year term for Testing Permits and provide clearer guidance throughout the Express Terms on which requirements apply at each stage of the permit lifecycle. Specifically, the Department should retain the two-year renewal period, restart the renewal period when operational parameter modifications are approved to avoid duplicative efforts, define key application types (including original and renewal applications for both testing and deployment permits), and explicitly identify which requirements apply to each application type to ensure clarity on how new rulemaking provisions will be implemented.

Waymo recommends increasing the triggering deceleration threshold for braking event reporting to 8 m/s^2, combined with a speed drop of 7 mph within one second, and limiting reporting to roadways with speed limits of 35 mph or greater. This adjustment could reduce reported events by over 98% without diminishing the value of the data, significantly reducing reporting burden while still capturing safety-relevant incidents. They suggest removing proposed elements 227.64(a)(5) (range and relative speeds) and 227.64(a)(6) (magnitude of braking), citing definitional ambiguity, measurement inconsistencies, and limited safety insight. For 227.64(a)(4), they recommend including perception object types detected by the ADS to enable automated reporting. Waymo also propose extending the reporting deadline to 30 business days after the close of the reporting period, as the current 15-day timeframe is infeasible given data complexity. Additionally, they urge revising permit application requirements in 227.42(c)(3) and 228.08(a)(1)(C)(i)(cc) to remove language requiring

a "full description" and "remediation" of braking events, as braking is a safety measure and such descriptions would impose significant resource burdens without meaningful safety insights. These changes aim to reduce unnecessary data noise and align reporting with the intent of improving safety oversight.

Waymo indicates that the Express Terms currently include three overlapping metrics for events where an AV achieves a minimal risk condition: driverless disengagements, vehicle immobilizations, and dynamic driving task performance relevant system failures. They recommend consolidating these into a single reporting metric that applies to both testing and deployment operations. They propose using the "vehicle immobilizations" metric as defined in section 227.02(qq), harmonized with CPUC requirements, and including event data elements from section 227.56(a)(2)(A) with revisions. Clarifications should specify that immobilization applies only to driverless AVs requiring human or remote intervention and remove references to "autonomous test vehicle driver" in section 227.58(b)(5). For section 227.58(b)(4), they suggest defining the end of immobilization as the time the vehicle was driven by a human or remote driver, rather than when cleared from the travel lane, for objectivity. Section 227.58(b)(5) should detail retrieval actions such as remote driving, first responder intervention, manufacturer designee, towing, or other actions, and avoid duplicating requirements elsewhere. They also recommend clarifying immobilizations involving multiple AVs to apply when vehicles simultaneously block a travel lane within 50 meters of each other and adding reporting on roadway speed limit and efforts to move the vehicle before retrieval (e.g., ADS maneuvers, remote assistance). Waymo proposes a quarterly reporting cadence instead of monthly to reduce resource burden and reflect the slow pace of material performance changes.

Waymo urges the DMV to retire drivered disengagement reporting for mature AV programs and to adopt quarterly or semiannual reporting cadences instead of monthly.

Waymo recommends maintaining the current two-year term for Testing Permits and restarting the term upon approved operational modifications. It proposes defining permit application types (e.g., Original, Renewal, Modification) and clarifying which requirements apply at each stage.

On safety documentation, Waymo suggests using the term "core safety information documentation" instead of "safety case" to better reflect industry practice and avoid confusion. Waymo argues that the current definition of "safety case" in the Express Terms may create confusion, as it calls for descriptions and summaries rather than the detailed claims and proprietary evidence that constitute a true safety case. To avoid ambiguity, Waymo recommends referring instead to "core safety information documentation," based on the topics listed in proposed section 227.02(oo), which

would provide the Department with insight without requiring proprietary data. Waymo also recommends cross referencing section 227.02 (oo) across 227.28, and 228.08.

In order to account for NHTSA's Third Amended Standing General Order 2021-01, effective June 16, 2025, and any future amendments or successor regulations, the Department should revise its requirement to reference the current effective version of the Standing General Order or an equivalent NHTSA crash reporting regulation. Collision reporting obligations should be limited to incidents occurring within California, consistent with the Department's jurisdiction. Additionally, the qualifier restricting reporting to manufacturers authorized for deployment should be removed, as vehicles may be operated by non-manufacturers under certain arrangements. For provisions applicable only if NHTSA rescinds its reporting requirements, the 24-hour reporting timeframe should apply exclusively to collisions involving fatalities or bodily injuries requiring transport from the scene for medical treatment. This threshold is widely recognized as distinguishing higher-severity collisions from minor incidents, which often involve delayed injury reporting and constitute the majority of AV collisions.

Waymo requests that the Department provide a copy of form OL 325 (Rev. 12/2024), which is incorporated by reference, for review and comment. They recommend clarifying in proposed sections 227.66(b), 227.66(c), 228.40(b), and 228.40(c) that the 72-hour (or 24-hour) submission timeframe begins when the manufacturer receives the notice, not when it is issued, to account for potential mailing delays. In sections 227.66(e) and 228.40(e), they suggest removing references to "collision path" and replacing "host vehicle" with "subject vehicle" for accuracy and clarity. Stakeholders propose striking section 228.40(f), as its reference to permit restriction, revocation, or suspension is redundant and addressed elsewhere. They also recommend revising section 228.40(g) to clarify that it does not relieve compliance with other applicable reporting requirements under California law. Waymo notes that the statutory framework underlying these sections establishes that AVs will receive Notices of Autonomous Vehicle Noncompliance instead of citations.

Waymo emphasizes the importance of protecting confidential business information submitted to the Department, noting that disclosure could cause significant harm, including misuse by foreign entities. To address this, they recommend adding a definition of confidential business information in section 227.72 that aligns with U.S. standards, specifying information customarily and treated as confidential by a business.

Waymo recommends aligning the DMV's proposed emergency response requirements with AB 1777 to ensure consistency and avoid regulatory conflict. This includes revising the definition of "avoidance area" to reflect a time-limited duration

based on a reasonable emergency assessment, updating the definition of "emergency" to match statutory language by removing overly broad phrasing, and referencing the override system requirement using the specific citation from AB 1777 (CVC § 38751(b)(3)) to eliminate ambiguity.

Waymo recommends revising the definition of "remote driver" to align with SAE J3016 by removing the phrase "engages and monitors the autonomous vehicle," as these terms are unclear and not part of industry standards. They suggest defining "remote operations" for consistency and replacing all references to "remote operations personnel" with "remote operations support personnel." Qualifications for remote drivers should be moved from section 227.34 to section 227.38 and revised to require holding a license for three years and no DUI convictions, consistent with AV test driver requirements. Waymo proposes removing prescriptive task assignments in sections 227.38(b)(5)-(9) and 227.40(b)(4)-(6), instead relying on broader language in sections 227.42(e)(3)(E), 228.08(c)(10)(D), 227.38(b)(2), and 227.40(b)(2) to allow flexibility while ensuring tasks are performed by qualified personnel. They also recommend eliminating individual permits for remote drivers and assistants, replacing them with recordkeeping requirements in sections 227.38(c)(4) and 227.40(c)(4) that include each agent's full name, driver's license details, and a list of tasks for which they are trained and certified. These changes aim to reduce administrative burden while maintaining accountability and compliance with AB 1777.

Waymo recommends replacing the proposed quarterly update requirement for First Responder Interaction Plans (FRIPs) with an annual review, allowing updates "as changes are needed" while maintaining consistency for first responders. They suggest revising section 227.42(h) to require prior submission only to the Department and California Highway Patrol, rather than all law enforcement and first responder agencies, to avoid confusion and administrative burden. For clarity, they propose inserting an "and" in section 227.42(h)(1)(E) and revising section 227.42(h)(1)(H) to specify situations where first responders cannot contact remote operations support personnel through the two-way communication link. Section 227.42(h)(5) should require providing FRIPs and website addresses to agencies located in the operational design domain, rather than individual responders or those "in the vicinity." They urge harmonizing definitions and requirements with AB 1777, including revising the definition of "avoidance area" to reflect the statute's language on initial and extended durations, aligning the definition of "emergency" by striking "any risk to public safety and/or," and explicitly referencing the override system required under CVC § 38751(b)(3). Waymo recommends removing the trigger for permit modifications when changes affect first responder interactions, as this could delay safety improvements, and instead relying on FRIPs and other mechanisms for oversight. They propose revising section 227.42(i)(4) to avoid requiring validation of

"all probable interactions," which is ambiguous and impractical, and instead allow manufacturers to describe their approach, with the Department empowered to request follow-up information.

Waymo recommends the Department not require written descriptions of response times, personnel numbers, or locations in sections 227.42(e)(1)(D) and 228.08(b)(1)(D), as these details are dynamic, competitively sensitive, and should remain flexible. They suggest that the Department instead use its existing authority under sections 227.68, 228.42, 227.70, and 228.44 to request event-specific information when needed. To clarify roles, they propose adding a definition for "autonomous vehicle retrieval agent" as an employee, contractor, or designee of the manufacturer who may engage or disengage the ADS and operate the AV in conventional mode but does not supervise or monitor the ADS while it performs the dynamic driving task. Retrieval agents should be required to hold a valid driver's license but should not be required to hold an AV test driver permit, as they do not perform the essential functions of an AV test driver. This distinction ensures that retrieval tasks, which may involve working with first responders or tow operators, are not subject to unnecessary regulatory burdens. These changes aim to maintain operational flexibility while ensuring safety and accountability.

Waymo supports the Department's proposed enforcement framework but recommends several refinements to ensure clarity, fairness, and due process. They urge adopting a uniform "imminent hazard" standard for all immediate adverse actions—revocation, suspension, or incremental restrictions—across both Testing and Deployment Permits. Additionally, they recommend requiring that all such determinations be based on "data or evidence" to create an objective and reviewable record, avoiding any perception of arbitrariness. For reinstatement, Waymo suggests aligning standards so that lifting restrictions, suspensions, or revocations follows the same process for all permit types, with the Department reviewing and confirming that deficiencies have been addressed. They also call for an expedited review and appeal process for immediate enforcement actions, including clear timelines for hearings and decisions, documentation requirements, and the right to appeal a reasoned decision to a California court. Current reliance on the APA is inadequate for the rapid resolution needed in cases involving advanced technology and public safety; Waymo recommends adopting timelines similar to other agencies, such as hearings within 10–15 days and decisions within 5 days after hearings. They cite models from Federal Motor Carrier Safety Administration, Federal Aviation Administration, Federal Railroad Administration, and California Department of Public Health as examples of expedited procedures that balance safety with minimizing undue harm to regulated entities. Waymo emphasizes that these changes

are critical to prevent unjustified operational shutdowns and severe financial and reputational impacts while maintaining public safety.

Waymo recommends lengthening the default Preliminary Information (PIN) response period beyond 72 hours to allow manufacturers sufficient time to provide meaningful responses, while retaining the Department's discretion to shorten timelines for urgent safety issues. They suggest establishing case-by-case response deadlines for non-urgent PINs to balance timely communication with thorough investigation. Waymo urges the Department to clarify the scope of PIN and Request for Information (RFI) requests by tethering them to incidents involving Vehicle Code violations, operation beyond permit scope, unreasonable risk of injury, or AV behavior outside the approved ODD. They recommend removing or revising non-exhaustive and overly broad lists of potential inquiry topics and response elements, which create ambiguity and impose unnecessary burdens. Waymo advises limiting requests based on vague reports or unsubstantiated allegations, as technical inquiries require significant engineering resources. These changes would ensure that PIN and RFI processes remain focused on safety-critical issues without sacrificing enforcement authority.

Waymo recommends that the Department remove "open recall" as a basis for immediate suspension of a Deployment Permit under section 228.24(b)(5), as this conflicts with federal law and longstanding NHTSA practice. Instead, the Department should engage in dialogue with the manufacturer regarding the nature of any defect once it receives a copy of the defect information report, rather than treating any open recall as grounds for suspension. They also suggest clarifying that the Department does not intend to enforce federal reporting requirements under Part 573 and that manufacturers must submit defect reports to the Department on the same day they are filed with NHTSA, not simultaneously. These changes maintain clear distinctions between state and federal enforcement authority while leveraging the Department's existing tools for safety oversight.

Waymo recommends revising section 228.12(a)(12) to avoid undefined terms such as "improve safety," "safety-related," or "safety-critical" and instead rely on existing provisions (sections 227.46, 227.48, 228.22, and 228.24) that address identified safety risks. They suggest clarifying that subparagraph (D) applies only to AVs owned or leased by someone other than the manufacturer and only when a fully validated and released software update is available. Waymo emphasizes that software updates should undergo thorough validation before implementation to prevent introducing new risks, with expedited processes reserved for high-risk circumstances. Finally, they propose revising section 228.08(a)(12)(B) to more explicitly identify the subject of processes and procedures for updating location and mapping information.

Waymo recommends revising proposed sections 227.42(e)(4), 228.08(b)(1)(F), and 227.42(h)(1)(M) to ensure full alignment with AB 1777, which requires only a visual indicator inside the cabin to show when autonomous technology is engaged, rather than additional indicators for multiple states as proposed. They emphasize that imposing new hardware design requirements would conflict with federal law, create ambiguity, and require years of redesign and integration, which is impractical and costly. Waymo urges the Department to avoid requirements that mandate changes to base vehicle design or AV hardware, as these areas fall under NHTSA's exclusive authority for vehicle and equipment standards. They recommend removing language that could require retrofitting vehicles already in production and instead harmonize all indicator requirements with CVC § 38750(c)(1)(B). For logging requirements, Waymo suggests eliminating the mandate for a recording mechanism that is "in addition to, and separate from" other legally required mechanisms, as future federal or state regulations may govern AV data recording. They also propose adopting identical language for testing and deployment regulations to avoid ambiguity and ensure consistency. These changes would maintain safety objectives while preventing unnecessary design conflicts and regulatory overlap.

Waymo recommends defining the term "end user" in the Express Terms to clearly identify non-manufacturer owners or lessees and their obligations. They propose replacing inconsistent terminology such as "consumer" and "customer" with this defined category to eliminate ambiguity regarding who should receive required information. The definition should clarify that when an AV is owned or leased by an end user, that entity—not the manufacturer—is responsible for providing passengers with relevant safety and consumer information. These changes ensure consistent application of obligations and reflect evolving ownership models in the autonomous vehicle industry.

Waymo recommends incorporating an adequate phase-in period before new regulatory requirements, particularly reporting obligations, become effective. They suggest allowing at least six months for implementation, with additional time if multiple new data reporting requirements are introduced simultaneously.

Waymo estimates that compliance with the proposed Express Terms would require tens of millions of dollars in additional costs over the first two years, and millions more annually thereafter. These costs are primarily driven by new reporting requirements for braking events, immobilizations, and dynamic driving task performance relevant system failures, as well as the expanded scope of monthly disengagement reporting. Additional resource burdens include annual Testing Permit renewals, individual remote assistant permits, and numerous new documents, certifications, and updates. Waymo urges the Department to carefully weigh these significant costs against the

potential safety benefits and prioritize requirements that deliver meaningful regulatory outcomes in the most cost-efficient manner.

Department Response: The following section responds to Waymo's submission including the markup of the Express Terms.

The Department appreciates Waymo's detailed and constructive feedback and has carefully considered each recommendation in the context of its statutory authority, regulatory objectives, and stakeholder input.

Waymo's proposed Human-Relative Collision Reporting framework presents a compelling alternative to indicators such as disengagements. The Department does not adopt this recommendation. While the Department acknowledges that retrospective, population level safety analyses can yield valuable insights for manufacturers with sufficient operational scale, the proposed framework is not uniformly applicable across all program participants and would undermine the Department's near real time oversight needs. The Autonomous Vehicles (AV) program includes light duty, heavy duty, and low speed vehicles, with manufacturers at diverse stages of scale and operational maturity. A framework that depends on statistically robust comparisons to human benchmarks would privilege large fleets and provide limited utility for new or smaller manufacturers who cannot produce statistically significant collision datasets. The adopted regulatory structure already (1) eliminates disengagement reporting in favor of more safety relevant metrics, and (2) refines braking event reporting to target higher risk scenarios—thereby balancing meaningful safety measurement with administrative feasibility across manufacturers of varying sizes and maturity.

The Department agrees with Waymo's recommendation to maintain the two-year term for Testing Permits and has clarified that the term restarts upon approval of operational modifications, as specified in § 227.20(c). Additionally, the Department has adopted definitions for Original, Renewal, and Modification applications and clarified which requirements apply at each stage of the permit lifecycle throughout Articles 3.7 and 3.8.

Regarding safety documentation, the Department has retained the term "safety case" to reflect its structured, evidence-based approach to safety validation. However, the Department acknowledges industry use of the term "core safety information documentation" and has clarified that the safety case must include these elements, as defined in § 227.02(xx).

The Department retains the adopted braking event thresholds of a total speed decrease of ≥ 3 m/s coupled with deceleration ≥ 5 m/s² sustained for ≥ 0.5 seconds, limited to roadways with posted speed limits of ≥ 35 mph, as these values are

calibrated to capture higher-risk contexts while minimizing low-value data. Increasing the threshold to 8 m/s² would exclude a significant number of safety-relevant conflicts and impair early-signal visibility. The Department also maintains reporting elements for range and closing rate and magnitude of braking, as these objective, automatable metrics provide essential context for assessing severity and time-to-conflict, supporting uniform analysis across manufacturers. The Department has already adopted the inclusion of object type in reporting to enable automated data collection and meaningful analysis. The Department has addressed feasibility concerns by replacing the prior 15-day cadence with monthly reporting in arrears and granting 60 days for the first report, rather than adopting a fixed 30-business-day extension, to preserve timely oversight. The Department has removed requirements for a "full description" and "remediation" of braking events in permit applications, replacing them with structured, quantitative reporting through standardized templates and data dictionaries, while retaining investigatory authority for supplemental details when warranted. These changes collectively reduce administrative burden and data noise while maintaining the integrity and safety relevance of the reporting framework.

The Department acknowledges that disengagements, vehicle immobilizations, and dynamic driving task performance relevant system failures all represent scenarios where an autonomous vehicle achieves a minimal risk condition. In response to stakeholder feedback, the modified regulations already eliminate disengagement reporting and consolidate safety-relevant metrics by adopting dynamic driving task performance relevant system failure reporting and refining immobilization reporting for driverless vehicles. These changes align with SAE J3016 definitions and harmonize with CPUC requirements for quarterly reporting during deployment, reducing burden while maintaining timely visibility into operational safety. However, the Department retains separate reporting categories for immobilizations and system failures because they capture distinct operational contexts—immobilizations reflect retrieval challenges and roadway obstruction risks, while system failures provide insight into ADS reliability and fallback performance. The Department has clarified that immobilization reporting applies exclusively to driverless AVs requiring human or remote intervention and revised §227.58(b)(5) to specify retrieval actions such as remote driving, first responder intervention, manufacturer designee, or towing. Reporting elements now include roadway speed limit and standardized data fields through electronic templates, ensuring objectivity and comparability. While the Department agrees that defining the end of immobilization based on human or remote driver intervention improves clarity, we retain the requirement to report clearance from the travel lane to support traffic safety analysis. The Department declines to adopt a quarterly cadence for testing operations, as monthly reporting remains necessary to provide near real-time oversight during active development phases; however, quarterly reporting for deployment has been adopted to align with

CPUC and reduce burden for commercial operations. These measures collectively balance stakeholder concerns with the Department's statutory mandate to ensure public safety and maintain robust regulatory oversight.

The Department has adopted a performance-based reporting framework applicable to all manufacturers, including those with extensive operational experience. This framework replaces disengagement reporting with dynamic driving task performance relevant system failure reporting and vehicle immobilization reporting, as outlined in §§ 227.56 and 227.58. This change reflects stakeholder concerns regarding the limited safety relevance of disengagements and supports more meaningful data collection. These revised metrics serve as essential indicators of system behavior, particularly in identifying edge cases and low-frequency events. The regulations already incorporate alignment with the current effective version of NHTSA's Standing General Order (SGO) by referencing the June 2025 revision and establishing a framework that can accommodate future amendments or successor regulations. This approach ensures consistency with federal crash reporting requirements while maintaining flexibility for updates. The Department agrees that collision reporting obligations should be limited to incidents occurring within California, consistent with the Department's jurisdiction, and this clarification has been incorporated into the express terms. However, the Department declines to remove the qualifier restricting reporting to manufacturers authorized for deployment, as testing and deployment operations are governed under distinct permit structures, and reporting obligations must remain tied to the entity responsible for the vehicle's operation under the Department's regulatory authority. Regarding provisions applicable if NHTSA rescinds its reporting requirements, the Department will continue to apply the existing NHTSA SGO (June 2025) reporting requirements to ensure consistency with established processes. These changes collectively harmonize state and federal requirements, preserve the Department's enforcement authority, and balance stakeholder concerns with the need for robust public safety oversight.

The Department has updated regulations to ensure that the 72-hour (or 24-hour priority) submission timeframe for manufacturers begins upon receipt of the Notice of Autonomous Vehicle Noncompliance, rather than issuance, to account for potential mailing delays. This change aligns with stakeholder concerns and supports practical compliance while preserving timely oversight. The OL 325 form (Rev. 12/2024), was made available for review through the regulatory process and is standardized to include roadway and GPS coordinates, vehicle information, and observed behavior, consistent with statutory requirements under Vehicle Code §38752 and Assembly Bill 1777. Regarding terminology, the Department agrees with replacing "host vehicle" with "subject vehicle" for clarity and consistency across Articles 3.7 and 3.8. However, the Department did not remove references to "collision path"; instead, the express

terms retain this language with the qualifier "this data may include" to indicate that such information is supplemental and not mandatory, ensuring flexibility while preserving investigatory authority. The Department also agrees that duplicative enforcement language in section 228.40(f) is unnecessary and has removed it, as enforcement authority is already addressed in Sections 227.44, 227.46, 227.48, and 228.22, 228.24. Section 228.40(g) has been revised to clarify that compliance with these provisions does not relieve manufacturers of other applicable reporting obligations under California law. The Department reiterates that the statutory framework establishes the use of Notices of Autonomous Vehicle Noncompliance rather than citations, ensuring consistency with AB 1777 and supporting a clear, standardized enforcement process.

In response to stakeholder concerns regarding the protection of proprietary information, the regulations include explicit provisions defining Confidential Business Information (CBI) in section 227.74(d). This definition encompasses information exempt from disclosure under the California Public Records Act (Government Code §7927.205), trade secrets protected under Evidence Code §1060, and related provisions of the Uniform Trade Secrets Act (Civil Code §§3426.1–3426.11). These statutory references align with U.S. standards for trade secret protection and ensure that information customarily treated as confidential by a business is safeguarded when submitted to the Department. The adopted framework clarifies procedures for handling CBI during permit applications, data reporting, and investigatory processes, balancing transparency with the need to protect sensitive business information from misuse, including by foreign entities. The Department retains authority to request safety-relevant supplemental information when necessary for oversight but will continue to apply these confidentiality protections consistently across testing and deployment programs.

In response to Waymo's comments on emergency response requirements, the Department has revised the definitions of "avoidance area" and "emergency" to align with AB 1777 and CVC § 38751, as reflected in Sections 227.02(j), 227.02(bb), and 227.42(f)(3)(F). The Department has also clarified the override system requirement by referencing the specific statutory citation to eliminate ambiguity.

The regulations already align the definitions of "remote driver" and "remote assistant" with SAE J3016 and define "remote operations support" to ensure consistent terminology across Articles 3.7 and 3.8. In keeping with that alignment, the Department standardized references to "remote operations support personnel" to promote clarity and consistency. Qualifications for remote drivers are in §227.38, and the Department confirms parity with AV test driver requirements—a valid license of the appropriate class and applicable endorsements, a clean record (including DUI

disqualification), and absence of specified disqualifying violations—to maintain robust safety oversight.

The Department declines to remove individual permits for remote drivers, which remain necessary to amplify DMV oversight of driving records and ensure accountability for personnel capable of performing part or all of the dynamic driving task; however, the Department has removed the individual permitting requirement for remote assistants, replacing it with recordkeeping obligations that include each agent's name, driver's license information, and a list of tasks for which they are trained and certified, thereby reducing administrative burden while maintaining traceability.

The Department also declines to strike the functional requirements in Sections 227.38(b)(5)–(9) and 227.40(b)(4)–(6) wholesale; those provisions have been refined and aligned with Vehicle Code Section 38751 to avoid overbreadth while preserving statutorily required capabilities (e.g., enabling immobilization, responding to emergency geofencing, and complying with first-responder directions). These targeted functional requirements remain essential to ensure that tasks are performed by qualified personnel and that driverless operations meet statutory expectations for public safety, while broader, cross-referenced provisions in Sections 227.42(f)(3)(E), 228.08(c)(10)(D), 227.38(b)(2), and 227.40(a)(2) continue to provide operational flexibility.

In response to stakeholder concerns, the regulations revise the update requirement for First Responder Interaction Plans (FRIPs) from quarterly to annual review, with updates required "as changes are needed," to maintain consistency for first responders while reducing administrative burden. The Department also clarifies that prior submission of FRIPs is required only to the Department and the California Highway Patrol, rather than all law enforcement and first responder agencies, to avoid confusion and ensure centralized oversight. Minor textual edits, such as inserting "and" in §227.42(i)(1)(F), have been incorporated for clarity, and Section 227.42(i)(1)(I) now specifies scenarios where first responders cannot contact remote operations support personnel. Section §227.42(i)(5) has been revised to require providing FRIPs and website addresses to agencies located within the operational design domain, rather than individual responders or those "in the vicinity," improving clarity and practicality. The Department harmonizes definitions and requirements with AB 1777, including aligning the definition of "avoidance area" with statutory language on initial and extended durations, revising the definition of "emergency" for consistency, and explicitly referencing the override system required under CVC §38751(b)(3). However, the Department declines to remove the trigger for permit modifications when changes affect first responder interactions, as these changes may materially impact public safety and require review; oversight will continue

through FRIPs and the Department's Request for Information authority. Additionally, §227.42(j)(4) has been revised to remove the requirement to validate "all probable interactions," which was ambiguous and impractical, and instead requires manufacturers to certify that the ADS is designed to detect and respond as necessary to comply with CVC §§ 21806, 21809 and 21706, with the Department retaining authority to request follow-up information.

In response to stakeholder concerns, the regulations remove prescriptive requirements for manufacturers to provide written descriptions of response times, personnel numbers, and locations in §§227.42(f)(1)(D) and 228.08(b)(1)(D), recognizing that these details are dynamic, operationally sensitive, and may vary based on situational factors. Instead, the Department will continue to rely on its existing authority to request event-specific information when necessary for oversight and enforcement. The Department declines to adopt a new definition for "autonomous vehicle retrieval agent" as proposed. The regulations currently define "manufacturer's designee" (see §227.02(m) as a natural person authorized by the manufacturer to drive, operate, or perform remote operations support functions for autonomous vehicles. This category is sufficiently broad to encompass personnel who may be tasked with vehicle retrieval, including those who operate vehicles in conventional mode without engaging or supervising the ADS. Functional requirements for remote operations remain in §§227.38 and 227.40 to ensure statutory compliance with Vehicle Code §38751, but the Department has streamlined language to avoid duplicative or overly prescriptive task assignments, preserving flexibility while ensuring safety-critical capabilities such as immobilization and emergency response remain enforceable. These changes collectively reduce administrative burden, maintain operational flexibility, and uphold the Department's statutory mandate to ensure safe and effective retrieval processes for autonomous vehicles.

On enforcement and due process, the Department's existing regulations have included since 2018 procedural safeguards for permit suspension, revocation, and restriction, including notice and hearing provisions consistent with the Administrative Procedure Act and Government Code § 11500 et seq. The Department has also clarified that enforcement actions will be based on substantiated incidents that pose an "unreasonable risk of accident, death, injury, or exacerbating injury" (see §227.44(a)(1)–(3), §228.18(a)(3)). The Department may rely on reports from law enforcement, emergency response officials, or other regulatory agencies, and may issue Preliminary Information Notices or Requests for Information to gather relevant evidence prior to initiating enforcement. These regulations balance public safety with procedural fairness, ensuring that manufacturers are afforded adequate notice, opportunity to respond, and a clear path to reinstatement. The Department removed the 72-hour response timeframe for Preliminary Information Notices (PINs) and the

manufacturer shall make a good faith effort to respond within a reasonable time informed by the nature and scope of the PIN. Additionally, the Department may establish case-by-case deadlines and shorten timelines for urgent safety issues, consistent with its enforcement authority. This approach balances the need for timely communication with flexibility for manufacturers to provide meaningful responses. The Department declines to codify longer default timelines, as rapid access to safety-critical information remains essential for oversight; however, manufacturers may request additional time for complex inquiries. The scope of PIN and Request for Information (RFI) processes has been clarified to focus on incidents involving Vehicle Code violations, operation beyond permit scope, unreasonable risk of injury, or behavior outside the approved operational design domain, aligning with statutory authority and reducing ambiguity. The Department emphasizes that its investigatory authority under §§227.70, 227.72, 228.42, and 228.44 and 228.46 will be exercised judiciously, and requests based on vague or unsubstantiated allegations will not be used to impose undue burden. These changes ensure that PIN and RFI processes remain targeted, enforceable, and consistent with the Department's statutory mandate to protect public safety while minimizing unnecessary administrative impact.

The regulations clarify that manufacturers must submit a copy of any defect information report (Part 573) to the Department on the same day it is filed with NHTSA, rather than simultaneously, to avoid imposing duplicative timing requirements and ensure consistency with federal practice. This change maintains clear distinctions between state and federal enforcement authority while enabling the Department to monitor safety-critical issues in real time. The Department declines to remove references to an open recall as a basis for suspension under §228.24(b)(5), as retaining this provision is necessary to preserve the Department's ability to act when a defect poses an imminent hazard to public safety. However, the Department emphasizes that enforcement decisions will be informed by the nature and severity of the defect, and the Department will engage with manufacturers upon receipt of defect reports before taking action, consistent with its discretionary authority. The express terms also clarify that the Department does not intend to enforce federal reporting requirements under Part 573 but will rely on timely manufacturer submissions to support oversight. These changes balance stakeholder concerns with the Department's statutory mandate to ensure safe operation of autonomous vehicles on California roads while respecting federal jurisdiction.

The modified regulations clarify language in §228.08(a)(12) to focus on manufacturer obligations to develop, validate, and release software updates before operation, supported by established processes for updating location and mapping information under §228.08(a)(12)(B). These processes must incorporate reliable public sources and

ensure the automated driving system accurately reflects real-time operational design domain conditions. Subparagraph (D) has been clarified to apply only to autonomous vehicles owned or leased by someone other than the manufacturer, and only when a fully validated and released software update is available, preventing unvalidated AV operation on public roads. While the Department retains oversight authority through permit amendments and Requests for Information, it declines to remove references to safety-related updates entirely, as these provisions are necessary to ensure compliance with statutory safety obligations.

The modified regulations harmonize indicator requirements with California Vehicle Code §38750(c)(1)(B), clarifying that manufacturers must provide a visual indicator inside the cabin to show when autonomous technology is engaged, rather than imposing additional indicators for multiple states. This change avoids creating new hardware design mandates that could conflict with federal law or require costly redesigns. The Department declines to remove all references to indicator functionality, as these provisions remain necessary to ensure first responders and occupants can clearly identify ADS engagement status for safety purposes. Regarding logging requirements, the Department retains the requirement for a mechanism to capture sensor data for 30 seconds prior to a collision, as mandated by Vehicle Code §38750, but clarifies that this mechanism may be integrated with other legally required systems rather than being entirely separate, reducing redundancy and potential conflicts with future federal regulations.

In response to stakeholder comments, the modified regulations define the term "end user" in §227.02 and incorporate it throughout Articles 3.7 and 3.8 to replace inconsistent terminology such as "consumer," "customer," "operator," "registered owner," and "lessee." This change eliminates ambiguity and clearly distinguishes the responsibilities of manufacturers from those of non-manufacturer owners or lessees. The definition clarifies that an end user is a person who owns or leases an autonomous vehicle but is not the manufacturer of the automated driving system. The express terms now specify that manufacturers must provide an end user education plan and ensure that ADS-equipped vehicles owned or leased by an end user do not operate until all required software updates are fully validated and released. Additionally, privacy and reporting provisions have been updated to reference "end user," ensuring consistent application of obligations and alignment with statutory requirements. These changes reflect evolving ownership models in the autonomous vehicle industry, improve regulatory clarity, and maintain accountability for both manufacturers and end users without imposing unnecessary burdens.

Based on stakeholder input, the Department has amended the regulations to include a 120-day implementation period following the effective date for reporting testing data. This phase-in period provides manufacturers sufficient time to establish reporting

processes that comply with regulatory requirements. For deployment data, the regulations now require reports to be submitted at the end of each calendar quarter, with the first report due after the first full calendar quarter following the effective date. The Department determined that this approach supports an orderly transition, minimizes disruption to existing operations, and ensures timely compliance.

The Department acknowledges Waymo's concerns regarding potential compliance costs and has made numerous changes to regulations to reduce administrative burdens while maintaining robust safety oversight. Key revisions include the removal of disengagement reporting, which has been replaced with dynamic driving task performance relevant system failure reporting using standardized electronic templates submitted via the DMV web portal. This change eliminates a metric widely viewed as burdensome and of limited safety value, while focusing on safety-critical events. Similarly, the Department eliminated qualitative narrative requirements for braking event reports, replacing them with objective, automatable data elements (e.g., speed reduction, deceleration rate) submitted through a standardized Braking Event Reporting Template in .csv format.

To further streamline compliance, all forms and reports—including collision, braking, immobilization, mileage—must now be submitted electronically using standardized templates and data dictionaries, ensuring consistency and reducing manual processing. The Department also reinstated the biennial renewal cycle for testing permits, replacing the previously proposed annual renewal, and clarified that the permit term restarts upon approval of operational modifications, reducing the frequency of application submissions. Additionally, the Department removed the permit requirement for remote assistants, limiting individual permitting to remote drivers only, and revised functional requirements to align with SAE J3016 definitions.

Other changes include streamlining First Responder Interaction Plan (FRIP) updates from quarterly to annual, requiring submission only to the Department and CHP rather than all local agencies, and eliminating the requirement to submit all specific routes for heavy-duty AV operations. Reporting obligations have been harmonized with NHTSA's Standing General Order, limiting collision reporting to California incidents and removing duplicative requirements, while deadlines now align with federal standards. The Department also removed prescriptive response timeframes for Preliminary Information Notices and Requests for Information, replacing them with a "good faith effort" standard to allow flexibility while preserving enforcement authority.

Collectively, these changes significantly reduce administrative burden and compliance costs for manufacturers while ensuring that regulatory outcomes remain focused on meaningful safety metrics.

- ***Sarah Gates, Wayve.ai (Wayve), -45d***

Comment: Wayve encourages the DMV to align its regulatory framework with neighboring states to support cross-border AV operations and maintain California's competitiveness.

Department Response: The Department is removing the existing prohibition of testing and deployment of autonomous vehicles with a gross vehicle weight rating above 10,000 pounds. The proposed regulations provide a clear pathway that will allow manufacturers of autonomous heavy-duty commercial motor vehicles to conduct intrastate and interstate commerce, thereby enabling manufacturers to establish viable commercial partnerships and invest in autonomous heavy-duty operations in California.

Comment: Wayve highlights the shift from traditional AV systems (AV 1.0) to "learned systems" or AV 2.0, which rely on general-purpose AI rather than high-definition maps and geofencing. These systems learn continuously and adapt to new environments with minimal pre-mapping. Wayve urges the DMV to recognize this distinction and avoid requiring permit updates for every software update, which would be impractical for continuously learning systems.

Department Response: The Department is providing additional regulatory clarity on specific requirements to modify a Driverless Testing Permit and amend a Deployment Permit, distinguishing requirements for implementing administrative changes to a permit from more complex changes. This amendment provides a clearer delineation of each application's distinct requirements and certifications applicable at each stage of the permitting lifecycle. The Department is adopting the terms "Driverless Testing Permit Operational Parameters Modification Application," defined in Section 227.02 (w), and "Deployment Permit Operational Parameters Amendment Application," defined in Section in 228.02 (e), to specify that these applications are required for processing changes to the operational design domain or automated driving system's capabilities. These changes do not include every software update to the automated driving system; the Department recognizes that this type of frequent notification would be unduly burdensome and resource intensive for manufacturers and would not offer safety-relevant information on the automated driving system's advancing functional capabilities. The Department instead requires manufacturers to submit a Driverless Testing Permit Operational Parameters Modification Application or Deployment Permit Operational Parameters Amendment Application to implement the specific changes to the automated driving system's operational capabilities outlined in Section 227.42 (o) and Section 228.12 (b).

Comment: Wayve supports a 50,000-mile testing requirement across the intended operational design domain but recommends that this requirement apply to the AI driving system as a whole—not to each individual vehicle model using the system. This

approach would reduce duplicative testing and better reflect the modular nature of AI-based systems.

Department Response: The proposed mileage-based permitting requirements described in Sections 227.42 (a)(1), (a)(2), (b)(1), and (b)(2) and Sections 228.08 (a)(1)(A), (a)(1)(B), (a)(2)(C), and (a)(2)(D) signify the aggregate minimum number of miles that autonomous vehicles, equipped with the subject automated driving system intended for driverless testing or deployment in California, must test on public roads. The Department has determined that these minimum mileage thresholds will allow manufacturers to obtain sufficient on-road testing data for the Department to evaluate manufacturers' safety performance with claims in the comprehensive description of a safety case. The minimum thresholds for light-duty autonomous vehicles are based on testing data provided by manufacturers that have previously applied and been approved for Driverless Testing Permits. The lower minimum threshold for low-speed autonomous vehicles aligns with the more limited routes associated with the use case. The threshold for autonomous heavy-duty commercial motor vehicles is based on fleetwide testing mileage conducted in other jurisdictions and is higher than light-duty vehicles due to the longer routes and higher speeds at which heavy-duty vehicles generally travel.

Comment: Wayve expresses concern that the proposed safety reporting requirements are significantly more stringent than those in other U.S. jurisdictions. They request clear guidance on the Preliminary Information Notice and Request for Information processes, including how notices will be delivered, what information will be required, and how confidential business information will be protected.

Department Response: The Preliminary Information Notice, as described in Section 227.70 and Section 228.44, and Request for Information, as described in Section 227.72 and Section 228.46, will provide the Department with safety-relevant incident information for enhanced visibility and oversight on roadway incidents involving operation of autonomous vehicles, enabling the Department to leverage its enforcement authority on permitting when necessary. The Department will issue the Preliminary Information Notice and Request for Information directly to the manufacturer via email. The manufacturer shall respond with the requested incident information within a reasonable time that is informed by the nature of the issue underlying the Notice or Request and the scope of the Notice or Request. The Department may require the manufacturer to provide information reasonably available within a more limited timeframe depending on the severity of the incident such that it poses an imminent hazard to public safety. The Department is establishing confidential business information protections, as set forth in Section 227.74, to include information exempt from disclosure under the California Public Records Act (Government Code section 7927.205), information protected as a trade secret under

the Evidence Code (section 1060), and related provisions of the Civil Code (sections 3426.1–3426.11) which will be protected when manufacturers submit applications or other data requested by the Department.

- ***Christopher Nalevanko, Paul Escobar, Ron Thaniel, Zoox Inc. (Zoox), -45d, OT,***

Comment: Zoox strongly opposes the proposed mandate for a manual override system accessible to first responders, arguing it conflicts with AB 1777, which only requires access "if equipped." Zoox's purpose-built robotaxi lacks manual controls by design, and adding such a system would introduce safety and security risks, be cost-prohibitive, and potentially ground its fleet. Similarly, Zoox opposes the expanded interior indicator requirement, which exceeds statutory language by requiring indicators for conventional mode and vehicle stoppage. Zoox recommends aligning both provisions strictly with AB 1777.

Zoox supports the Department's shift toward summary-level safety case documentation but urges further clarification to avoid requiring extensive proprietary data. They propose reorganizing the 14 core safety elements into a three-part "Safety Plan" framework: (1) Safety Case, (2) Safety Management Systems (SMS), and (3) Operations & Operational Safety. Zoox recommends limiting 10-day update requirements to Safety Case elements only and aligning definitions with federal and industry standards to avoid regulatory inconsistency.

Zoox expresses strong concerns about the scope, burden, and cost of the proposed data reporting requirements, estimating that industry-wide compliance could exceed $50 million—qualifying the rule as a "major regulation" under California law. To reduce unnecessary burden, Zoox recommends eliminating disengagement reporting, using the RFI process to evaluate braking events before mandating reporting, refining immobilization reporting to focus on ADS-related failures, aligning crash reporting with NHTSA's Standing General Order (SGO) while deferring public disclosure to NHTSA, and extending the timeframe and clarifying the process for submitting and contesting Notices of Noncompliance.

Zoox urges the Department to clarify the scope and basis for RFIs and PINs, particularly the definition of "unreasonable risk." They recommend removing references to unverified public reports and extending response timelines to 7 business days for PINs and 21 business days for RFIs. Zoox also objects to extending compliance obligations to "affiliates," citing legal and practical concerns.

Zoox recommends revising the requirement that AVs recognize "each type" of emergency vehicle to instead require appropriate response to "active" emergency vehicles. They also oppose the proposed quarterly update requirement for First

Responder Interaction Plans (FRIPs) and training, suggesting an annual review with updates made "as needed" to avoid unnecessary burden and confusion.

Zoox opposes shortening the testing permit renewal period from two years to one, recommending instead a five-year term aligned with human driver's licenses. They request clearer guidance on which permit modifications require substantive review and clarification on applicable fees. Zoox supports incremental enforcement tools but urges that restrictions requiring a human driver be limited to vehicle platforms that support manual operation.

Zoox supports the Department's alignment with SAE J3016 definitions but recommends additional refinements to improve clarity and consistency. These include replacing the term "vehicle user" with "autonomous vehicle test driver or remote driver," clarifying the delivery method for emergency geofencing messages, removing "affiliates" from the definition of "manufacturer" and defining "affiliate" separately, and refining the definition of "remote assistant" to better reflect industry practice.

Department Response: Zoox strongly opposed the proposed requirement for a manual override system accessible to first responders, citing a conflict with AB 1777, which only mandates such access "if equipped." The Department concurs that AB 1777 does not require manufacturers to retrofit vehicles lacking manual controls. Accordingly, the express terms have been revised to clarify that the override access requirement applies only to vehicles equipped with manual controls, thereby preserving the design integrity of purpose-built autonomous platforms and aligning with statutory intent. Zoox also objected to the expanded interior indicator requirements, arguing that they exceed the scope of AB 1777 by mandating indicators for conventional mode and vehicle stoppage. In response, the Department has revised the language to ensure that indicator requirements are consistent with the statutory framework. Regarding safety documentation, Zoox supported the Department's shift toward summary-level submissions but recommended a three-part framework comprising a Safety Case, Safety Management Systems (SMS), and Operations & Operational Safety. While the Department retains the 14 core safety elements to ensure comprehensive safety evaluation, the Modified Express Terms for Article 3.7 now provide manufacturers with flexibility to organize their safety documentation in a manner consistent with their internal frameworks so long as all required elements are clearly addressed. This approach supports innovation in safety assurance while maintaining regulatory consistency and transparency. Additionally, the Department has removed the previously proposed requirement for manufacturers to submit a modified version of the safety case, including a summary of modifications, within 10 business days. The Department received public comments indicating that the term "material change" was unclear and that requiring submission of all changes

could impose a significant burden on industry, particularly given the technical evidence needed to substantiate each safety claim. In response, the Department supports these comments and has made the recommended change. A description of the safety case will now be required during the application process or upon request through a formal Request for Information (RFI), rather than on a rolling basis. These revisions strike a balance between regulatory oversight and operational flexibility, reducing unnecessary burden while maintaining the integrity of safety assurance processes. Zoox expressed significant concern about the cost and scope of proposed data reporting requirements, estimating industry-wide compliance costs exceeding $50 million. In response, the Department has revised the express terms to eliminate disengagement reporting, defer descriptions of braking events in reporting pending further evaluation through the RFI process, and refine dynamic driving task performance relevant system failure reporting to focus on ADS-related failures. Crash reporting provisions have been aligned with NHTSA's Standing General Order (SGO), and the timeframe and process for submitting and contesting Notices of Noncompliance have also been clarified to reduce administrative burden. Additionally, the Department has removed the previously proposed requirement for manufacturers to submit a modified version of the safety case, including a summary of modifications, within 10 business days. The Department received public comments indicating that the term "material change" was unclear and that requiring submission of all changes could impose a significant burden on industry, particularly given the technical evidence needed to substantiate each safety claim. In response, the Department supports these comments and has made the recommended change. A description of the safety case will now be required during the application process or upon request through a formal Request for Information (RFI), rather than on a rolling basis. These revisions strike a balance between regulatory oversight and operational flexibility, reducing unnecessary burden while maintaining the integrity of safety assurance processes. Further, Zoox requested clarification on the scope and basis for Requests for Information (RFIs) and Preliminary Investigation Notices (PINs), particularly regarding the definition of "unreasonable risk." In response, the Department has revised the regulatory language to clarify that investigations are based on incidents where vehicle operation violates the California Vehicle Code, poses an unreasonable risk of accident, death, injury, or exacerbation of injury, fails to comply with the operational parameters approved in the authorized permit or any incident involving a safety issue reported to the Department. Response timelines have been updated to reflect a deadline within a "reasonable time that is informed by the nature of the issue". This change addresses manufacturer comments that the proposed timeframe to respond to the Request is unreasonably insufficient for manufacturers to fully investigate the incident and provide the Department with the requested information. The Department will exercise its broad authority to require manufacturers to make a

good faith effort to respond, rather than imposing a default deadline. A good faith effort includes being timely, cooperative, and diligent in providing relevant facts or documents related to an incident. Zoox's objection to extending compliance obligations to "affiliates" has been addressed by removing "affiliate" from the definition of "manufacturer". This amendment adds clarity based on industry concerns on defining who is responsible for compliance with reportable requirements and specifies that a manufacturer is the entity which is responsible for autonomous vehicle development and supporting its operation. In response to Zoox's recommendation to revise the requirement that AVs recognize "each type" of emergency vehicle, the Department has modified the language to require appropriate response to "active" emergency vehicles and ensure compliance with applicable provisions of the California Vehicle Code. The Department received stakeholder feedback that the automated driving system be designed to detect emergency vehicles and first responders, as necessary, to comply with the California Vehicle Code rather than to positively detect every type of active emergency vehicle that operates within the operational design domain which varies amongst jurisdictions. For added clarity, the Department has included Sections 21806, 21809, and 21706 to specify the applicable statutes governing interactions with emergency vehicles. This change ensures that an automated driving system's recognition and response to active emergency vehicles aligns with existing traffic safety laws. The Department retains investigatory authority to review any incident involving an autonomous vehicle operating on public roads through the Request for Information process. The proposed quarterly update requirement for First Responder Interaction Plans (FRIPs) and training has also been revised to require annual review with updates submitted as needed, reducing unnecessary burden. Zoox's opposition to shortening the testing permit renewal period from two years to one has been considered and the Department is amending the requirement to revert the duration of testing permits to a biennial renewal cycle. Stakeholders provided comments that expanded data reporting and permitting requirements and the ability for the Department to request specific incident information collectively equip the Department with safety-critical data that will enhance the Department's regulatory oversight on safety performance and amplify its visibility on roadway incidents as well as establish mechanisms for ongoing engagement with manufacturers throughout the permit lifecycle. Finally, Zoox's support for alignment with SAE J3016 definitions is acknowledged, and the Department has incorporated additional refinements in definitions to improve clarity and consistency. These include replacing "vehicle user" with "autonomous vehicle test driver or remote driver," clarifying the delivery method for emergency geofencing messages, and refining the definition of "remote assistant" to better reflect industry practice. These changes are documented in the Modified Statement of Reasons and

incorporated into the Modified Express Terms to ensure regulatory clarity, statutory alignment, and reduced implementation burden.

- ***Peter Kurdock, Shaun Kildare, Advocates for Highway and Auto Safety (Advocates), -45d***

Comment: The Advocates stress that AVs must meet minimum performance standards to ensure public safety. These standards should include robust cybersecurity measures and object detection capabilities—referred to as a "vision test." A human driver should still be present in an autonomous commercial motor vehicle, and they support phased permitting. Advocates supports the use of UL 4600 as a benchmark for safety case documentation and believes AV performance should be evaluated against the safest human drivers, rather than average or impaired ones. Advocates strongly support expanded data reporting requirements. They recommend that data include miles traveled, broken down by vehicle make, model, model year, and software version, as well as detailed information on unplanned stoppages and interactions with law enforcement. Monthly reporting should also cover disengagements, hard braking events, and dynamic driving failures. Advocates urge the Department to align reporting requirements with the National Highway Traffic Safety Administration's (NHTSA) Standing General Order and opposes any efforts to reduce the scope of such reporting. Regarding AV incidents and enforcement, Advocates maintain that AVs must comply with all local traffic laws and that any violations should be publicly disclosed. They support the use of automated enforcement (AE) data to hold AVs accountable for traffic infractions, ensuring transparency and public trust. Advocates emphasize the importance of standardized interaction protocols between AVs and first responders. They support the development and regular updating of First Responder Interaction Plans and recommend a uniform protocol across all AV platforms to avoid confusion and ensure safe, consistent responses during emergencies.

Department Response: Advocates emphasized the need for robust cybersecurity protections and object detection capabilities, which they referred to as a "vision test." While the Department does not prescribe specific technical standards within the regulatory text, the safety case framework outlined in Article 3.7 of the Modified Express Terms (REV 11.28.2025) requires manufacturers to demonstrate that their AV systems can safely operate under expected conditions, including the ability to detect and respond to objects and hazards. The Department encourages manufacturers to reference established safety benchmarks such as UL 4600 and agrees that such standards may serve as useful tools in demonstrating system safety, though they are not mandated. Advocates also recommended that a human driver remain present in autonomous commercial motor vehicles and supported a phased permitting approach. The Department recognizes the value of phased deployment and has

retained provisions that allow for incremental permitting based on operational readiness and safety assurance. However, the requirement for a human driver is not universally applicable to all AV platforms, particularly those designed for full autonomy. The Department's approach balances innovation with oversight by requiring detailed safety documentation and operational safeguards, rather than prescribing specific vehicle configurations. Regarding data reporting, Advocates strongly supported expanded requirements and recommended that monthly reports include miles traveled (broken down by vehicle make, model, model year, and software version), unplanned stoppages, law enforcement interactions, disengagements, hard braking events, and dynamic driving failures. The Department agrees that comprehensive data reporting is essential for transparency and public trust. As reflected in Article 3.8, the Department has retained and clarified reporting requirements for vehicle miles traveled, crash events, and law enforcement interactions. While disengagement reporting has been removed in response to other stakeholder concerns about relevance and burden, the Department has aligned crash reporting with the National Highway Traffic Safety Administration's (NHTSA) Standing General Order, as recommended by Advocates. Advocates further emphasized that AVs must comply with all local traffic laws and that violations should be publicly disclosed. The Department agrees and has retained provisions requiring AVs to operate in accordance with applicable laws. Specifically, the provisions under Articles 3.7 and 3.8 authorize the peace officers to issue a Notice of Noncompliance when an autonomous vehicle is found to be operating in violation of the California Vehicle Code, or local traffic ordinances. The Department may initiate an investigation based on substantiated reports, which may result in corrective actions, permit suspension, or other enforcement measures. Finally, Advocates stressed the importance of standardized interaction protocols between AVs and first responders. The Department agrees and has retained the requirement for manufacturers to develop and maintain First Responder Interaction Plans (FRIPs). In response to stakeholder feedback, the update frequency for FRIPs has been revised from quarterly to annual, with updates required as needed. The Department supports the development of uniform protocols and will work with stakeholders to promote consistency across AV platforms to ensure safe and effective emergency response.

- ***Lindsay Abate, Alliance for Automotive Innovation (Auto Innovators), -45d***

Comment:

Auto Innovators contend the proposal does not adequately accommodate personally owned Level 3 and Level 4 vehicles. They request clear confirmation that private owners have no direct reporting obligations under DMV AV rules (e.g., DDT failures, immobilizations) because many of those reports would require highly granular trip data that could be technically burdensome and raise privacy concerns for

individual consumers. They also ask DMV to tailor the framework so that "drivered" ADS-equipped vehicles (i.e., vehicles that always have a human driver available) are exempted from certain deployment-phase requirements designed for driverless fleets.

They further recommend revising first responder interaction and emergency geofencing provisions to account for private ownership scenarios. For vehicles with a driver present, they argue there should be no requirements for a dedicated emergency response line, two-way external communication device, remote operations personnel, or emergency geofencing compliance obligations. They warn that geofencing "avoidance areas" could inadvertently bar residents from reaching homes or workplaces, which is impractical for Level 3 vehicles and could undermine accessibility for people with limited mobility. They also seek clarity or exemption from salvage restrictions for personally owned Level 3 vehicles, noting a manufacturer may not know a vehicle's salvage status when a consumer later subscribes to an ADS feature.

Auto Innovators urges DMV to reassess and streamline the proposal's expanded reporting scope. They argue the inclusion of disengagements, immobilizations (as broadly defined), braking events, collision narratives assigning "cause," software version disclosures, and detailed safety case elements is overly broad, subjective, and resource-intensive—with uncertain safety value and heightened confidentiality risks. They recommend eliminating disengagement reporting entirely, contending the metric lacks standardized meaning, is prone to over-reporting routine operational steps, and could even disincentivize safety drivers from proactively intervening. They propose that any reporting be tied to material safety relevance (e.g., system failures, ODD exits) and focused on clear thresholds.

They also request harmonization with NHTSA's Standing General Order (SGO) (Third Amended, effective June 16, 2025) for collision reporting content and timelines—and suggests maintaining federal timing even if the SGO lapses (rather than defaulting to shorter 24-hour deadlines). For cadence, they recommend quarterly reporting (aligned to CPUC practice) instead of monthly and limiting geographic scope to California operations only. They ask DMV to provide lead time to build automated triggers/pipelines for braking event reporting and to narrow braking triggers for feasibility and safety relevance.

They caution against establishing state-specific equipment mandates (e.g., two-way voice communication hardware for emergency responders outside the vehicle, in-cabin operating-mode indicators, and a mandatory "override system" accessible to first responders). They argue such mandates would fragment vehicle design, complicate compliance across jurisdictions, and may conflict with federal roles and SAE consensus work (e.g., J3134 turquoise/blue visual indicators). They recommend

DMV only require equipment authorized by statute (e.g., AB 1777) and federal standards, and allow maximum flexibility in indicator placement and design. They also note an override capability should not be mandated—AB 1777 sets an if/then framework: if equipped, then it should be usable by first responders.

On first responder engagement, they propose a universal training program run by a central authority or trusted third party, with optional manufacturer supplements for unique platforms. They also seek clarity on what constitutes "regular" training, urging that updates be needs-based, not strictly periodic. For emergency vehicle detection, they ask DMV to require recognition and response to active emergency vehicles rather than "each type/make/model." For emergency geofencing, they ask DMV to clarify "respond to" means acknowledge and begin complying—and to apply geofencing only to driverless operations, consistent with AB 1777. They also request process clarity for the Notice of AV Noncompliance form (electronic issuance to both the DMV and manufacturer; deadlines keyed to receipt, not issuance).

Auto Innovators stresses that expanded data reporting increases the risk of CBI disclosure and compromises personal privacy, especially for privately owned ADS vehicles. They urge DMV to collect only what is necessary for safety and compliance oversight; protect data consistent with the California Public Records Act, trade-secret law, and privacy statutes; and consider CPRA alignment so end users retain control over how their personal data are shared. They also recommend that data required by NHTSA's SGO—and any DMV reports containing similar sensitive elements—be handled with robust confidentiality procedures and that DMV confirm it has adequate resourcing to securely store, analyze, and protect increased data volumes.

Auto Innovators recommend tightening several definitions and logistical elements. They ask that DMV rely on manufacturer certification for the SAE level of autonomy; refine "cyber security" to reference ADS-equipped vehicles; and narrow "manufacturer" (to avoid obligating upstream/downstream affiliates). They also ask DMV to clarify "deployment" includes sale/lease contexts, define "vulnerable road user," and refine "disengagement" (if retained) to exclude L3 handoff requests.

On logistics, they ask for clarity on effective dates and whether changes apply to already deployed vehicles; retain a two-year testing permit term; clarify fee structures (including for remote drivers/assistants); and allow multiple models sharing identical permit content under a single permit. They also request that DMV's portal support saved drafts, multi-user access, and automated uploads (API/CSV) to avoid manual data entry burdens.

Department Response:

The regulatory text introduces the term "end user" to cleanly separate manufacturer responsibilities from private owners and clarifies deployment application content and reporting in ways that can be applied to end user contexts without imposing direct reporting obligations on individual consumers. Article 3.8 has been revised to clarify that reporting requirements apply to manufacturers and permit holders, not individual vehicle owners. Data collected under these provisions is intended to support oversight of autonomous vehicle performance and safety, and the Department will continue to ensure that personally identifiable information is protected in accordance with applicable privacy laws and data governance standards. Where reporting applies to privately owned vehicles (e.g., deployment phase immobilizations/DDT failures), the regulatory text limits required fields to protect privacy (no precise date/time, VIN, or coordinates) while still enabling safety oversight. This language ensures that reporting obligations apply only when the manufacturer has actual knowledge of an event, thereby addressing privacy and feasibility concerns.

The Department aligned regulatory text to AB 1777 for emergency geofencing—and scoped to driverless operations—so personally owned Level 3 vehicles are not subject to the driverless fleet geofencing requirements. The First Responder Interaction Plan and equipment-related provisions were clarified to driverless contexts and also aligned to statutory language (e.g., override if equipped), avoiding mandates inappropriate for driver-present use cases. The Department also removed salvage-activation requirements in registration (§228.30(c)) and placed consumer-facing guidance into the end-user education plan (e.g., how the ADS behaves if sensors are damaged), to address requirements personally owned vehicles.

The Department has streamlined data reporting. For example, In Article 3.7, disengagement reporting was eliminated and replaced with monthly reporting of Dynamic Driving Task performance relevant system failures during drivered testing—targeting safety-relevant events and aligning terminology with SAE J3016. In driverless testing, vehicle immobilizations are reportable with objective fields and standardized templates. To reduce burden and improve consistency, the Department created data dictionaries and CSV templates for collisions, braking events, immobilizations, DDT failures, and Vehicle Miles Traveled (VMT).

The Department also has aligned collision reporting with NHTSA's Third-Amended SGO (June 2025) and limits reports to crashes occurring in California, harmonizing substance and timelines and avoiding duplicative out-of-state submissions. The Department updated reporting cadence—quarterly reporting of immobilizations/ VMT/DDT failures in deployment—mirroring the transition from testing to commercial operations and reducing compliance burden, while retaining monthly cadence for some testing-phase items to preserve timely safety signal detection in the R&D

environment. The regulations also build in a 120-day implementation periods to allow manufacturers time to establish reporting processes and automated pipelines.

Regulations align equipment provisions with AB 1777 and the Vehicle Code. The requirement that first responders be able to immobilize or move a vehicle is framed as "if equipped with an override system", avoiding a design mandate and respecting federal roles and industry standards. Requirements for in-vehicle indicators were tied to Vehicle Code §38750 and updated to reflect statutory authority (including marker lamp allowances), rather than prescriptive hardware design beyond statute. The requirement for a data recorder is consistent with California Vehicle Code § 38750(c)(G), which mandates that autonomous vehicles operating in autonomous mode must be equipped with a separate mechanism to capture and store sensor data for at least 30 seconds prior to a collision. The statute further requires that this data be stored in a read-only format, retained until extracted by an external device, and preserved for a minimum of three years following the collision. The Department has clarified that the data recorder must capture information relevant to the autonomous operation of the vehicle at the time of the incident, and not beyond what is necessary to support safety investigations.

Regarding First Responder training and emergency operations, the Department clarified the following in the regulatory text:

- The First Responder Interaction Plan (FRIP) must undergo an annual review, rather than quarterly updates, with any updates documented. This approach recognizes the operational maturity of autonomous vehicle programs and avoids imposing unnecessary burdens on manufacturers.

The automated driving system must be designed to detect and respond to active emergency vehicles in a manner that complies with California Vehicle Code Sections 21806, 21809, and 21706. This change ensures that an automated driving system's recognition and response behavior is aligned with existing traffic safety laws. The Department retains investigatory authority to review any incident involving an autonomous vehicle operating on public roads through the Request for Information process.

- Requirements related to emergency operations, including geofencing "avoidance areas" under CVC §38751, are now expressly aligned with driverless operations and statutory obligations, ensuring consistency and clarity.
- The FRIP must indicate where the AV Notice of Noncompliance will be placed, and the regulations include how Notices of Autonomous Vehicle Noncompliance must be issued and submitted. Deadlines are now based on the manufacturer's receipt of the notice rather than the date of issuance, and

electronic submission is permitted by both the manufacturer and the peace officer, streamlining compliance and reducing uncertainty.

The Department added a Confidential Business Information (CBI) section (Article 3.7 §227.74) referencing CPRA and California trade secret/Evidence Code protections and clarifying how the department will protect submitted information. When data reporting touches personally owned vehicles, the regulations tailor fields to minimize personal data (e.g., no precise date/time, VIN, or lat/long) while still enabling safety oversight. Templates/data dictionaries and a centralized web portal support secure intake and standardization.

The Department has revised and added definitions (e.g., end user, direct route, low speed AV) and clarified roles (manufacturer, remote assistant/driver) consistent with statute and SAE J3016. Application types were renamed and delineated to clarify lifecycle requirements. The term "disengagements" has been removed as a regulatory reporting requirement, reflecting concerns about its limited value as a safety metric and lack of standardization across the industry. The definition of "manufacturer" has been revised to align with the statutory language in California Vehicle Code § 38750(a)(5). This revision clarifies which entity is responsible for compliance with reportable requirements and defines a manufacturer as the entity responsible for the development of autonomous vehicle technology and the support of its operation. The term "deployment" has been amended to simplify previously unclear and overly complex language. The revised definition now clearly distinguishes deployment from testing, indicating that deployment refers to operations conducted outside of a testing program authorized by the Department pursuant to Article 3.7. These changes ensure that regulated entities have a clearer understanding of their responsibilities and the scope of regulatory oversight. The two-year testing permit term is restored; affiliate language is removed, shifting compliance obligations to manufacturer; and heavy-duty routing limitations were refined to "direct routes."

The Department is not introducing a new definition of "vulnerable road user." The term is known by the regulated public and refers to nonoccupants of motor vehicles—such as pedestrians, bicyclists, and other people using roadways—who face a greater risk of serious injury or death in a crash. For example, NHTSA uses the term in this context in its Standing General Order 202101 for ADS crash reporting, where vulnerable road users are distinguished from motor vehicle occupants.

The adopted definition of "autonomous vehicle" in Article 3.7 § 227.02(h) allows the Department to consider any relevant information to determine whether a vehicle meets SAE Levels 3–5. The determination of whether a vehicle qualifies as an "autonomous vehicle" under California law is foundational to the State's regulatory framework for AV safety. To ensure public safety and regulatory integrity, the

Department bases this determination on a holistic assessment of relevant evidence available to it. Consistent with SAE J3016 § 8.2, "Levels are assigned, rather than measured, and reflect the design intent for the driving automation system feature as defined by its manufacturer." The Department does not measure an SAE level directly; instead, it reviews the manufacturer's claim across all representations, including permit applications, owner's manuals, marketing materials, safety cases, and first-responder documentation. While manufacturer intent is the starting point, the Department may challenge a claim if contradicted by evidence of actual use, instructions, or incident data. Relevant evidence might also come from sources other than the manufacturer, including regulatory reports, documented operational data, credible media reports, and whistleblower disclosures. The Department will verify any third-party information before relying on it and will prioritize authoritative sources. Excluding such evidence would impair oversight and public safety. The Department retains the proposed language because it is necessary to ensure public safety and regulatory integrity.

The Department will retain the existing definition of cybersecurity. The regulatory framework in Articles 3.7 and 3.8 is grounded in the statutory term "autonomous vehicle", as defined in Vehicle Code section 38750 and reflected in Section 227.02 of the regulations. The Department consistently uses "autonomous vehicle" because it is the statutory and regulatory trigger for testing, deployment, reporting, safety case submissions, first responder requirements, and all other obligations that fall under the Department's jurisdiction. The term "ADS-equipped vehicle" does not appear in statute and is not a defined term in the regulatory text. Revising the definition of cybersecurity to reference "ADS-equipped vehicles" would therefore expand the scope of the regulation beyond what is authorized by statute and beyond the population of vehicles for which these requirements are intended to apply. Additionally, cybersecurity requirements in these regulations apply specifically to the systems and operations of autonomous vehicles, as part of the safety case and permitting processes associated with operating such vehicles on public roads. Because not all vehicles equipped with ADS hardware meet the definition of an autonomous vehicle — such as vehicles with Level 2 or partially enabled systems — adopting a broader term like "ADS-equipped vehicle" could unintentionally impose regulatory obligations on vehicles outside the statutory scope of the program. The Department has consistently avoided expanding definitions in ways that create unintended compliance responsibilities or broaden the regulated population, including declining to apply requirements to affiliates and limiting definitions to terms necessary for regulatory clarity.

Fee structures have not changed and include modification fees associated with adding and removing remote assistants and drivers. The Department is also deploying

a portal with templates/data dictionaries and set a 120-day implementation periods, addressing usability and automation needs. The portal will allow multi-user access for each manufacturer and allow CSV uploads to avoid data entry burdens. These changes improve clarity, feasibility, and consistency across permit stages.

- ***Grant Baker, Association of Uncrewed Vehicle Systems International (AUVSI), - 45d***

Comment: The AUVSI supports the requirement to define and document the Operational Design Domain (ODD) but recommends allowing updates to ODD submissions without requiring a new permit, provided timely notification is given to the DMV. It endorses remote monitoring and control capabilities, while urging the DMV to clearly distinguish between the two and specify when human intervention is expected. The organization also supports robust incident reporting but recommends aligning California's requirements with federal standards, such as NHTSA's Standing General Order, to reduce duplication. It agrees with the DMV's review of operational safety data but requests a clear, objective standard for what constitutes a "sufficient demonstration of safety." While supporting financial assurance requirements, it recommends allowing pooled risk models or alternative insurance mechanisms to accommodate a broader range of developers. Additionally, clarification is requested to ensure that the term "autonomous" may be used in marketing if the vehicle meets SAE Level 4 or 5 standards and complies with DMV regulations. The organization also encourages stronger collaboration between the DMV, CPUC, CalSTA, and federal agencies to streamline overlapping jurisdictions, and recommends implementing a biennial review cycle for AV regulations to reflect technological advancements and stakeholder input.

Department Response: In response to stakeholder feedback, the Department has clarified the process for amending a Deployment Permit through the Deployment Permit Operational Parameters Amendment Application (Form OL 321). Section 228.12(b) outlines specific changes that require an amendment, including modifications to geographic areas, speed limits, and vehicle models. While certain changes necessitate formal amendment to ensure public safety and regulatory oversight, the Department has streamlined the amendment process to allow for timely updates and electronic submission via the DMV portal.

The Department agrees with the need to distinguish between remote monitoring and remote control. Definitions for remote driver and remote assistant have been aligned with SAE J3016 (APR2021) and incorporated into Sections 227.02, 227.38, and 227.40. Remote drivers are authorized to perform part or all of the dynamic driving task, while remote assistants provide non-driving support. The regulations specify when human

intervention is expected and outline the qualifications, training, and functional requirements for each role.

The Department supports AUVSI's recommendation to align with federal standards and has revised collision reporting requirements to reflect the National Highway Traffic Safety Administration's (NHTSA) Standing General Order (SGO, June 2025). Manufacturers are required to submit full SGO crash reports for incidents occurring in California, using standardized templates in .csv format. This approach reduces duplication and enhances consistency with federal reporting.

The Department has adopted a structured safety case framework, requiring manufacturers to submit a comprehensive description supported by core safety information elements. These include functional safety, safety of the intended function, AI safety, cybersecurity, and operational safety. The Department may consult third-party experts to evaluate submissions, and the standard for approval is whether the automated driving system "does not pose an unreasonable risk of accident, death, injury, or exacerbating injury," consistent with federal safety benchmark.

The Department acknowledges the importance of financial assurance and has retained flexibility in acceptable instruments, including insurance, surety bonds, and self-insurance. While pooled risk models are not explicitly referenced, the regulations are aligned with insurance requirements defined under Vehicle Code §38750(c)(3).

The Department has clarified in Section 228.32 that manufacturers may represent a vehicle as "autonomous" in advertising only if it meets the definition in Vehicle Code §38750 and complies with DMV regulations. This includes vehicles operating at SAE Levels 4 or 5 and manufactured under a valid DMV permit. The Department agrees that this clarification supports consumer transparency and industry consistency.

The Department supports collaboration with CPUC, CalSTA, and federal agencies, and maintains strong working relationships with a broad range of local, state, and federal governmental stakeholders. While this rulemaking focuses on the DMV's regulatory authority, the Department continues to engage with partner agencies to streamline oversight and minimize regulatory overlap.

In response to stakeholder feedback, the Department has reinstated a biennial renewal cycle for testing permits and clarified the permit lifecycle stages. This approach allows for regular review of technological advancements and stakeholder input while maintaining regulatory stability.

- ***Timothy Haile, on behalf of Automated Connected Electric Shared Mobility Coalition, Contra Costa Transportation Authority, County Connection, Napa Valley Transportation Authority, WestCAT, Livermore Amador Valley Transit Authority (Wheels), Redding Area Bus Authority, -45d***

Comment: The coalition recommends that the DMV adopt a targeted exemption to California Code of Regulations Article 3.7 (§ 227.26) to allow the deployment of autonomous, ADA-compliant passenger vehicles under 14,001 pounds for first- and last-mile transit services. This exemption would apply specifically to vehicles operated by or in partnership with public entities such as transit agencies, local governments, universities, and airports, enabling more accessible, equitable, and sustainable mobility solutions within the state's autonomous vehicle regulatory framework.

Department Response: The Department appreciates the coalition's recommendation and agrees that autonomous vehicle deployment should support accessible and equitable mobility solutions, particularly for first- and last-mile transit services.

In response to stakeholder comments, the Department has amended Section 227.26(a)(6)(B) of Article 3.7 to provide a targeted exemption for autonomous passenger vehicles with a gross vehicle weight rating under 14,001 pounds that meet the statutory definition of a bus under Vehicle Code § 233(b) and are designed to transport no more than 15 passengers, including an attendant. This exemption applies exclusively to vehicles operated by or in partnership with public entities, as defined in Government Code § 811.2, or independent institutions of higher education, as defined in Education Code § 66010(b).

To ensure continued oversight and safety, the regulation requires manufacturers operating under this exemption to submit to the Department any complete and unredacted terminal inspection reports issued by the California Highway Patrol (CHP) within 30 business days of receipt, including:

- CHP 343 (Safety Compliance Report/Terminal Record Update)
- CHP 407F (Driver/Vehicle Examination Report)
- CHP 345 (Notice to Carrier), if applicable

These reports will support the Department's evaluation of vehicle safety and compliance. Additionally, the Department retains authority to issue Requests for Information, and to impose restrictions, suspensions, or revocations based on findings from CHP inspections or directives from the Federal Transit Administration (FTA).

This targeted exemption reflects the Department's commitment to fostering innovation while maintaining public safety and regulatory integrity. It also aligns with broader state goals for sustainable and inclusive transportation.

- ***Ariel Wolf, David Bonelli, Jeff Farrah, Autonomous Vehicle Industry Association (AVIA), -45d, -OT***

Comment: The Autonomous Vehicle Industry Association (AVIA) opposes the DMV's proposed phased permitting structure and the reduction of permit terms to one year, citing increased administrative burden without corresponding safety benefits. AVIA recommends a more flexible approach that accommodates diverse AV use cases and urges the DMV to retain the current two-year permit duration while establishing clear timelines for application reviews to ensure regulatory efficiency and industry scalability.

AVIA opposes fixed mileage thresholds (e.g., 50,000–500,000 miles) for permit progression or modification and recommends readiness be assessed through safety documentation, not arbitrary mileage.

Department Response: The Department acknowledges AVIA's concerns regarding the proposed reduction in permit duration. In response to stakeholder feedback, the Department has retained the two-year renewal cycle for testing permits, as reflected in Section 227.20 of Article 3.7. This decision balances the need for ongoing regulatory oversight with the operational realities of AV testing and deployment. The Department agrees that a biennial cycle, combined with expanded data reporting and the authority to request incident-specific information, provides sufficient mechanisms for safety monitoring without imposing undue administrative burden.

The Department maintains the phased permitting structure to ensure that manufacturers demonstrate operational readiness before progressing to more advanced testing or deployment stages. This structure is designed to support public safety by requiring manufacturers to submit a comprehensive description of a safety case, including core safety information elements, as outlined in Section 227.02(xx) and referenced throughout Sections 227.28 and 228.08. The safety case framework allows for flexibility in how manufacturers demonstrate readiness, including through documentation of functional safety, AI safety, cybersecurity, and operational safety.

The Department recognizes AVIA's concern regarding fixed mileage thresholds. However, the mileage requirements outlined in Sections 227.42 and 228.08 are intended to ensure that manufacturers have conducted sufficient real-world testing within the intended operational design domain (ODD) before progressing to deployment. These thresholds are differentiated by vehicle type and use case (e.g., low-speed vehicles vs. heavy-duty commercial vehicles) and are supplemented by safety documentation requirements. The Department may also consider out-of-state testing data when accompanied by equivalent safety reports, providing additional flexibility.

While the Department believes that mileage thresholds serve as a useful baseline for evaluating operational experience, it also acknowledges that safety documentation plays a critical role in assessing readiness. Therefore, the Department retains discretion

to request additional information and evaluate safety cases on a case-by-case basis, ensuring that the permitting process remains responsive to diverse AV technologies and deployment models.

Regarding AVIA's comments on timelines for application review, the regulations in Articles 3.7 and 3.8 specify timeframes for determining if the manufacturer's application is complete. However, the Department's review of complete applications requires the flexibility currently present in the regulations, as the duration of each review varies based on factors such as the unique complexities of the manufacturer's automated driving system features, the proposed operational design domain, and the manufacturer's responsiveness to the Department's questions during the review process. This allows the Department to ensure each application is appropriately examined, and is consistent with the Department's authority outlined in the California Vehicle Code.

Comment: AVIA supports the inclusion of safety case summaries in permit applications as a meaningful way to demonstrate operational readiness but cautions against requiring overly technical or proprietary information that could compromise confidentiality or impose excessive compliance burdens. They recommend that operational data reporting be limited to initial permit applications to avoid duplicative, resource-intensive reporting that offers limited additional safety insight.

Department Response: The Department appreciates AVIA's support for the inclusion of safety case summaries as a means to demonstrate operational readiness. In response to stakeholder feedback, the Department has clarified the scope and structure of the safety case requirements in Section 227.02(xx) and throughout Sections 227.28, 227.42, and 228.08. The safety case must include a comprehensive description supported by core safety information elements, such as functional safety, safety of the intended function, AI safety, cybersecurity, and operational safety.

To address concerns regarding proprietary information and compliance burden, the Department has emphasized that manufacturers may submit summaries and supporting documentation that reflect industry best practices. Additionally, Section 227.74 outlines protections for confidential business information, including exemptions under the California Public Records Act, the Evidence Code, and the Civil Code, ensuring that sensitive data submitted as part of the application will be safeguarded.

The Department acknowledges AVIA's concern regarding the potential burden of ongoing operational data reporting. In response, the Department has revised the regulatory text to limit certain reporting requirements to initial permit applications. These data elements are required to support the Department's evaluation of safety performance prior to permit issuance or modification.

While the Department retains the authority to request additional information through the Request for Information process, ongoing monthly and quarterly reporting has been streamlined to focus on safety-relevant incidents, such as dynamic driving task performance relevant system failures and vehicle immobilizations, which replace disengagement reporting. This approach ensures that the Department receives meaningful safety data without imposing duplicative or resource-intensive reporting obligations.

The Department believes this balance supports regulatory oversight while minimizing unnecessary burden on manufacturers and is consistent with its authority under Vehicle Code § 38750.

Comment: AVIA opposes the DMV's proposed expansion of disengagement reporting requirements, arguing that such data lacks meaningful correlation to vehicle safety and imposes an excessive administrative burden on manufacturers. Instead, the association recommends shifting focus to more relevant safety indicators, such as dynamic driving task performance-related system failures, which provide clearer insight into actual operational risks and system performance.

AVIA opposes the DMV's proposed vehicle design requirements—such as mandatory override systems and autonomy indicators—on the grounds that vehicle design and safety standards fall under exclusive federal jurisdiction. The association urges the DMV to align its regulations with California Vehicle Code § 38751, which does not mandate such features, and recommends removing or revising these design mandates to avoid regulatory conflict and unnecessary burdens on manufacturers.

AVIA supports meaningful engagement with first responders but argues the DMV's proposed requirements—such as mandating recognition of all emergency vehicle types and overly detailed First Responder Interaction Plans (FRIPs)—are impractical and unnecessarily burdensome. The association recommends that the DMV instead focus on ensuring AV compliance with applicable laws and streamline certification and training requirements to better reflect operational realities and the needs of emergency personnel.

Department Response: The Department agrees with AVIA's assessment that disengagement reporting has become less meaningful as a safety metric. In response to widespread stakeholder feedback, the Department has removed disengagement reporting requirements from the regulations. Instead, the Department has adopted dynamic driving task performance relevant system failure reporting, as defined in Section 227.02(aa) and implemented in Sections 227.56 and 228.38. This shift aligns with SAE J3016 standards and provides more actionable insights into safety-critical events where the automated driving system fails to perform the dynamic driving task reliably.

This change reduces unnecessary reporting burden while enhancing the Department's ability to monitor operational safety. The Department retains authority to request additional information through the Request for Information process, ensuring flexibility and responsiveness in oversight.

The Department acknowledges AVIA's concerns regarding federal jurisdiction over vehicle design. In response to stakeholder feedback, the Department has revised the proposed regulatory language to ensure consistency with California Vehicle Code § 38751, which does not mandate override systems or specific autonomy indicators.

The Department has clarified that override system requirements apply only if the vehicle is equipped with such a system and has removed language that could be interpreted as mandating specific design features. Similarly, the requirement for autonomy indicators has been aligned with Vehicle Code section 38750(c)(1)(B). These revisions ensure that the Department's regulations do not conflict with federal standards and respect the jurisdiction of the National Highway Traffic Safety Administration (NHTSA).

The Department appreciates AVIA's support for first responder engagement and has revised the First Responder Interaction Plan (FRIP) requirements in response to stakeholder concerns. Specifically, the Department has removed the requirement for autonomous vehicles to positively recognize all emergency vehicle types, acknowledging the variability across jurisdictions. It has clarified that vehicles must be designed to detect and respond to active emergency vehicles in compliance with applicable provisions of the California Vehicle Code, including Sections 21806, 21809, and 21706. Additionally, the FRIP submission and update process has been revised to require annual reviews rather than quarterly updates, thereby reducing administrative burden while maintaining safety oversight. Training requirements have also been streamlined to focus on core safety interactions and override system use, only when such systems are present. These changes ensure that FRIPs remain practical and scalable, supporting safe interactions between autonomous vehicles and emergency personnel while avoiding unnecessary complexity or duplication.

Comment: AVIA estimates that the actual compliance costs associated with the DMV's proposed data reporting requirements will exceed $34 million annually—significantly higher than the DMV's projections. To reduce this burden while maintaining effective oversight, the association recommends shifting from monthly to quarterly reporting and implementing streamlined, standardized submission processes that improve efficiency and reduce administrative strain on manufacturers.

Department Response: The Department acknowledges AVIA's concerns regarding the potential cost burden of expanded data reporting requirements. In developing the proposed regulations, the Department conducted an economic impact analysis

and determined that the estimated compliance costs for data reporting in the first year would be approximately $5.8 million, with subsequent years estimated at $6.8 million annually. These estimates are based on industry-standard wage rates and anticipated reporting workloads across the current fleet of light-duty manufacturers and projected new heavy-duty permit holders.

To mitigate administrative burden, the Department has taken steps to standardize and streamline the reporting process, including the development of electronic reporting templates and submission portals for all required data elements. These templates are designed to reduce manual effort and improve consistency across manufacturers. The Department has stratified reporting requirements to include quarterly reporting for manufacturers that are authorized to deploy autonomous vehicles, recognizing the different operational contexts and oversight needs between testing and deployment phases. Additionally, the Department has aligned certain reporting requirements—such as collision data—with existing federal standards, including the National Highway Traffic Safety Administration's Standing General Order, to avoid duplication and promote interoperability.

Comment: AVIA supports the DMV's inclusion of autonomous commercial motor vehicles (CMVs) in the state's AV regulatory framework but raises several substantive concerns. AVIA opposes the proposed restriction limiting driverless CMV operations on local roads with speed limits of 25 mph or less, arguing that such routes are often the safest and most efficient and are already in use in other states. They also object to the requirement for manufacturers to disclose specific routes and associated local roads, citing the burden of compliance and the risk of exposing sensitive business information.

AVIA further criticizes the application of traditional roadside inspection protocols to driverless CMVs, which are incompatible with vehicles lacking onboard drivers. Instead, AVIA recommends the DMV adopt the Commercial Vehicle Safety Alliance's (CVSA) Enhanced CMV Inspection Standard, developed in collaboration with law enforcement and already piloted in other states.

Department Response: In response to stakeholder feedback and public safety considerations, the Department has retained the restriction on driverless CMV operations on local roads with posted speed limits of 25 mph or less, as outlined in Section 227.18(c) and Section 228.08(a)(3)(A). This restriction is based on concerns regarding the complexity of certain roadway environments—such as residential neighborhoods, school zones, and urban cores—which may present elevated safety risks for large autonomous vehicles. However, the Department has provided targeted exceptions for local roads that fall within a direct route between key operational facilities (e.g., terminals, distribution centers, fueling stations), as defined in Section

227.02(o). This approach balances operational efficiency with public safety and reflects the Department's authority under Vehicle Code section 38750.

The Department acknowledges AVIA's concern regarding the requirement to disclose specific routes and associated local roads. In response to widespread stakeholder opposition, the Department has removed the requirement for manufacturers to submit all specific routes within the operational design domain. Instead, manufacturers must identify the general parameters of their operational design domain and provide sufficient information to support the Department's safety review. This revision reduces compliance burden and protects sensitive business information while maintaining the Department's ability to evaluate safety risks.

The Department recognizes that traditional roadside inspection protocols may not be compatible with driverless CMVs. However, the Department is required to ensure compliance with existing inspection statutes under the California Vehicle Code, including Sections 2800, 2813, and 21461(a). The Department appreciates AVIA's recommendation to adopt the CVSA Enhanced CMV Inspection Standard, which has been developed in collaboration with law enforcement and piloted in other states. While the Department is not adopting the CVSA standard in this rulemaking, it will continue to engage with the California Highway Patrol (CHP) and other stakeholders to evaluate the feasibility of incorporating enhanced inspection protocols for driverless CMVs in future regulatory updates.

Comment: AVIA urges clarification of rules prohibiting the transport of hazardous materials and passengers, recommending that these apply only to placarded hazardous materials and compensated passenger transport, respectively.

Department Response: Regarding hazardous materials, the Department has amended Section 227.26(a)(3) to reference California Vehicle Code section 27903, which applies specifically to hazardous materials that require placarding under federal regulations. This revision ensures that the prohibition does not unintentionally restrict the transport of routine goods—such as household cleaning products or other items—that do not require placarding. The Department agrees that this clarification aligns with industry practice and avoids unnecessary limitations on vehicle operations.

Regarding passenger transport, the Department has clarified in Section 227.24(f) that the prohibition applies only to compensated passenger transport by members of the public who are not employees, contractors, or designees of the manufacturer. This revision ensures that manufacturers may continue to transport internal personnel, business partners, or third-party validators for testing and demonstration purposes, while maintaining the prohibition on commercial passenger service unless authorized under a valid deployment permit.

These changes reflect the Department's commitment to regulatory clarity and proportionality and are consistent with the Department's authority under Vehicle Code § 38750. The revisions also align California's AV regulations with federal standards and practices in other jurisdictions, supporting safe and scalable autonomous vehicle operations.

Comment: AVIA requests that the DMV revise its proposed requirement on hours-of-service compliance to apply only where a human driver or remote operator is involved, ensuring alignment with federal regulations.

Department Response: The Department is providing additional regulatory clarity that, in the case of a driverless vehicle, hours-of-service requirements apply to the remote driver, not the automated driving system.

- ***Darcyne Foldenauer, Automated Vehicle Safety Consortium (AVSC), -45d***

Comment: The Automated Vehicle Safety Consortium (AVSC) raises concerns about the DMV's use of the term "safety case" in the draft regulations, noting that it diverges from the industry-standard definition. In established frameworks such as UL 4600, a "safety case" refers specifically to a structured argument supported by evidence demonstrating the safety of a system within a defined environment. The DMV appears to use the term to describe a broader safety submission package that includes various documentation elements beyond the safety case itself. To avoid confusion and maintain consistency with industry terminology, AVSC recommends adopting alternative terms such as "Safety Case Plan," "Safety Case Report," or "Safety Case Submission Package" to describe the full set of required materials.

Department Response: The Department appreciates AVSC's feedback and acknowledges the importance of aligning terminology with established industry standards. In response to stakeholder comments, the Department has clarified the definition of "safety case" in Section 227.02(xx) of the modified express terms to reflect its intended scope. The term is defined as a structured argument supported by a body of relevant evidence that demonstrates the automated driving system does not pose an unreasonable risk of accident, death, injury, or exacerbating injury. The safety case must include documentation addressing functional safety, safety of the intended function, AI safety, cybersecurity, and operational safety, and must be supported by core safety information elements.

While the Department recognizes that the term "safety case" may be interpreted narrowly in certain industry frameworks such as UL 4600, the Department has chosen to retain the term in regulation to maintain consistency across the testing and deployment lifecycle. However, the Department has clarified that the safety case encompasses a broader set of materials submitted by manufacturers to demonstrate

operational readiness. This includes both the structured safety argument and supporting documentation necessary for regulatory review.

The Department believes that this approach provides clarity to the regulated public while preserving flexibility for manufacturers to structure their submissions in accordance with recognized safety standards. The Department will continue to monitor industry terminology and practices and remains open to future refinements that further align California's AV regulations with evolving safety frameworks.

Comment: AVSC argues that the proposed requirement for automated driving systems (ADS) to 'recognize and respond to all probable interactions involving an active emergency vehicle' is not practically achievable, given the vast number of potential scenarios and edge cases—particularly for systems that rely on machine learning. AVSC recommends aligning the regulation with its own Best Practice for First Responder Interactions, which outlines a realistic and consensus-based framework for ADS and emergency responder interactions, including 16 minimum elements that reflect broad authority.

Department Response: The Department recognizes the importance of establishing practical and safety-focused requirements for interactions between automated driving systems (ADS) and emergency responders. In response to stakeholder concerns, the Department has revised the regulatory language to clarify expectations and ensure alignment with applicable provisions of the California Vehicle Code, including Sections 21806, 21809, and 21706, which govern vehicle behavior in the presence of emergency vehicles.

The Department acknowledges that requiring ADS to "recognize and respond to all probable interactions" may be interpreted as overly broad or technically infeasible, particularly for systems that rely on probabilistic models and machine learning. To address this concern, the Department has removed language that could be construed as requiring recognition of every possible emergency vehicle type or interaction scenario. Instead, the regulations now require that ADS be designed to detect and respond to active emergency vehicles in a manner that ensures compliance with traffic laws and promotes public safety.

The Department reviewed AVSC's Best Practice for First Responder Interactions and agrees that it provides a valuable framework for industry alignment. While the Department has not incorporated the 16 minimum elements by reference, the revised First Responder Interaction Plan (FRIP) requirements in Sections 227.42(i) and 228.08(c) reflect many of the principles outlined in AVSC's guidance, including clear communication protocols, vehicle behavior expectations, and emergency override procedures. The Department also requires manufacturers to provide training to law

enforcement and emergency personnel on vehicle interaction procedures, consistent with AVSC's emphasis on stakeholder engagement.

These revisions ensure that the regulations remain practical, enforceable, and aligned with industry best practices, while preserving the Department's authority to oversee the safe operation of autonomous vehicles on public roads under Vehicle Code § 38750.

Comment: AVSC indicates that the distinction between "remote assistance" and "remote driving" is not clearly reflected in the DMV's proposed disengagement reporting requirements. The draft regulation requires reporting of interventions by remote personnel even when the ADS did not request such intervention, which AVSC believes conflates the two roles. According to SAE J3016 and AVSC's Best Practice for ADS Remote Assistance Use Case, remote assistance involves providing guidance without taking control of the vehicle, whereas remote driving entails direct control of the dynamic driving task. AVSC urges the DMV to revise the language to clearly differentiate these functions and limit disengagement reporting to actual remote driving events, ensuring accurate characterization of ADS capabilities and alignment with industry standards.

Department Response: The Department agrees that clear distinctions between remote assistance and remote driving are essential for accurate reporting and regulatory clarity. In response to stakeholder feedback, the Department has revised the regulatory framework to better align with SAE J3016 and AVSC's Best Practice for ADS Remote Assistance Use Case.

The Department has clarified the definitions of remote assistance and remote driving in Sections 227.02(tt) and 227.02(uu), respectively. Remote assistance is defined as providing information or guidance to the ADS without assuming control of the dynamic driving task, while remote driving involves direct control of the vehicle's motion and decision-making functions. These definitions are consistent with SAE J3016 and AVSC's best practices and are reflected in the revised training and qualification requirements in Sections 227.38 and 227.40.

By refining these definitions, the Department ensures accurate characterization of ADS capabilities and avoids conflating distinct operational roles. These revisions support regulatory consistency, reduce unnecessary reporting burden, and enhance the Department's ability to monitor safety-critical performance in alignment with industry standards.

- ***Emily Loper, Bay Area Council, -45d, -OT***

Comment: The Bay Area Council urges the DMV not to exclude commercial vehicles that transport passengers—such as autonomous buses and shuttles—from the

regulatory framework. They argue that these vehicles offer significant potential to improve operational efficiency and mobility and are already being explored in other jurisdictions.

Department Response: The Department appreciates the Bay Area Council's support for expanding autonomous vehicle (AV) applications to include passenger-carrying commercial motor vehicles and agrees that such vehicles have the potential to enhance mobility, accessibility, and operational efficiency. In response to stakeholder feedback, the Department has revised the regulatory language to provide a targeted exemption for certain autonomous passenger vehicles.

Specifically, Section 227.26(a)(6)(B) of the modified express terms now allows autonomous vehicles with a gross vehicle weight rating under 14,001 pounds, that meet the statutory definition of a bus under Vehicle Code section 233(b) and are designed to carry no more than 15 passengers (including an attendant), to operate in passenger service when deployed by or in partnership with public entities. These entities include transit agencies, local governments, universities, and airports, as defined in Government Code section 811.2 and Education Code section 66010(b).

This exemption supports the testing and deployment of autonomous shuttles and similar vehicles for first- and last-mile transit services. It also reflects the Department's recognition of emerging use cases in other jurisdictions and aligns with California's broader transportation and sustainability goals.

To ensure continued oversight and safety, manufacturers operating under this exemption must submit complete and unredacted terminal inspection reports issued by the California Highway Patrol (CHP) within 30 business days of receipt, including forms CHP 343, CHP 407F, and CHP 345, if applicable. These reports will support the Department's evaluation of vehicle safety and compliance.

The Department believes this targeted exemption strikes an appropriate balance between enabling innovation and maintaining public safety and is consistent with its authority under Vehicle Code § 38750.

- ***Greg Reading on behalf of Blinded Veterans Association, California Foundation for Independent Living Centers, Marin Center for Independent Living, -45d***

Comment: The coalition urges the DMV to explicitly authorize the deployment of medium-duty autonomous passenger vehicles within the AV regulatory framework, provided they meet specific public service and equity conditions. These vehicles should be all-electric and ADA-compliant to advance both environmental sustainability and accessibility. They must also comply with Buy America standards to support domestic manufacturing and workforce development. The deployment should occur through operation by, or in close partnership with, public-serving entities

such as transit agencies, universities, or nonprofit mobility providers. These AVs should be integrated into shared, demand-responsive transit systems, avoiding single-passenger deployments to maximize efficiency and community benefit.

Department Response: In response to stakeholder feedback, the Department has revised the regulatory language to provide a targeted exemption for certain autonomous passenger vehicles.

Specifically, Section 227.26(a)(6)(B) of the modified express terms now allows autonomous vehicles with a gross vehicle weight rating under 14,001 pounds, that meet the statutory definition of a bus under Vehicle Code section 233(b) and are designed to carry no more than 15 passengers (including an attendant), to operate in passenger service when deployed by or in partnership with public entities. These entities include transit agencies, local governments, universities, and airports, as defined in Government Code section 811.2 and Education Code section 66010(b). This exemption supports the testing and deployment of autonomous shuttles and similar vehicles for first- and last-mile transit services. It also reflects the Department's recognition of emerging use cases in other jurisdictions and aligns with California's broader transportation and sustainability goals. To ensure continued oversight and safety, manufacturers operating under this exemption must submit complete and unredacted terminal inspection reports issued by the California Highway Patrol (CHP) within 30 business days of receipt, including forms CHP 343, CHP 407F, and CHP 345, if applicable. These reports will support the Department's evaluation of vehicle safety and compliance. The Department believes this targeted exemption strikes an appropriate balance between enabling innovation and maintaining public safety and is consistent with its authority under Vehicle Code § 38750.

- ***Greg Reading on behalf of Beep, Holon, Bentler Mobility, -45d***

Comment: The commenters urge the Department to remove the exclusion on medium-duty (Class II–III) shared autonomous vehicles and allow their deployment for first-, last-, and only-mile passenger service. They specifically recommend permitting all-electric, ADA-compliant vehicles that meet Buy America standards, are operated by or in partnership with public-serving entities, and are used exclusively in shared, demand-responsive transit rather than single-passenger service. They assert that without this targeted amendment, the regulation would block a key zero-emission, accessibility-focused AV form factor and forfeit benefits related to equity, congestion reduction, sustainability, and expanded mobility for people with disabilities and underserved communities.

Department Response:

The Department has adopted a targeted exemption permitting deployment of medium-duty vehicles under 14,001 pounds that meet the statutory definition of a bus, are designed to transport no more than 15 passengers including an attendant

and are operated by or in partnership with public entities or qualifying institutions, provided they remain subject to applicable CHP inspection and reporting requirements. This approach allows deployment of all-electric, ADA-compliant, shared-mobility vehicles within the regulatory framework while ensuring appropriate safety oversight and consistency with statutory authority.

- **Silvia Solis Shaw, California City Transportation Initiative (CaCTI), -45d**

Comment: The California City Transportation Initiative (CaCTI) supports the removal of the prohibition on heavy-duty AVs but requests that route information for such vehicles be shared with city transportation officials at least 60 days before testing or deployment permits are approved. They stress that testing should not be limited to highways but must include local roads and urban arterials to reflect real-world conditions. Similarly, for light-duty AVs, CaCTI recommends that the proposed operational design domain (ODD) be disclosed to the relevant city 60 days in advance of permit approval to ensure local awareness and preparedness.

CaCTI supports the DMV's expanded data reporting requirements, including monthly reporting on disengagements, immobilizations, and crash data aligned with NHTSA standards. They request that these reports remain publicly accessible, and that immobilization reporting continue during deployment. Additionally, CaCTI recommends that Vehicle Miles Traveled (VMT) data be reported separately from disengagements and broken down by city and county. This granularity would support both DMV oversight and independent evaluations of AV performance in diverse urban environments. Regarding AV noncompliance notices, CaCTI urges the DMV to make these reports public or, at minimum, share them with the city where the incident occurred. They also recommend involving local police Departments in developing the notice process and request that manufacturers report citations issued by automated enforcement systems.

On first responder interactions, CaCTI supports the DMV's proposal to enhance coordination and training but emphasizes the need for local consultation. They request that First Responder Interaction Plans be developed in collaboration with local first responders and civilian traffic control officers. To further strengthen local engagement, CaCTI recommends the DMV establish a public-sector working group that meets regularly—ideally quarterly—to incorporate on-the-ground insights from city transportation leaders. These recommendations reflect CaCTI's broader goal of ensuring that AV deployment is safe, transparent, and responsive to the needs of California's diverse urban communities.

Department Response: In response to stakeholder feedback, the Department has revised Sections 227.18(c) and 228.08(a)(3)(A) to clarify that heavy-duty AV operations on local roads are permitted when those roads fall within a direct route

between operational facilities, such as terminals, distribution centers, and fueling stations. While the Department does not require manufacturers to submit all specific routes, it does require that manufacturers identify the operational design domain and provide written notification to local authorities, as defined in Vehicle Code section 385, prior to conducting driverless testing and deployment. This notification must include the ODD, a list of public roads where vehicles will operate, and contact information for the manufacturer. The Department believes this process ensures local awareness and preparedness while protecting proprietary business information.

The Department has aligned crash reporting requirements with the National Highway Traffic Safety Administration's Standing General Order. The Department has also adopted monthly reporting for vehicle immobilizations, dynamic driving task performance relevant system failures, and braking events, as outlined in Sections 227.56, 227.58, and 227.66. These reporting requirements apply during both testing and deployment phases, ensuring continued oversight of AV performance. However, during deployment, the reporting frequency is quarterly.

While the regulations do not mandate city- or county-level VMT breakdowns, the Department retains authority to request additional information through the Request for Information process. The Department agrees that transparency in AV enforcement is critical. While Notices of Autonomous Vehicle Noncompliance (Form OL 325) are not currently required to be made public, the Department is exploring mechanisms to share relevant information. However, this effort is outside the scope of the current rulemaking. The Department has revised the First Responder Interaction Plan (FRIP) requirements in Sections 227.42(i) and 228.08(c) to clarify the scope and expectations for manufacturer engagement with local emergency response agencies. Manufacturers are required to submit FRIPs that include detailed procedures for vehicle identification, emergency response protocols, and override system use (if applicable). These plans must be provided to first responder agencies located within the operational design domain prior to deployment, ensuring that local officials are informed and prepared. While the Department does not mandate co-development of FRIPs with local agencies, it encourages manufacturers to engage proactively with local law enforcement, fire Departments, and emergency medical services to tailor plans to jurisdiction-specific needs.

Regarding CaCTI's recommendation to establish a public-sector working group, the Department acknowledges the value of ongoing dialogue with city transportation leaders and other stakeholders. While the formation of such a group is outside the scope of this rulemaking, the Department remains committed to intergovernmental coordination and will continue to explore opportunities for structured engagement.

- ***Nick Chiappe, California Trucking Association (CTA), -45d***

Comment: The California Trucking Association (CTA) recommends removing vehicle equipment requirements—such as in-cab indicators and event data recorders—from the proposed regulations, citing federal preemption under NHTSA's authority. Additionally, CTA requests that California Vehicle Code (CVC) §21461, which pertains to general rules of the road, be moved to a separate subdivision from inspection-related provisions (§2800 and §2813) to ensure clarity and proper categorization.

CTA also recommends eliminating speed-based restrictions on HD AVs in Section 228.08(a)(3)(A), arguing that these vehicles should be allowed to operate on all legal truck routes, which are already designed to accommodate their size and weight. The association further calls for clarification of the mileage requirements for different permit stages. Specifically, they seek clear guidance on how the 500,000-mile threshold is applied across Drivered, Driverless, and Deployment permits, how out-of-state miles are credited, and when the 250,000-mile requirement for permit modifications is triggered. CTA urges the DMV to limit mileage requirements for modifications to substantial expansions of an AV's operational design domain, rather than applying them to minor administrative changes.

Department Response: The Department acknowledges the California Trucking Association's (CTA) concerns regarding proposed vehicle equipment requirements, including in-cab indicators and event data recorders. The Department has aligned in-cab indicator and event data recorder requirements with California Vehicle Code 38750 (c) (1) (B) and (G), respectively. Additionally, the Department has revised the regulations to remove references to §21461§2800 and §2813 in 228.08 (d) as commercial motor vehicles are already subject to existing state law. The Department has retained the restriction on heavy-duty (HD) AV operations on local roads with posted speed limits of 25 mph or less, as outlined in Section 228.08(a)(3)(A), due to public safety concerns associated with complex roadway environments such as residential neighborhoods and school zones. However, the Department has provided targeted exceptions for local roads that fall within a direct route between operational facilities, such as terminals, distribution centers, and fueling stations. This approach ensures that HD AVs may operate on legal truck routes where appropriate, while maintaining safeguards for vulnerable road users.

The Department has retained mileage thresholds specifying how mileage requirements apply across permit stages. For Drivered Testing Permits, manufacturers of HD AVs must demonstrate 500,000 miles of autonomous testing, with up to 400,000 miles permitted to occur in other jurisdictions, provided the manufacturer submits equivalent safety data. For Deployment Permit modifications, the Department has clarified that the 250,000-mile requirement applies only when the modification involves a substantial expansion of the operational design domain, such as new geographic areas, roadway types, or speed ranges. Minor administrative changes—

such as updates to contact information or vehicle identifiers—do not trigger mileage-based thresholds and are processed through a streamlined amendment procedure.

- **Matt Broad, Broad & Gusman, on behalf of Conference Board of Amalgamated Transit Union, California Conference of Machinists, -45d**

Comment: The California Conference Board of the Amalgamated Transit Union and the California Conference of Machinists argue that the current safety case and Safety Management System (SMS) requirements are too easily manipulated and recommend enforceable, quantitative safety standards. They also oppose the use of the "absence of unreasonable risk" standard, calling it insufficient. The commenters further warn against offshoring remote AV operations, citing risks of operator fatigue and error, and recommend requiring California-based remote operators. They also propose closing a loophole that allows excessive AV testing on local roads by limiting such use to supervised shortest-practicable routes.

The organization recommends that all test drivers be direct employees of AV companies, hold appropriate licenses, and that companies self-certify to SAE J3018 standards. They call for significantly higher insurance minimums, including commercial auto, general liability, cyber liability, and umbrella policies, scaled by vehicle class and fleet size. They also urge the DMV to prohibit self-insurance and require a designated civil liability entity for tort claims. Additionally, they strongly oppose mandatory arbitration clauses in AV-related incidents, arguing these limit public access to justice and obscure systemic safety issues.

They criticize the proposed mileage thresholds as unscientific and recommend that safety metrics be tied to specific claims, with data collected under California-specific conditions.

They emphasize the need for a Standardized Regulatory Impact Assessment (SRIA), citing the potential loss of over 200,000 driving-related jobs and 70,000 small businesses. They recommend that the DMV commission an independent labor market study and amend the regulations to include labor impact assessments, retraining programs, and local hiring mandates.

Department Response: In response to stakeholder feedback, the Department has strengthened the safety case requirements in Section 227.02(xx) and related provisions in Sections 227.28, 227.42, and 228.08. The safety case must include a structured argument supported by evidence demonstrating that the automated driving system does not pose an unreasonable risk of accident, death, injury, or exacerbating injury. It must also include documentation across key safety domains—functional safety, safety of the intended function, AI safety, cybersecurity, and operational safety—aligned with industry best practices and relevant standards. The

Department retains authority to request additional information and consult third-party experts to evaluate the sufficiency of safety submissions.

While the Department acknowledges the commenters' preference for enforceable, quantitative safety thresholds, it has determined that the "absence of unreasonable risk" standard is appropriate and consistent with federal safety frameworks, including those used by the National Highway Traffic Safety Administration (NHTSA). This standard allows for a flexible, evidence-based evaluation of safety across diverse AV platforms and operational design domains.

Regarding remote operations, the Department has adopted robust requirements for remote drivers and remote assistants in Sections 227.38 and 227.40, including training, qualifications, and functional capabilities. While the Department does not require remote operations personnel to be physically located in California, it does require manufacturers to maintain records that include each individual's full legal name, driver's license information, and a list of tasks for which the person is trained and certified.

To address concerns about AV testing on local roads, the Department has retained restrictions on heavy-duty AV operations on local roads with posted speed limits of 25 mph or less, except where such roads fall within a direct route between operational facilities, as defined in Section 227.02(o). This provision ensures that local road use is limited to the shortest practicable and legally permissible routes necessary for safe and efficient operations. The Department believes this approach appropriately balances operational flexibility with public safety and is consistent with its authority under Vehicle Code section 38750.

Regarding test driver qualifications, the Department has retained requirements in Sections 227.32 and 227.34 that mandate autonomous vehicle test drivers be employees, contractors, or designees of the manufacturer, possess a valid driver's license, and meet specific safety and training criteria. While the Department does not require that all test drivers be direct employees, it does require manufacturers to maintain records and ensure compliance with all applicable licensing and safety standards. The Department has not adopted a mandatory self-certification to SAE J3018 but acknowledges that manufacturers may voluntarily align with this standard as part of their internal safety programs.

On insurance requirements, the Department has preserved flexibility, allowing manufacturers to demonstrate financial responsibility through insurance, surety bonds, or self-insurance, consistent with Vehicle Code § 38750(c)(3). While the Department recognizes the value of expanded coverage types, such as cyber liability and umbrella policies, these are not mandated in this rulemaking. The Department does

not regulate civil liability structures, and these are outside of the scope of this rulemaking.

Regarding mileage thresholds, the Department has clarified how mileage requirements apply across permit stages. These thresholds are designed to ensure sufficient operational experience within the intended operational design domain (ODD) and are supported by safety documentation. The Department allows for out-of-state mileage to be credited when accompanied by equivalent safety data and has clarified that mileage requirements for permit modifications apply only to substantial expansions of the ODD, not to administrative changes. While the Department acknowledges the desire for California-specific safety metrics, it believes the current framework provides a balanced and evidence-based approach to evaluating AV readiness.

These provisions reflect the Department's commitment to public safety and regulatory integrity while maintaining flexibility for diverse AV technologies and deployment models, consistent with its authority under Vehicle Code § 38750.

The Department acknowledges the concerns raised regarding potential labor market impacts associated with the testing and deployment of AVs, particularly heavy-duty commercial motor vehicles. The Department conducted an economic impact analysis and determined that the proposed regulations do not meet the threshold for a major regulation under Government Code § 11346.3, which would require a SRIA. Specifically, the Department estimates that the total direct economic impact on California businesses and individuals will remain below $50 million in the first 12 months following implementation.

While the Department recognizes the broader implications of AV technology on employment and small businesses, such impacts are influenced by factors outside the scope of the Department's regulatory authority, including market adoption rates, business models, and federal labor and employment policies. The Department does not have statutory authority to mandate labor impact assessments, retraining programs, or local hiring requirements. The Department's role is limited to regulating the safe operation of AVs on public roads under Vehicle Code § 38750.

- ***Ruth Whittaker, Robert Singleton, Chamber of Progress, -45d, -OT***

Comment: The Chamber of Progress expresses concern that the proposed operational restrictions—particularly those related to operational design domains (ODDs)—could limit the full potential of AVs. They recommend removing arbitrary speed-based limitations and allowing greater flexibility in route planning to better reflect real-world conditions and evolving business models.

In addition, the Chamber of Progress raises concerns about proposed law enforcement interaction rules and data reporting requirements. They oppose the mandate for manual override systems in light-duty AVs, citing safety and redundancy issues, and advocate for more practical timelines for First Responder Interaction Plan updates to avoid burdening local agencies. They also seek clarification on vague requirements, such as recognizing "each type" of emergency vehicle, and recommend that remote operators—not law enforcement—handle vehicle control during emergencies.

Regarding data reporting, the Chamber of Progress warns that excessive requirements could stifle innovation and overwhelm both companies and the DMV. They urge a focus on meaningful, contextualized data and clearer guidance on permit processes to support innovation and safety advancements.

Department Response: The Department acknowledges stakeholder concerns regarding speed-based limitations and route planning flexibility. In response, the Department has amended the allowable exceptions to clarify that routes need not include freeways and removed the requirement for manufacturers to submit all specific routes. The definition of "direct route" has been added to ensure routes are efficient and avoid sensitive areas, supporting public safety and regulatory compliance. These changes aim to balance innovation with safety, particularly for autonomous heavy-duty commercial motor vehicles.

The Department acknowledges that the scaling and technical maturity of autonomous vehicle operations are dynamic, and that the First Responder Interaction Plan may not require updates as frequently as every quarter. Therefore, changes should be made on an "as needed" basis, and the requirement for quarterly updates has been revised to "at least annually." This change addresses stakeholder concerns about resource burdens and potential confusion among first responders. The Department retains authority to request updated plans when necessary, through its Request for Information process.

The Department received stakeholder feedback regarding the impracticality and safety concerns of mandating manual override systems in light-duty AVs. In response, the requirement has been revised to apply only if the vehicle is equipped with such a system, aligning with statutory provisions and avoiding unnecessary design mandates. This change supports flexibility in vehicle design while maintaining safety standards.

The Department has removed the requirement to positively recognize "each type" of emergency vehicle. Instead, manufacturers must certify that their AVs can detect and respond to active emergency vehicles and comply with applicable California Vehicle Code provisions, including Sections 21806, 21809, and 21706. This revision ensures clarity and feasibility while maintaining public safety.

The Department acknowledges the Chamber of Progress' concerns regarding the potential for excessive data reporting requirements to hinder innovation and impose undue burdens on both manufacturers and regulatory agencies. In response to stakeholder feedback, the Department has taken significant steps to streamline and clarify data reporting obligations. Key revisions include the elimination of disengagement reporting, which was widely viewed as no longer meaningful for assessing safety performance, and the introduction of targeted reporting for dynamic driving task performance relevant system failures, vehicle immobilizations, braking events, and vehicle miles traveled. Each category includes clearly defined thresholds and standardized templates with data dictionaries to ensure consistency and reduce ambiguity. To further support innovation and safety advancements, collision reporting is now aligned with the National Highway Traffic Safety Administration's Standing General Order, avoiding duplicative submissions. Manufacturers may also submit out-of-state testing data in lieu of certain mileage requirements, provided it reflects comparable operational design domains. Additionally, the Department has improved permit lifecycle clarity by renaming application forms and delineating requirements for original, renewal, and modification submissions. The Department retains investigatory authority through its Request for Information process, allowing targeted data collection, when necessary, rather than imposing blanket reporting mandates. These revisions reflect the Department's commitment to balancing robust safety oversight with regulatory efficiency and fostering innovation in autonomous vehicle development.

- ***Perry Holmes, Coalition for Safe Autonomous Vehicles and Electrification (SAVE Coalition), -45d***

Comment: The Coalition for Safe Autonomous Vehicles and Electrification (SAVE Coalition) opposes the requirement for a manual override system that allows law enforcement or firefighters to control AVs in emergencies, arguing it disproportionately burdens purpose-built AVs that lack traditional controls and could pose public safety risks by requiring disclosure of override instructions. The SAVE Coalition recommends eliminating this requirement across all relevant sections to align with Assembly Bill 1777. Additionally, they request an alternative path in the phased permit process for AVs that cannot be manually driven, as current mileage testing requirements are not feasible for bespoke, fully autonomous vehicles.

The SAVE Coalition also objects to the proposed requirement for an in-cabin autonomous mode indicator, stating it exceeds statutory authority, is overly prescriptive, and incompatible with occupantless or goods-only AV designs that lack a traditional cabin. They recommend removing this requirement to accommodate innovative vehicle formats.

Department Response: The Department acknowledges the SAVE Coalition's concerns regarding the proposed requirement for a manual override system that allows law enforcement or firefighters to control autonomous vehicles (AVs) in emergencies. In response to stakeholder feedback, the Department has revised the requirement to apply only if the vehicle is equipped with such a system, aligning with statutory language in California Vehicle Code section 38751(b)(3) and Assembly Bill 1777. This change addresses concerns about disproportionate burdens on purpose-built AVs that lack traditional controls and mitigates public safety risks associated with disclosing override instructions.

Regarding the phased permit process, the Department acknowledges the SAVE Coalition's recommendation for an alternative path for AVs that cannot be manually driven. However, such an alternative is not necessary. An autonomous vehicle is defined as one equipped with an automated driving system (ADS), and the mileage requirements apply to the manufacturer testing the ADS, not to a specific vehicle platform. Manufacturers have the flexibility to choose which vehicle platform to use for testing the ADS prior to applying for a driverless testing permit. This approach supports the deployment of bespoke, fully autonomous vehicles while maintaining rigorous safety oversight.

The Department has aligned the in-cabin indicator requirement with California Vehicle Code section 38750(c)(1)(B), reflecting its commitment to ensuring that regulatory provisions are consistent with statutory authority, while also supporting innovation in autonomous vehicle design and promoting public safety through practical and enforceable standards.

- **Saveena Takhar, Consumer Attorneys of California (CAOC), -45d**

Comment: The CAOC recommend explicitly designating the AV permit holder—the corporate entity controlling the vehicle—as the legal "driver" to preserve liability and ensure that existing traffic laws remain enforceable. CAOC also calls for robust insurance requirements tailored to AV risks, including minimum coverage levels of $5–$10 million for liability, cyber, and umbrella policies, depending on vehicle type and fleet size. These thresholds reflect the potential for large-scale harm and the complexity of litigating AV-related incidents.

CAOC further recommends banning forced arbitration clauses in AV-related tort claims to preserve public access to courts and transparency. They support enhanced crash reporting, including mandatory reporting of all heavy-duty AV and vulnerable road user incidents, and advocate for a stand-down policy following injury crashes. They oppose crediting out-of-state testing data toward California deployment thresholds and call for all remote AV operators to be licensed and physically located in California to ensure jurisdictional oversight.

Department Response: CAOC recommends explicitly designating the AV permit holder—the corporate entity controlling the vehicle—as the legal "driver." The regulations clearly establish that the manufacturer is responsible for the autonomous vehicle's operation within the defined operational design domain (ODD). Specifically, Section 228.08(a)(12) of Title 13, Article 3.8 requires the manufacturer to certify that the automated driving system (ADS) is designed to detect and respond to roadway situations in compliance with all provisions of the California Vehicle Code and applicable local ordinances. Section 228.08(a)(12)(A) requires the manufacturer to make updates to the ADS as necessary to ensure continued compliance with changes in traffic laws and local ordinances. Enforcement provisions further reinforce this responsibility. Under Section 228.42, a peace officer may issue a Notice of Autonomous Vehicle Noncompliance to the manufacturer when an AV operating in autonomous mode violates traffic laws. This notice is issued directly to the manufacturer, not the end user, underscoring that the manufacturer is legally accountable for the vehicle's performance. Taken together, these provisions affirm that the manufacturer—not the end user—is responsible for the safe and lawful operation of the autonomous vehicle.

Regarding financial risk, the Department has retained insurance requirements in Article 3.8, Section 228.04. These provisions align with California Vehicle Code 38750 and require manufacturers to demonstrate financial responsibility through instruments of insurance, surety bonds, or self-insurance, with coverage levels appropriate to the scale and risk of AV operations. While CAOC proposed minimum thresholds of $5–$10 million, the Department maintained flexibility to accommodate different vehicle types and fleet sizes.

CAOC urges the Department to prohibit forced arbitration clauses in AV-related tort claims, however this is outside of the scope of the Department's authority defined in the California Vehicle Code.

In response to comments advocating for enhanced crash reporting, the Department adopted mandatory reporting requirements for autonomous vehicle (AV) collisions, including those involving vulnerable road users. These requirements are now aligned with the standards established by the U.S. Department of Transportation's National Highway Traffic Safety Administration (NHTSA). Manufacturers must submit detailed reports on collisions, braking events, and system failures using standardized templates. Additionally, the regulations grant the Department authority to suspend or restrict permits following injury crashes or other safety-critical incidents.

The Department recognizes that allowing manufacturers to submit out-of-state mileage provides flexibility for demonstrating operational readiness across diverse environments. However, the regulations maintain California-specific mileage

requirements to ensure that autonomous vehicles are tested within the intended operational design domain (ODD) on California public roads. This approach balances industry flexibility with the need for localized testing, acknowledging the unique traffic conditions, infrastructure, and regulatory landscape present in California. CAOC recommended that all remote AV operators be licensed and physically located in California. The Department strengthened oversight by requiring remote drivers and assistants to be identified, trained, and certified, and to comply with California licensing and safety standards. However, physical location requirements were not mandated, allowing flexibility for remote operations under strict regulatory controls.

- **Peter Leroe-Muñoz, Silicon Valley Leadership Group (SVLG), -45d, -OT**

Comment: The SVLG recommends greater flexibility in Operational Design Domain (ODD) restrictions, noting that AVs may need to use local roads with speed limits of 25mph for safety or logistical reasons even if those roads are not the shortest route. SVLG notes confusion and conflicting language regarding alternate routing provisions. SVLG also finds the expanded reporting requirements—such as monthly disengagement, immobilization, and braking event data—excessive and lacking clear safety benefits, especially given existing federal reporting obligations. VLG calls for clarification in the phased permitting process, particularly regarding the 250,000-mile testing requirement and when application modifications are allowed. They express concern about in-cab autonomy indicators for heavy-duty AVs, which may not carry passengers and could face conflicting interstate requirements. On law enforcement interactions, SVLG opposes quarterly update mandates and associated fees, advocating instead for developer discretion and more practical training expectations. They also request clearer guidance on permit update triggers and associated costs and question the utility of emergency vehicle interaction data without defined benchmarks. They recommend allowing non-commercial passengers (e.g., regulators or validators) in autonomous trucks, aligning with light-duty AV rules.

Department Response: The regulations clarify that autonomous heavy-duty commercial motor vehicles remain prohibited from operating on local roads with posted speed limits of 25 mph or less, except when those roads form part of a "direct route" between hubs, facilities, fueling or charging stations, or other non-residential locations. The definition of "direct route" has been adopted to ensure routes are linear, geographically logical, and efficient, while avoiding unnecessary detours through sensitive areas such as residential neighborhoods and school zones.

The Department developed alternate routing provisions to address critical safety considerations for autonomous heavy-duty commercial motor vehicles when predesignated routes become inaccessible due to emergencies, road closures, or other hazards. Heavy-duty vehicles operate under strict size, weight, and route

limitations; therefore, alternate routing ensures compliance with legal and physical constraints while maintaining public safety. The regulations prohibit reliance on generic mapping applications and requires the use of commercial vehicle-specific tools to prevent unsafe routing decisions. Alternate routing is permitted solely for safety—not for commercial convenience—and is designed to avoid unnecessary detours through sensitive areas such as residential neighborhoods and school zones. Additionally, remote drivers and assistants must be able to follow first responder instructions and bring the vehicle to a controlled stop when necessary.

The Department revised the reporting framework to focus on safety-relevant incidents, replacing disengagement reporting with dynamic driving task performance relevant system failures. These changes align with SAE J3016 definitions and are intended to improve the quality and utility of safety data. For deployment, the Department requires quarterly reporting rather than monthly, recognizing the operational differences between testing and deployment phases. This adjustment balances the need for regulatory oversight with the practical realities of scaled AV operations. Additionally, the Department clarified that standardized electronic reporting templates will be used to streamline submissions and reduce administrative burden.

The Department amended the express terms to distinguish between original and modification applications and to specify when out-of-state testing data may be used. California-based mileage remains a requirement to ensure AVs are tested in local traffic environments, which present unique challenges. These thresholds are necessary to demonstrate operational readiness and support public safety. SVLG raises concerns about in-cab autonomy indicators for vehicles that do not carry passengers; however, the regulations have been revised to align with California Vehicle Code section 38750(c)(1)(B).

The Department has revised the requirement for an annual review of the First Responder Interaction Plan, reducing confusion and compliance costs while maintaining safety oversight. Permit update triggers and associated costs have been clarified by distinguishing administrative changes from operational design domain or safety-critical modifications, and the biennial renewal cycle for testing permits has been retained for consistency.

Regarding emergency vehicle interaction, the Department removed prescriptive requirements to recognize every emergency vehicle type and instead aligned the regulation with statutory provision in the Vehicle Code Sections 21806, 21809, and 21706), ensuring compliance with the requirements set forth in the Vehicle Code. The Department will use this data to evaluate compliance with statutory obligations and assess safety-relevant incidents, not to impose arbitrary or prescriptive thresholds.

The Department has adopted an exemption permitting manufacturer designees (e.g., validators, business partners) to ride in heavy-duty vehicles for testing and demonstration purposes, consistent with safety objectives and stakeholder feedback.

- ***Louie Costa, SMART-Transportation Division (SMART-TD), California Safety and Legislative Board on behalf of Teamsters California, -45d***

Comment: Teamsters California argue that the current safety case requirements are vague and easily manipulated, and recommend that California adopt enforceable safety standards, including conformance to ANSI/UL 4600 and the use of quantitative safety metrics. They also call for broader definitions of "imminent hazard," stricter crash reporting thresholds, and mandatory stand-downs after injury or fatal crashes. Teamsters propose replacing driverless testing with supervised in-vehicle testing and phased deployment and urges the DMV to prohibit remote operation unless operators are based in California.

Teamsters raise concerns about job displacement, offshoring of remote operations, and the lack of a Standardized Regulatory Impact Assessment (SRIA), which is required under California law for regulations with significant economic impact. They recommend higher insurance minimums, civil liability designations for AV manufacturers, and a ban on forced arbitration in AV-related tort claims. Additional recommendations include a point-based enforcement system, backup communication requirements, and proactive safety audits.

Department Response: Teamsters expressed concern that the current safety case requirements are vague and subject to manipulation. They recommended adopting enforceable safety standards, including conformance to ANSI/UL 4600 and the use of quantitative safety metrics. The Department revised the regulatory text to require a comprehensive description of a safety case supported by core safety information elements, including functional safety, safety of the intended function, AI safety, cybersecurity, and operational safety. While ANSI/UL 4600 is not mandated, the framework aligns with industry best practices and allows flexibility in demonstrating safety through evidence-based methodologies. Additionally, the Department retains authority to consult third-party experts during safety case review.

Regarding the recommendation to broaden the definition of "imminent hazard" and strengthen crash reporting thresholds, the Department adopted a definition in Section 227.02(gg) that reflects a substantial likelihood of severe injury or exacerbation of injury. Crash reporting requirements have been aligned with the National Highway Traffic Safety Administration's Standing General Order (SGO), and manufacturers must submit detailed reports on collisions, braking events, and system failures. These thresholds are designed to capture safety-relevant incidents while avoiding duplicative or low-value reporting.

Calls for mandatory stand-downs following injury or fatal crashes were addressed through provisions in Sections 228.22 and 228.24, which allow for suspension or restriction of permits when an AV poses an unreasonable risk or is involved in a serious incident. These actions may be taken immediately or following investigation, depending on the severity and circumstances. The Department evaluated the economic thresholds and determined that the rulemaking does not meet the criteria for a SRIA under California law. Additional comments regarding job displacement and the offshoring of remote operations are acknowledged; however, the Department's regulatory authority is limited to vehicle safety and operational oversight. The Department retained financial responsibility requirements in Section 228.04, including instruments of insurance, surety bonds, and self-insurance. These provisions ensure that manufacturers can respond to judgments for damages arising from AV operations. Civil liability designations are governed by existing law and are not modified by this rulemaking. Teamsters recommend prohibiting forced arbitration in AV-related tort claims. While the Department supports transparency and public access to legal remedies, it does not have jurisdiction to regulate arbitration clauses in private contracts. Proposals for a point-based enforcement system and backup communication protocols were evaluated. Although a point-based system was not adopted, the Department retains authority to suspend, revoke, or restrict permits based on safety violations. Regulations also require manufacturers to certify that they have a system and process which includes use of a redundant communication network to support remote operations.

Finally, recommendations for proactive safety audits were addressed through existing provisions in Sections 227.70 and 227.72. These tools allow the Department to request information, conduct investigations, and monitor safety performance to respond to emerging risks.

- **Matt Broad, Broad & Gusman, on behalf of Teamsters California, -45d**

Comment: The Teamsters California express concern that the current safety case and Safety Management System (SMS) requirements in the proposed AV regulations are overly vague and susceptible to manipulation. They argue that without clear, enforceable standards, safety submissions risk becoming superficial and lacking in substance. They recommend that the DMV require conformance to established safety standards such as ANSI/UL 4600, which provide a structured framework for evaluating AV safety. Additionally, they propose that safety cases include quantitative safety objectives—such as demonstrating the absence of unreasonable risk and achieving a positive risk balance compared to a human driver. To ensure ongoing accountability, they call for monthly and quarterly reporting of safety metrics and mandate independent audits to verify the integrity and completeness of each safety case. They call for a broader definition of "imminent hazard" to include minor

injuries and likely crashes and emphasize the need for proactive safety measures like risk assessments and audits before testing begins. Additionally, they propose a DMV-style point-based enforcement system and clearer definitions of terms like "Minimal Risk Condition" to ensure AVs meet human-equivalent safety standards. The Teamsters oppose the rollback of in-state licensing for remote operators and warn against offshore operations due to safety, connectivity, and accountability risks. They recommend requiring all remote operators to be California-based and all test drivers to be direct employees of AV companies. They also seek to prohibit unsupervised driver-out testing on local roads and limiting use to the shortest practicable routes. Insurance requirements are deemed insufficient, prompting recommendations for significantly higher liability coverage, mandatory cyber and umbrella policies, a ban on self-insurance, and a designated civil liability entity. They also urge a ban on forced arbitration in AV-related tort claims to preserve public access to justice. The Teamsters argue that the proposed deployment mileage thresholds are unscientific and warn against allowing out-of-state testing data to count toward California requirements. They advocate for crash reporting reforms to close underreporting loopholes and call for mandatory stand-downs and root cause analyses after injury or fatal crashes. They stress the need for backup communication systems to mitigate connectivity failures and demand that the DMV conduct a legally required Standardized Regulatory Impact Assessment (SRIA), given the potential loss of over 200,000 jobs. They recommend labor impact assessments, retraining programs, and local hiring mandates to mitigate economic harm and ensure the AV industry develops responsibly within California.

Department Response: In response to stakeholder feedback, including those from labor organizations, the Department revised the regulatory text to require manufacturers to submit a detailed description of a safety case during the application process or upon Department request. This description must include core safety information elements covering functional safety, safety of the intended function, artificial intelligence safety, cybersecurity, and operational safety, consistent with industry best practices established by the Automated Vehicle Safety Consortium. These elements provide a structured framework for evaluating the manufacturer's safety approach and prevent superficial submissions. The safety case must describe the manufacturer's safety lifecycle processes, including development, deployment readiness, and continuous improvement, as well as safety performance indicators tied to core safety elements. While the Department did not mandate conformance to ANSI/UL 4600, the structure of the safety case aligns with industry best practices and allows manufacturers to demonstrate safety through evidence-based methodologies. The Department retains authority to consult third-party experts during safety case review, as noted in both the express terms and the Statement of Reasons. Regarding the request for quantitative safety objectives, the Department agrees that

safety cases must demonstrate the absence of unreasonable risk. Sections 228.08(a)(1)(A)(i) and 228.08(a)(1)(C) require manufacturers to submit results of an assessment of operational data and a comprehensive description of a safety case showing that the automated driving system does not pose an unreasonable risk of accident, death, injury, or exacerbating injury. This requirement is reinforced by the Department's authority to request additional information to assess safety, as provided in Section 228.08(a)(1)(B)(ii) and (a)(2)(B).

The Department considered the recommendation for monthly and quarterly reporting of safety metrics and independent audits. While monthly reporting is required during testing (see Section 227.56 for dynamic driving task performance relevant system failures and Section 227.58 for vehicle immobilizations), deployment reporting has been adjusted to a quarterly cadence to reflect operational scale and reduce administrative burden. This change emphasizes the need to balance oversight with feasibility. Independent audits are not mandated in this rulemaking; however, the Department retains authority to request information and conduct investigations under Sections 227.70, 227.72 228.44 and 228.46.

In response to calls for a broader definition of "imminent hazard," the Department adopted a definition in Section 227.02(gg) that includes operating conditions presenting a substantial likelihood of severe injury or exacerbation of injury. While the Department did not expand this definition to include minor injuries or likely crashes, it maintains authority to restrict or suspend permits under Sections 227.46, 227.48, 228.22 and 228.24 when safety risks are identified. The Department also considered the recommendation for proactive safety measures, including risk assessments and audits prior to testing. These are addressed through the safety case submission and operational data requirements in Section 227.42 and 228.08, which require manufacturers to demonstrate readiness through testing data, safety documentation, and compliance with inspection protocols.

Regarding enforcement, the Department did not adopt a point-based system but retains robust enforcement authority. Sections 228.24 and 228.26 provide mechanisms for suspension, revocation, or restriction of permits based on safety violations, including failure to report changes or respond to Departmental inquiries. The Department reviewed the definition of "Minimal Risk Condition" and revised it in Section 227.02(kk) to reflect a stable, stopped condition that reduces the risk of a crash when a trip cannot or should not be continued. This definition aligns with SAE J3016 and ensures that AVs meet safety expectations when disengaging from autonomous mode.

Regarding remote operations, the Teamsters oppose the rollback of in-state licensing requirements and warn against offshoring due to safety, connectivity, and

accountability risks. The Department strengthened oversight of remote operations by requiring remote drivers and assistants to be identified, trained, and certified, and to comply with California licensing and safety standards (see Sections 227.38 and 227.40). However, the Department did not adopt a physical location requirement, recognizing that remote operations may be conducted from other jurisdictions under regulatory controls. The functional and training requirements for remote operators align with industry best practices and are not expected to impose significant new costs. The Teamsters recommend that all test drivers be direct employees of AV companies. While the Department requires that test drivers be employees, contractors, or designees of the manufacturer (see Section 227.34), it did not limit this to direct employment, allowing flexibility for manufacturers while maintaining accountability through permit and training requirements.

Concerns were raised about operation on local roads and the potential for unsupervised driver-out testing in sensitive areas. The Department addressed this by limiting heavy-duty AV operations on local roads to direct routes between terminals and other operational facilities and prohibiting operation on roads with posted speed limits of 25 mph or less unless part of a direct route (see Section 227.18(c)). These provisions are designed to prevent AVs from operating in residential or high-risk areas without appropriate oversight.

On insurance, the Teamsters argue that current requirements are insufficient and recommend significantly higher liability coverage, mandatory cyber and umbrella policies, and a ban on self-insurance. The Department retained financial responsibility requirements, which are aligned with the California Vehicle Code and include instruments of insurance, surety bonds, and self-insurance. These provisions ensure manufacturers can respond to judgments for damages arising from AV operations. These requirements are in addition to those under the Vehicle Code and do not absolve vehicle owners from maintaining financial responsibility. The Teamsters also urge a ban on forced arbitration in AV-related tort claims. The Department does not have jurisdiction to regulate arbitration clauses in private contracts.

Regarding deployment mileage thresholds, the Teamsters argue that allowing out-of-state testing data undermines California's safety oversight. The Department has retained mileage requirements including California-based testing, while allowing limited out-of-state data only if it meets California's reporting standards and occurs within a comparable operational design domain (see Section 228.08(a)(1)(B)). This balances flexibility with the need for localized safety validation.

The Department also responded to concerns about crash reporting and underreporting. The regulations align with the National Highway Traffic Safety Administration's Standing General Order and require detailed reporting of collisions,

braking events, and immobilizations. Additionally, Sections 227.46, 227.48, 228.22 and 228.24 authorize permit suspension or restrictions, and the Department may request root cause analyses through its Request for Information process.

To address connectivity risks, the regulations require manufacturers to maintain redundant communication systems for remote operations (see Sections 227.42 (f)(1)(A) and 228.08(b)(1)(A)). These provisions ensure that AVs can be safely supported in the event of network failure.

The Teamsters assert that the Department must conduct a Standardized Regulatory Impact Assessment (SRIA) due to the potential loss of over 200,000 jobs. While the Department acknowledges concerns about long-term labor impacts, it does not have authority to mandate retraining programs or local hiring requirements. The Department's analysis estimates Year 1 direct costs at approximately $5.8 million, with no anticipated large-scale deployment or job displacement during the initial 12-month implementation period. This conclusion is based on the Department's experience administering AV regulations over the past decade and reflects the incremental nature of AV development and deployment. Manufacturers can take several years to progress from drivered testing to driverless testing and eventual deployment. The Department anticipates that heavy-duty AV manufacturers are expected to follow a similar phased approach, beginning with testing using safety drivers before scaling to driverless operations. Factors such as route planning and infrastructure development will create a phased large-scale rollout. Given these gradual timelines and the limited number of manufacturers expected to apply for permits in the initial 12 months, the Department concluded that the proposed regulations do not meet the $50 million threshold for a major regulation under Government Code Section 11346.3(c) and a SRIA is not required.

- **Jose Torres, Timothy Burr Jr., TechNet, -45d, -OT**

Comment: TechNet argues that the Operational Design Domain (ODD) restrictions are overly rigid and may prevent AVs from taking safer alternate routes. They request clarification and flexibility in route planning, especially in emergency scenarios where conflicting language in the regulations could hinder compliance with first responder directives. TechNet also objects to the expanded reporting requirements, including monthly reports on disengagements, vehicle immobilizations, braking events, and dynamic driving task failures. They argue these requirements are excessive, burdensome—especially for smaller companies—and may not yield meaningful safety insights. TechNet expressed concerns about permit modification thresholds, particularly the requirement for manufacturers to meet high mileage thresholds (e.g., 250,000 miles) before making any changes to their Driverless Testing Permit. They argue this is arbitrary and could delay safety-related updates. They also request

clarification on what constitutes a "modification." Regarding equipment requirements, TechNet opposes state-specific mandates such as in-cabin indicators and override systems, arguing that such standards should be set federally by NHTSA or FMCSA. They note that override systems are incompatible with purpose-built AVs and may conflict with existing California law (AB 1777).

Similarly, they request flexibility in first responder training requirements, especially for long-haul CMVs operating across large geographic areas.

TechNet believes the definition of "manufacturer," is too broad and could unintentionally impose compliance obligations on suppliers or affiliates. They also object to the high and frequent modification fees for Deployment Permits, which they argue are disproportionate and could disincentivize safety updates. TechNet recommends aligning passenger restrictions for CMVs with those for light-duty AVs to allow non-commercial passengers like inspectors.

Department Response: TechNet raised concerns that the Operational Design Domain (ODD) restrictions are overly rigid and may prevent autonomous vehicles (AVs) from taking safer alternate routes. The Department addressed this by clarifying that heavy-duty AVs may operate on local roads only when those roads are part of a direct route between operational facilities such as terminals and distribution centers, and only if the roads are legally accessible for the vehicle's weight class (see Section 227.18(c)). Additionally, the Department incorporated provisions to ensure AVs can comply with first responder directives during emergencies, including detours and alternate routing, as outlined in Sections 227.18(c)(1)(A)–(E) and 228.08(a)(3)(A)(i). These provisions are designed to balance safety, operational practicality, and regulatory compliance.

The Department revised the reporting framework to focus on safety-relevant incidents and replaced disengagement reporting with dynamic driving task failures (see Section 227.56). For deployment, reporting frequency was reduced to quarterly to ease the burden on manufacturers, while maintaining sufficient oversight. Standardized electronic templates were introduced to streamline submissions and reduce administrative complexity.

TechNet expressed concern about the requirement to meet high mileage thresholds, such as 250,000 miles, before modifying a Driverless Testing Permit. The Department clarified that these thresholds apply to original applications and certain types of modifications that expand operational scope (see Section 227.42(o)). Modifications that do not materially alter safety-critical parameters may be submitted without meeting these thresholds, as outlined in Section 227.42(p). This distinction ensures that safety updates are not delayed while maintaining rigorous review for significant operational changes. Regarding equipment mandates, TechNet opposed state-

specific requirements such as in-cabin indicators and override systems. The Department revised the express terms to clarify that override systems are only required if the vehicle is equipped with such technology (see Section 228.08(c)(10)(G)). This change aligns with the California Vehicle Code Section 38751 (b)(3) and avoids imposing incompatible requirements on purpose-built AVs. In-cabin indicators are required only to ensure that first responders can identify the vehicle's operational mode, consistent with Vehicle Code section 38750(c)(1)(B). TechNet also requested flexibility in first responder training requirements, particularly for long-haul commercial motor vehicles (CMVs). The Department revised Section 227.42(i)(3) to require annual reviews of first responder interaction plans rather than quarterly updates and clarified that manufacturers may tailor training materials based on incidents involving interactions with first responders. This approach balances the need for preparedness with operational feasibility. Concerns about the definition of "manufacturer" were addressed in Section 227.02(jj), which defines the term to include entities that produce or modify vehicles with autonomous technology. The Department clarified that compliance obligations apply to the entity responsible for the AV's operation and safety, not to unrelated suppliers or affiliates. Finally, TechNet objected to the frequency and cost of permit modification fees. The Department retained the $3,275 fee for Deployment Permit amendments (see Section 228.12(b)), which reflects the administrative effort required to review safety case information and operational data. In response to TechNet's recommendation to align passenger restrictions for CMVs with those for light-duty AVs, the Department amended Section 227.26(a)(6)(A) to allow non-commercial passengers, such as inspectors or validators, in autonomous trucks during testing and demonstration activities. This change supports transparency and operational flexibility while maintaining safety oversight.

- ***Tim Valderrama, Weideman Group, Inc., on behalf of Redding Area Bus Authority (RABA), Contra Costa Transportation Authority (CCTA), Institute of Transportation Studies (ITS) Berkley, Town of Yountville, -45d***

Comment: These California transit agencies request a targeted exemption in the DMV's autonomous vehicle (AV) regulatory framework to allow for the deployment of medium-duty, all-electric, ADA-compliant autonomous passenger vehicles under 14,001 pounds. This exemption would apply specifically to vehicles operated by or in partnership with public-serving entities such as transit agencies, local governments, universities, and airports. The agencies emphasize that this exemption is intended to support first- and last-mile transit solutions, not to replace existing services, and would help address long-standing access gaps in low-density and underserved areas. The agencies argue that integrating autonomous shuttles into public transit systems can enhance connectivity, increase ridership, and support California's environmental and equity goals. They propose that the exemption be limited to vehicles that are all-

electric, ADA-compliant, Buy America-compliant, and used in demand-responsive systems that avoid single-passenger deployments.

Department Response: The Department has adopted a targeted exemption in Section 227.26(a)(6)(B). This provision allows autonomous commercial motor vehicles with a gross vehicle weight rating of less than 14,001 pounds that meet the statutory definition of a bus under Vehicle Code section 233(b) and are designed to carry no more than 15 passengers—including the attendant—to be used for passenger service when operated by or in partnership with a public entity as defined in Government Code section 811.2 or independent institutions of higher education as defined in Education Code section 66010(b). To ensure safety and oversight, the regulation requires manufacturers operating under this exemption to submit complete and unredacted terminal inspection reports issued by the California Highway Patrol (CHP), including forms CHP 343, CHP 407F, and CHP 345, within 30 business days of receipt. These reports allow the Department to evaluate vehicle maintenance and driver records and to take enforcement action, if necessary, under Sections 228.22 and 228.24. This exemption reflects the Department's commitment to supporting innovative mobility solutions that complement existing transit services, promote accessibility, and align with California's climate and equity objectives. It also ensures that public-serving entities can responsibly deploy AV technology while maintaining compliance with safety and operational standards.

- **Dominic Marinelli, United Spinal Association Accessibility Services, -45d**

Comment: The United Spinal Association Accessibility Services urges the DMV to explicitly include accessible, medium-duty autonomous vehicles (AVs) in its regulatory framework. They recommend allowing the deployment of all-electric, ADA-compliant vehicles designed for accessibility and operated by or in partnership with public-serving entities such as transit agencies, universities, or nonprofit mobility providers. These vehicles should be used in shared, demand-responsive transit systems and avoid single-passenger deployments.

Department Response: Vehicle Code section 38750 governs the testing and deployment of autonomous technology and requires that the regulations include standards that the Department concludes are necessary for the safe operation of the vehicles on public roads. The regulations govern testing of the vehicles, not the testing of specific uses of the vehicles, and as such it is outside the Department's authority to implement ADA standards.

However, the Department agrees that medium-duty AVs offer potential to improve shared mobility options for the public and accordingly has adopted a targeted exemption in Section 227.26(a)(6)(B). This provision allows autonomous commercial motor vehicles with a gross vehicle weight rating of less than 14,001 pounds that meet

the statutory definition of a bus under Vehicle Code section 233(b) and are designed to carry no more than 15 passengers—including the attendant—to be used for passenger service when operated by or in partnership with a public entity as defined in Government Code section 811.2 or independent institutions of higher education as defined in Education Code section 66010(b). To ensure safety and oversight, the regulation requires manufacturers operating under this exemption to submit complete and unredacted terminal inspection reports issued by the California Highway Patrol (CHP), including forms CHP 343, CHP 407F, and CHP 345, within 30 business days of receipt. These reports allow the Department to evaluate vehicle maintenance and driver records and to take enforcement action, if necessary, under Sections 228.22 and 228.24. This exemption reflects the Department's commitment to supporting innovative mobility solutions that complement existing transit services, promote accessibility, and align with California's climate and equity objectives. It also ensures that public-serving entities can responsibly deploy AV technology while maintaining compliance with safety and operational standards.

- ***Timothy Haile, on behalf of Contra Costa Transportation Authority (CCTA), The Automated Connected Electric Shared (ACES) Mobility Coalition, County Connection, Napa Valley Transportation Authority (NVTA), West Contra Costa Transit (WestCAT) Authority, Livermore Amador Valley Transit Authority (Wheels), Redding Area Bus Authority (RABA), -45d***

Comment: This coalition of representatives of California public transit agencies and allied stakeholders across transportation, business, and community sectors urge the DMV to include a targeted exemption to Article 3.7 (§ 227.26) for first- and last-mile transit autonomy in its pending commercial autonomous vehicle (AV) regulatory package. This narrowly tailored exemption would apply to autonomous, ADA-compliant passenger vehicles weighing under 14,001pounds for passenger service when operated by or in partnership with public entities such as transit agencies, local governments, universities, and airports.

Department Response: The Department has adopted a targeted exemption in Section 227.26(a)(6)(B). This provision allows autonomous commercial motor vehicles with a gross vehicle weight rating of less than 14,001 pounds that meet the statutory definition of a bus under Vehicle Code section 233(b) and are designed to carry no more than 15 passengers—including the attendant—to be used for passenger service when operated by or in partnership with a public entity as defined in Government Code section 811.2 or independent institutions of higher education as defined in Education Code section 66010(b). To ensure safety and oversight, the regulation requires manufacturers operating under this exemption to submit complete and unredacted terminal inspection reports issued by the California Highway Patrol (CHP), including forms CHP 343, CHP 407F, and CHP 345, within 30 business days of receipt.

These reports allow the Department to evaluate vehicle maintenance and driver records and to take enforcement action, if necessary, under Sections 228.22 and 228.24.

This exemption reflects the Department's commitment to supporting innovative mobility solutions that complement existing transit services, promote accessibility, and align with California's climate and equity objectives. It also ensures that public-serving entities can responsibly deploy AV technology while maintaining compliance with safety and operational standards.

- ***Timothy Haile, Contra Costa Transportation Authority (CCTA), -45d, -OT***

Comment: CCTA recommends a tiered approach based on vehicle size and passenger capacity with a structure based on vehicle weight class and operational domain. Additionally, CCTA recommends the DMV allow an exemption or more flexible criteria for passenger-focused shared autonomous vehicles (SAVs) that operate at low speeds in confined, geofenced areas such as residential neighborhoods, retirement communities, or business parks.

For data reporting, CCTA recommends a quarterly process rather than a monthly process which is seen as an administrative burden. CCTA further states on data reporting that the multiple reporting requirements (collisions, vehicle immobilizations, system failures) create a substantial administrative burden. CCTA recommends consideration of a unified reporting system that consolidates these requirements. CCTA additionally proposes that CA DMV consider developing a consolidated online portal or dashboard where operators can upload reports in a unified format to reduce duplication.

CCTA is in support of manufacturers providing a comprehensive safety case, however what constitute acceptable safety metrics for passenger service vehicles should be clarified, such as vulnerable road user detection range, maximum emergency stop distance, and system redundancy.

CCTA argues that the requirement to submit an amended Deployment Permit Application with a fee of $3,275 for operational design domain changes may hinder iterative improvements to SAV service. CCTA suggests a streamlined process for minor ODD expansions for established operators.

CCTA recommends quarterly updating of the First Responder Interaction Plans may be excessive for stable deployments and suggests annual or semi-annual updates with additional updates only when material changes occur, such as a new Operational Design Domain (ODD), vehicle type, or AV behavior protocol.

Department Response: The Department acknowledges the importance of tailoring requirements to vehicle type and use case. The regulations include specific provisions for low-speed autonomous vehicles and medium-duty passenger vehicles. Section 227.02(ii) defines "low-speed autonomous vehicle" as one that operates between 20 and 25 miles per hour, and Section 227.26(a)(6)(B) provides a targeted exemption for autonomous passenger vehicles under 14,001 pounds operated by or in partnership with public-serving entities. These provisions support deployment in confined, geofenced environments such as residential neighborhoods, retirement communities, and business parks, consistent with CCTA's recommendation.

The Department revised the reporting cadence for deployment to quarterly, while retaining monthly reporting for testing to ensure early-stage safety oversight. This approach balances regulatory oversight with operational feasibility, particularly for smaller entities and public-serving operators. CCTA also noted that multiple reporting requirements—covering collisions, vehicle immobilizations, braking events, and system failures—could be streamlined. The Department agrees that efficiency in reporting is essential and has introduced standardized electronic templates for each report type. These templates are designed to reduce duplication and improve consistency.

The Department is removing requirements for manufacturers to make changes to the first responder interaction plan on a fixed, quarterly cadence, instead requiring manufacturers to review the first responder interaction plan at least annually, document such reviews, and make updates as needed. This ensures that substantive or safety-related changes are provided in new versions of the first responder interaction plan and training program.

The safety case framework, as outlined in Section 227.02(xx) and further detailed in Sections 227.28(d) and 228.08(a)(2)(A), requires manufacturers to describe evidence demonstrating functional safety, safety of the intended function, artificial intelligence safety, cybersecurity, and operational safety. This includes a structured argument supported by relevant data that the automated driving system (ADS) does not pose an unreasonable risk of accident, death, injury, or exacerbating injury. While the regulations do not prescribe specific quantitative thresholds—such as vulnerable road user detection range, maximum emergency stop distance, or system redundancy parameters—the Department expects manufacturers to address these elements within their safety case submissions. Section 227.02(xx)(5) requires manufacturers to describe validation and verification testing processes, including how known and unknown unsafe scenarios are evaluated. Additionally, Section 227.02(xx)(6) calls for documentation of safety-relevant human-machine interactions, which may include emergency braking and detection capabilities. The Department retains authority to request supplemental information and consult third-party experts during safety case review to ensure that safety metrics are appropriate for the vehicle's intended use,

including passenger service. This flexible, evidence-based approach allows the Department to evaluate safety across a range of vehicle types and operational domains while accommodating technological innovation.

While the fee structure remains unchanged in this rulemaking, Section 228.12(b) of the modified express terms outlines the types of changes that require an amended Deployment Permit Application, including expansions to geographic areas, roadway types, and speed limits. These provisions are intended to ensure that the Department can evaluate safety implications associated with significant operational changes. However, the Department also included clarifying language in Section 228.12(p) to distinguish between substantive modifications and administrative updates. This allows for more efficient processing of minor changes that do not affect core safety parameters.

- ***Jarvis Murray, Los Angeles Department of Transportation (LADOT), -45d***

Comment: LADOT recommends that any data collected by the DMV should be available in unredacted form, to cities and jurisdictions that are serviced by autonomous vehicle operators. LADOT recommends further that the DMV should collect Vehicle location, trip origin, trip destination, vehicle telemetry, speed limit compliance, vehicle type, vehicle miles traveled, idle time and Vehicle ID and vehicle status (i.e., maintenance, out of service, stopped, non-contactable, etc.) and share this information with cities that are in the Operational Design Domain of the autonomous vehicle service. LADOT agrees in part with the proposed regulations under Section 228.34 Reporting Collisions which would provide the DMV access to the National Highway Traffic Safety Administration (NHTSA) Standing General Order crash report and timeframes indicated in the Standing General Order from May 2023. However, LADOT argues that it is imperative for DMV to share this unredacted information with the respective jurisdictions or transportation officials, to know where property damage and collisions have occurred. Regarding monthly data reporting LADOT argues that manufacturers should include the number of miles driven in AV mode prior to disengagement and total AV miles driven for the post-disengagement action reporting requirement. LADOT further argues in data reporting that Driving Task Performance Relevant System Failures is unclear, and further information is needed for all parties to understand. LADOT also recommends that AV Manufacturers that have a Deployment Permit be required to provide monthly disengagement reports. On data reporting LADOT requests that the DMV make all monthly reports publicly available and at a minimum those reports should include collisions, disengagement of autonomous mode, vehicle immobilizations, hard breaking events, dynamic driving tasks performance, and relevant system failures. LADOT lastly with the DMV proposed regulations allowing for autonomous heavy duty commercial vehicles the LADOT

requests that the AV manufacturers report vehicle miles traveled (VMT) by county and jurisdictions with populations over 500,000 on a monthly basis.

For Notice of Autonomous Vehicle Noncompliance LADOT argues that the notices should be issued not only by peace officers, but that authority to issue these notices should extend to public officers, traffic officers, and other transportation enforcement staff. Furthermore, there should be a policy that allows for the notices to be issued by automated enforcement systems.

LADOT argues for First Responder Training and First Responder Interaction Plan that AV Manufacturers must certify that the vehicles understand and can positively identify commands from Traffic Officers. Furthermore, LADOT requests that parking enforcement and traffic officers also be included in these trainings and that training programs for traffic officers, transportation investigators, and other traffic enforcement personnel be required for AV operators and manufacturers.

Department Response: The Department agrees that timely and accurate reporting of crash data is essential for public safety and oversight. However, while the Department will receive full crash reports from manufacturers, the regulations do not mandate public release of unredacted data. Section 227.60 establishes monthly VMT reporting requirements, and Section 227.58 requires reporting of vehicle immobilizations, and the Department retains the ability to request specific data associated with vehicle location, telemetry, associated with a specific incident occurring on local roads.

The Department replaced traditional disengagement reporting with dynamic driving task performance relevant system failure reporting in Section 227.56, based on stakeholder feedback that disengagements were no longer a meaningful safety metric. Section 227.02 (aa) provides a clear and structured definition of "dynamic driving task performance relevant system failure," distinguishing it from routine disengagements. The regulation defines such failures as malfunctions in the automated driving system or other vehicle systems that prevent reliable performance of the dynamic driving task on a sustained basis. This includes situations where the system's ability to operate safely is degraded or inhibited. By specifying the scope and nature of reportable failures, the definition ensures that manufacturers focus on safety-critical incidents, thereby improving the consistency and relevance of data submitted to the Department.

While disengagement reporting is no longer required for deployment, the Department has transitioned to a quarterly reporting framework for deployed vehicles to reduce administrative burden while maintaining meaningful oversight. This approach ensures flexibility in enforcement while streamlining routine reporting obligations for manufacturers. Regarding Vehicle Miles Traveled reporting, the Department has determined that mandating city- and county-level reporting would impose significant

administrative and technical burdens on manufacturers and could result in inconsistent or incomplete data submissions. Instead, the Department retains the authority to inquire into VMT across specific jurisdictions—including counties and cities—through the application review and Request for Information processes, as outlined in Section 227.72 of Article 3.7.

Chapter 4.5 of the California Penal Code specifically addresses the definitions and regulations concerning peace officers. This chapter includes various sections that define who qualify as a peace officer and the standards they must meet (commencing with Section 830) of Title 3 of Part 2, these include but are not limited to, Sheriffs, Deputies, City Police, and CHP.

The Department acknowledges LADOT's recommendation that AV manufacturers be required to certify that autonomous vehicles can positively identify and respond to commands from traffic officers, including parking enforcement and other traffic personnel. In response, the Department incorporated requirements in Section 227.42(j)(1) which mandate that manufacturers certify that the AV is designed to detect and respond to a first responder as necessary to comply with applicable provisions of the California Vehicle Code. Additionally, Section 227.42(i)(3) requires manufacturers to review and update their First Responder Interaction Plans annually, and Section 227.42(i)(1)(K) mandates that manufacturers provide training materials for law enforcement and emergency personnel. While the regulations do not explicitly require training for parking enforcement or transportation investigators, the Department retains authority under Sections 227.70 and 227.72 to request additional information or documentation to ensure safe and lawful AV operations.

- ***Kate Miller, Napa Valley Transportation Authority (NVTA), -45d***

Comment: NVTA urges the DMV to include a targeted exemption to Article 3.7 (§ 227.26) for first- and last-mile transit autonomy in its pending commercial autonomous vehicle (AV) regulatory package. This narrowly tailored exemption would apply to autonomous, ADA-compliant passenger vehicles weighing under 14,001pounds for passenger service when operated by or in partnership with public entities such as transit agencies, local governments, universities, and airports.

Department Response: The Department has adopted a targeted exemption in Section 227.26(a)(6)(B). This provision allows autonomous commercial motor vehicles with a gross vehicle weight rating of less than 14,001 pounds that meet the statutory definition of a bus under Vehicle Code section 233(b) and are designed to carry no more than 15 passengers—including the attendant—to be used for passenger service when operated by or in partnership with a public entity as defined in Government Code section 811.2 or independent institutions of higher education as defined in Education Code section 66010(b). To ensure safety and oversight, the regulation

requires manufacturers operating under this exemption to submit complete and unredacted terminal inspection reports issued by the California Highway Patrol (CHP), including forms CHP 343, CHP 407F, and CHP 345, within 30 business days of receipt. These reports allow the Department to evaluate vehicle maintenance and driver records and to take enforcement action, if necessary, under Sections 228.22 and 228.24. This exemption reflects the Department's commitment to supporting innovative mobility solutions that complement existing transit services, promote accessibility, and align with California's climate and equity objectives. It also ensures that public-serving entities can responsibly deploy AV technology while maintaining compliance with safety and operational standards.

- ***Jean Paul Velez, San Francisco County Transportation Authority (SFCTA), -45d***

Comment: SFCTA urges the DMV to bolster its self-certification framework with a performance-based model that proactively monitors and evaluates real-world AV operations through clearly defined risk thresholds and enforceable safety standards. SFCTA recommends that the regulations should specify specific performance metrics and specify comprehensive data reporting requirements that allow their calculation. These metrics should include, at a minimum: collision rates, injury rates, fatality rates, vehicle immobilization rates and disengagement rates. SFCTA further argues that a misalignment of reporting periods exists in the requirements for braking events, disengagements, and vehicle immobilizations. SFCTA argues that DMV needs to consolidate data reporting requirements to support, at a minimum, the standardized performance metrics described above and require that they are reported monthly so they can be evaluated at the time of a permit application, amendment, or modification.

SFCTA argues further that the thresholds of 50,000 miles to advance from Drivered Testing to Driverless Testing, and from Driverless Testing to Deployment, and 25,000 miles for a permit amendment or modification, are insufficient to protect public safety, and must be increased. SFCTA recommends a manufacturer drive at least 1 million miles driven under a permit before advancing to the next phase.

The SFCTA strongly supports the Department's proposal to expand data reporting to include events that have demonstrably affected the safety of the public in San Francisco, including vehicle immobilizations and braking events. SFCTA however argues that while the proposed regulations appear to require monthly reports of the VMT of each autonomous vehicle tested in autonomous mode, the proposed regulations do not appear to require any reporting of VMT under deployment permits, creating a regulatory gap. Furthermore, SFCTA argues that this VMT must be reported in a disaggregate format such as by geography, roadway facility type, and time of day, in order to calculate meaningful collision, injury, fatality, vehicle immobilization

and disengagement rates, which vary by driving context. SFCTA further argues that data reporting also must be consistent across both testing and deployment permits and must be made available to the public, regardless of whether this data is explicitly required by these proposed regulations to be reported, or if the data is provided in response to a request for information by the Department. SFCTA contends that Confidential Business Information (CBI) should only be permitted subject to a transparent process through which such claims of confidentiality can be objectively evaluated relative to the public's interests.

SFCTA states that the regulations should set meaningful bounds within original testing and deployment permits on the geographic size, geographic types (urban, suburban, rural), roadway types, times of day, weather conditions, and size of fleets in which a manufacturer may operate, which can be incrementally expanded through later phases only after sufficient testing and demonstration of performance through standardized performance metrics that are produced through standardized and publicly available reports. SFCTA argues further that the regulations should explicitly and clearly identify the permitting structure, including permit subtypes, and their associated permissions and restrictions.

The SFCTA supports the requirement to submit a safety case as part of any initial permit application—whether for Drivered Testing, Driverless Testing, or a Deployment Permit—as well as for any subsequent renewal or modification applications. SFCTA however argues the safety case is missing a clear, precise definition of what constitutes an "unreasonable risk of accident, death, injury, or exacerbated injury" in the context of AV operations in California. This definition should undergo public review and gain broad consensus before final regulations are adopted. Secondly, SFCTA states that the safety case is missing clear performance standards that manufacturers must meet. In addition to defining what constitutes "unreasonable risk", the DMV must establish measurable performance standards that uphold that definition in relation to the specific data elements on which it requires reporting—including crashes, hard braking events, vehicle immobilizations (particularly those impacting first responder operations), disengagements, incidents of noncompliance, and Dynamic Driving Task Performance Relevant System Failures. On safety case, SFCTA argues that the process by which the DMV will review submitted safety cases should be specified more clearly. SFCTA contends that it is unclear whether the DMV currently has the capacity to conduct such reviews, particularly given the limited funding implied by existing application fees. SFCTA argues to ensure a rigorous and consistent evaluation process, the DMV should consider leveraging established industry standards—such as UL 4600—to assess whether a safety case is complete and provides sufficient assurance of safety. SFCTA further argues that DMV should also consider appointing an independent third party and/or peer review panel of qualified researchers and

professionals, selected by the Department and at the expense of the manufacturer, to review safety cases against those standards, rather than taking on this highly demanding task internally. SFCTA lastly argues that there must be a more clearly defined description of what constitutes a "material modification" to a safety case that would trigger the requirement for resubmission and review by the DMV.

The SFCTA supports the new regulations clarifying the DMV's authority to impose operational restrictions on manufacturers—such as reductions in daily fleet size, narrowing of the operational design domain, limiting hours of operation, or requiring in-vehicle support personnel under certain conditions. However, SFCTA states that the regulations should clarify when the DMV authorized to issue such enforcement measures. The SFCTA recommends that the DMV revise the regulatory language to explicitly support this broader interpretation, ensuring the Department has clear authority to act on cumulative performance concerns—not only singular incidents—when public safety is at stake. SFCTA believes that DMV should provide greater clarity on what constitutes a triggering event for enforcement actions and how the DMV will determine the appropriate level of operational restrictions. SFCTA states further that the DMV should clearly specify in the regulations how notices of noncompliance will be used in incremental enforcement measures and to assess fines and penalties.

SFCTA argues that the permitting fees, by contrast, are too low. The draft regulations set an annual fee for a testing permit at $3,600, and a one-time deployment fee at $3,275. The fee to amend or modify a permit is $70. At a loaded rate of $250 per hour, the annual testing permit fee would cover less than 2 days of staff time. The annual testing application fees for 30 manufacturers would generate approximately $100,000 annually, far less than the annual costs of one single full-time employee. SFCTA argues that the regulations should ground regulatory fees in an estimate of costs associated with DMV staff engaging in adequate review and ongoing performance monitoring to ensure that there is no unreasonable risk to public safety. The Department should increase and scale the proposed fee schedule to a level that is aligned with the significant work required to ensure public safety, including requiring deployment fees to be renewed annually. Law enforcement, first responders, and public officials already incur costs associated with managing, mitigating, or adapting to AV operations on public streets.

The SFCTA supported the DMV's August 2024 draft proposal requiring that remote assistance personnel and remote drivers be licensed and physically present in California. SFCTA is concerned that these requirements are no longer included in the current version of the draft regulations. SFCTA argues that requiring a California driver's license and in-state physical presence for remote operators would strongly support the policy goals of the DMV's AV program by supporting local job creation and avoids potential jurisdictional complications during crash investigations where the

actions of remote personnel may be implicated. SFCTA on remote operations argues that the regulations should establish a clear and enforceable standard for acceptable communication latency. SFCTA argues that this standard should require AV Manufacturers to submit monthly reporting on remote operations, including data on average and maximum communication latency, average and peak ratios of remote personnel to active vehicles, number of interventions, and other relevant performance metrics. SFCTA notices that the draft regulations impose drive-time limits only on remote drivers and remote assistants supporting autonomous heavy-duty commercial motor vehicle operations, however, such restrictions should apply to all types of AV operations. SFCTA argues that extending similar requirements to remote operators across all AV vehicle types would enhance safety, reduce fatigue-related risks, and align the regulations with established federal standards.

SFCTA argues that there is a need for standardization of protocols for First Responder Interaction Plans and training provided to first responders. SFCTA states the lack of standardization creates a burden on first responders that is impractical to implement and creates hazards to their safety and the safety of the public.

SFCTA argues that through a separate rulemaking procedure DMV should discuss the leasing and sale of automated driving system vehicles to individual members of the public and regulations should prohibit this until regulations for these use cases are fully developed.

Department Response: In response to SFCTA's recommendation to strengthen the Department's self-certification framework with a performance-based model, the Department has taken significant steps to incorporate performance metrics and data reporting requirements into the regulatory text. Specifically, the Department has adopted provisions that require manufacturers to submit assessments of operational data from autonomous vehicle testing, including collision rates, vehicle immobilization rates, and dynamic driving task performance relevant system failures. These metrics are to be reported using standardized electronic templates in .csv format via the Department's web portal, ensuring consistency and accessibility of data.

The Department acknowledges stakeholder concerns regarding the misalignment of reporting periods for braking events, disengagements, and vehicle immobilizations. In response, the regulations consolidate these reporting requirements and establish monthly reporting obligations in testing for dynamic driving task performance relevant system failures and vehicle immobilizations, replacing disengagement reporting. This change reflects industry consensus that disengagements are no longer a meaningful safety metric and that dynamic driving task performance relevant system failures provide more accurate insights into safety-critical incidents. Additionally, to support ongoing oversight during deployment, the Department has adopted quarterly

reporting requirements for autonomous vehicle operations. This approach balances the need for timely safety data with the operational realities of deployment, ensuring that the Department receives consistent and actionable information to evaluate performance trends, identify emerging risks, and inform regulatory decisions throughout the permit lifecycle.

The Department has determined that the current mileage thresholds, when combined with the expanded safety case requirements, standardized performance metrics, and enhanced data reporting obligations, provide a sufficient basis for evaluating the safety of autonomous vehicle operations. Specifically, manufacturers must submit comprehensive descriptions of their safety cases supported by core safety information elements—including functional safety, safety of the intended function, artificial intelligence safety, cybersecurity, and operational safety—as well as assessments of operational data such as collision rates, braking events, vehicle immobilizations, and dynamic driving task performance relevant system failures. The Department also notes that the thresholds are differentiated by vehicle type and operational design domain. For example, autonomous heavy-duty commercial motor vehicles are subject to significantly higher mileage requirements—500,000 miles for original deployment and 250,000 miles for amendments—reflecting the increased complexity and risk associated with their operation. Additionally, the Department retains authority to request supplemental data and impose operational restrictions or deny permit applications if the submitted safety case or operational data does not demonstrate a reasonable assurance of safety. While the Department appreciates SFCTA's recommendation to increase the thresholds to 1 million miles, it finds that such a requirement may impose disproportionate burdens on manufacturers, particularly those operating low-speed or limited-domain vehicles, without a commensurate increase in safety assurance.

The Department has amended the regulatory text to require quarterly reporting of VMT for autonomous vehicles operating under deployment permits. This change ensures consistency across the testing and deployment phases and supports the Department's ongoing oversight of autonomous vehicle operations. Quarterly reporting strikes a balance between the need for timely and actionable data and the operational realities of deployment, allowing the Department to monitor trends, assess safety performance, and respond to emerging risks. Regarding SFCTA's recommendation to require disaggregated VMT data by geography, roadway facility type, and time of day, the Department acknowledges the value of such granularity in calculating meaningful safety performance metrics. While the current regulations do not mandate disaggregated reporting at this level, the Department retains authority to request supplemental data through its Request for Information process. This authority enables the Department to obtain detailed operational data when

necessary to evaluate safety risks or investigate specific incidents. On the issue of public access to data, certain data elements may be protected under Confidential Business Information (CBI) provisions, and the Department has adopted a process for evaluating CBI claims in accordance with the California Public Records Act (Government Code section 7927.205), the Evidence Code (section 1060), and the Civil Code (sections 3426.1–3426.11). This process ensures that claims of confidentiality are subject to objective review and balanced against the public's interest in safety and accountability.

The Department agrees with the importance of clearly defined operational boundaries and a structured permitting framework to ensure the safe and responsible deployment of autonomous vehicles. In response to stakeholder feedback, the Department has revised the regulatory text to require manufacturers to identify the operational design domain (ODD) in their original and amended permit applications, including specific geographic areas, roadway types, times of day, weather conditions, and other domain constraints. These disclosures are required in both testing (Article 3.7) and deployment (Article 3.8) applications and are subject to Departmental review and approval. To support incremental expansion, the regulations establish a phased permitting structure through the use of original permit applications and operational parameters amendment applications. For example, section 228.12(b) of Article 3.8 outlines the conditions under which a manufacturer must submit an amended deployment permit application to expand operations beyond the scope of the originally approved ODD. These amendments require updated safety cases and supporting operational data, which are evaluated by the Department to determine whether the proposed changes pose an unreasonable risk to public safety. The Department has also clarified the permitting lifecycle by introducing distinct permit subtypes—such as Original Drivered Testing Permit, Driverless Testing Permit, Deployment Permit, and their respective renewal and amendment applications. These subtypes are defined in the regulatory text and are accompanied by specific forms (e.g., OL 311, OL 318, OL 321, OL 321A) that outline the permissions and restrictions associated with each permit type. Furthermore, the Department has adopted standardized reporting templates and expanded data reporting requirements to ensure consistency across testing and deployment. These templates include fields for vehicle miles traveled, collision data, braking events, vehicle immobilizations, and dynamic driving task performance relevant system failures. While not all data is required to be publicly disclosed by default, the Department retains authority to request additional information and may release safety-relevant data in accordance with applicable public records laws.

The Department appreciates SFCTA's support for the requirement that manufacturers submit a safety case as part of any original Drivered Testing, Driverless Testing, or

Deployment Permit application, as well as for any renewal or modification. This requirement is specified in Section 227.28(d) of Article 3.7 and Section 228.08(a)(1)(C) and (a)(2)(A) of Article 3.8, which specify that manufacturers must submit a comprehensive description of a safety case which describes evidence demonstrating functional safety, safety of the intended function, artificial intelligence safety, cybersecurity, and operational safety. Regarding SFCTA's concern that the safety case lacks a clear definition of "unreasonable risk of accident, death, injury, or exacerbated injury," the Department notes that the term is used consistently throughout the regulations to describe the threshold for permit approval, restriction, or revocation (e.g., §§ 228.10(e)(2), 228.18(a)(3), and 228.24(a)(7)). Additionally, the term 'unreasonable risk of accident, death or injury' aligns with the U.S. DOT NHTSA's statutory standard for defect investigations (49 U.S.C. §§ 30102(a)(8), 30118(b)(1)). The Department has determined this is necessary to allow for case-by-case evaluation of safety risks, particularly given the evolving nature of autonomous vehicle technology. The Department also clarified that the Department's review of the safety case may involve consultation with third-party experts. SFCTA also recommends that the Department establish measurable performance standards aligned with the definition of "unreasonable risk." The Department has addressed this concern by requiring manufacturers to report standardized performance metrics—including vehicle miles traveled (VMT), collisions, braking events, vehicle immobilizations, and dynamic driving task performance relevant system failures—using electronic templates submitted in .csv format via the Department's web portal. These metrics support the Department's ability to evaluate safety cases against objective data and assess whether a manufacturer's operations pose an unreasonable risk. On the issue of safety case review, SFCTA raises concerns about the Department's capacity to conduct rigorous evaluations and recommends leveraging industry standards such as UL 4600 and appointing independent third-party reviewers. The Department agrees that safety case review requires technical expertise and has incorporated language in §§ 227.28(d) and 228.08(a)(1)(C) allowing for consultation with third-party experts. While the Department does not mandate use of UL 4600 or third-party peer review at this time, it retains discretion to engage qualified professionals. The Department has amended § 228.08(a)(14) to remove the previously proposed requirement for manufacturers to submit a modified version of the safety case—including a summary of the modifications made—within 10 business days of any material change. This change was made in response to public comments indicating that it was unclear what constitutes a "material" change and that submitting all changes could impose a burden on industry, given the technical evidence required to substantiate each safety claim. Instead, the Department now requires that a description of the safety case be provided during the application process or when requested through a Request for Information.

The Department acknowledges SFCTA's concerns and recognizes the importance of ensuring that regulatory fees are sufficient to support the Department's responsibilities under Vehicle Code § 38750. The fee schedule established was developed to balance the need for cost recovery with the goal of minimizing barriers to innovation and market entry for autonomous vehicle manufacturers. The Department also considered stakeholder feedback regarding the financial burden of compliance. The Department has taken steps to enhance its oversight capabilities through expanded data reporting requirements (see §§ 227.56–227.60 and 228.34), standardized safety case elements (§§ 227.02(xx) and 228.08(a)(14)), and authority to consult with third-party experts (§§ 227.28(d), 228.08(a)(14)). These measures allow the Department to prioritize reviews based on risk and allocate resources efficiently. The Department also notes that the deployment permit, while currently structured as a one-time fee, is subject to amendment requirements under § 228.12(b), which trigger additional review and a $3,275 fee when manufacturers seek to expand operational parameters. This structure enables the Department to reassess safety implications as operations scale, without imposing an annual renewal requirement that may not align with the lifecycle of deployment activities.

The Department appreciates SFCTA's support and acknowledges the potential benefits of requiring in-state licensure and physical presence. However, the Department determined that such requirements may impose undue constraints and may not be necessary to ensure safety or regulatory compliance. Instead, the Department has focused on establishing robust functional, training, and qualification standards for remote drivers and remote assistants, as outlined in §§227.38 and 227.40 of Article 3.7. These sections require remote personnel to be identified to the Department, possess valid driver's licenses, complete manufacturer training and certification programs, and comply with safety-related operational protocols. Regarding communication latency, SFCTA recommends that the Department establish a clear and enforceable standard and require monthly reporting on remote operations, including latency metrics, intervention counts, and staffing ratios. The Department agrees that communication latency is a critical factor in remote operations and has addressed this concern in §227.02(xx)(9)(C), which requires manufacturers to describe the communication infrastructure supporting remote assistance, including average and maximum latencies and the testing and validation performed to ensure operational robustness. While monthly reporting is not mandated at this time, the Department retains authority under §§227.72 and 228.26 to request additional information through the Request for Information process and may consider expanding reporting requirements in future rulemaking. The Department acknowledges the critical importance of managing fatigue-related risks, particularly for remote drivers who are responsible for performing part or all of the dynamic driving task and dynamic driving task fallback. The Department has incorporated hours-of-

service requirements for remote drivers of heavy-duty vehicles in §227.38(d)(7), consistent with Title 49 CFR Part 395 and Title 13 CCR §1212.5. These provisions are designed to ensure that remote drivers—who may be actively controlling vehicle functions such as braking, steering, and acceleration—are subject to fatigue risk assessments and operational limits that align with federal safety standards. Additionally, manufacturers are required to describe fatigue assessments for all remote drivers operating under a permit, regardless of whether they are supporting light-duty or heavy-duty autonomous vehicle operations.

The Department agrees that clear, consistent, and standardized protocols for first responder interaction are essential to ensuring safe and effective responses to incidents involving autonomous vehicles. In response to stakeholder feedback, the Department has adopted comprehensive requirements for First Responder Interaction Plans in §§227.42(i) and 228.08(c)(1)(F), which apply to both testing and deployment permit applications. These provisions require manufacturers to describe how autonomous vehicles will communicate with first responders, how override systems (if equipped) may be used, and how manufacturers will train law enforcement and emergency personnel on safe interaction procedures. To support consistency, the Department developed these requirements based on industry-recognized best practices, specifically the Autonomous Vehicle Safety Consortium's (AVSC) publication Best Practice for First Responder Interactions with ADS-DV Systems, AVSC-I-01-2024. This framework provides guidance on vehicle signaling, override protocols, and communication methods that are interpretable and actionable by first responders across jurisdictions. Additionally, § 227.42(i)(3) requires manufacturers to review and update their First Responder Interaction Plans annually, ensuring that training materials and protocols remain current and responsive to evolving technology and operational conditions. Manufacturers must also provide these plans to law enforcement and emergency response agencies located within the operational design domain (ODD), as required by § 227.42(i)(5), and submit revised versions to the California Highway Patrol for centralized oversight (§ 227.42(i)(6)).

The Department acknowledges SFCTA's concern and agrees that the sale and lease of ADS-equipped vehicles to the general public presents unique regulatory considerations, particularly with respect to safety, consumer education, software updates, and post-sale compliance. To address these concerns, the Department has included provisions in Article 3.8 that establish requirements for manufacturers intending to sell or lease autonomous vehicles to end users. Specifically, § 228.08(c) outlines the requirement for manufacturers to submit a consumer or end-user education plan as part of the Deployment Permit Application. This plan must include certification that end users are informed of the capabilities and limitations of the automated driving system, instructions for accessing software updates, and a copy of

the vehicle operator instruction guide or manual. Additionally, § 228.08(c)(2) requires manufacturers to provide a publicly accessible website containing the education plan and to share it with first responder agencies within the operational design domain.§ 228.08(c)(6) requires manufacturers to submit a written disclosure to end users as required by § 228.24, and § 228.08(c)(7) mandates certification that the vehicle satisfies each requirement of Vehicle Code § 38750(c)(1), including compliance with safety standards and data recording capabilities. To ensure safety oversight of vehicles deployed for non-commercial use, the Department has also adopted data reporting requirements applicable to all manufacturers operating under deployment permits, including those providing AVs for personal use. The Department retains authority under §228.26 to request additional information through the Request for Information process and may impose operational restrictions or suspend permits under §228.24 if safety concerns arise. While the Department has not prohibited the sale or lease of ADS-equipped vehicles to the public, it has implemented safeguards to ensure that such vehicles are deployed only after the manufacturer has demonstrated safety through a comprehensive description of a safety case (§ 228.08(a)(1)(C)) and has provided adequate consumer education and support. The Department retains authority under § 228.24 to suspend or revoke a Deployment Permit if a manufacturer fails to comply with these requirements or if the operation of the vehicle poses an unreasonable risk to public safety.

- ***Viktoriya Wise, on behalf of San Francisco Municipal Transportation Authority (SFMTA), San Francisco Police Department (SFPD), San Francisco Fire Department (SFFD), -45d***

Comment: San Francisco public agencies ("San Francisco") support DMV including in the draft regulations new provisions clarifying DMV's authority to use enforcement tools such as permit modifications to address performance issues that may not warrant suspension or revocation (§ 227.46; 228.22). San Francisco also is in support of DMV adding in draft regulations the requirement that both crash reporting and immobilization reporting continue for manufacturers holding deployment permits. San Francisco argues however that the AV Noncompliance Form – OL 325 – should be as easy for peace officers throughout the state to issue as it is to issue a moving violation to a human driver, without increased costs or burdens that deter their issuance. San Francisco urges DMV to convene with representatives of Police Departments from cities with active driverless operations to discuss the form itself and how it is to be used.

Regarding two-way voice communication, San Francisco states that there are no such requirements for the communication links required for connecting emergency response personnel to a responsible human with situational awareness of a vehicle. The proposed regulations also include no requirements for permittees to submit data

documenting the extent to which permittees actually meet the 30 second performance standard established in AB 1777 for voice-to-voice communications with emergency response personnel. San Francisco requests that the Department add requirements ensuring that the communications links necessary to fulfill voice-to-voice communication requirements for emergency response officials are maintained to at least the same standards as those serving the vehicle and its occupants.

San Francisco argues that the draft regulations alter the language of AB 1777 governing emergency geofencing messages in a way that may seem reasonable but in fact places unreasonable burdens on public agencies without enhancing AV operations. Section 38751(d) gives emergency response officials the responsibility to designate the duration of a geofencing message and authorizes officials to extend that duration where necessary. The directive dissolves without action if no agency extends the original message. The proposed regulations in contrast state that an avoidance area remains in place until it is cleared by the agency that initiated the request. Clearing a geofencing message can burden the time of emergency dispatchers and first responders.

Regarding Remote Drivers and Remote Assistants, San Francisco is in support of every Remote Assistant and Remote Driver being issued an individual permit (Sections 22738, 228.06) and that people in these roles should be available to law enforcement officers investigating a crash or other event. However, San Francisco is concerned that human drivers are required to take an in-vehicle test in which they must demonstrate that they can use vehicle equipment to drive in compliance with California law whereas Remote Drivers and Remote Drivers are not. San Francisco states that the proposed regulations do not assess both whether the equipment Remote Drivers are given is adequate for this task and whether each driver can and does use that equipment effectively to drive remotely in compliance with California law. San Francisco also argues that there are no limits on a remote driver to operating a single vehicle or setting any parameters for how many vehicles a remote driver can operate at one time. Finally, San Francisco is concerned about the removal of the requirement that Remote Drivers be located in California and if they can be located overseas and if they need to speak English well enough to interact with California first responders who do not speak additional languages. San Francisco further argues on concerns on how law enforcement officers will assess the sobriety of Remote Drivers that are not located within their jurisdictions and how will they interview them or assess their sobriety if they are located out of state or even outside the United States.

On data reporting San Francisco supports DMV maintaining and expanding its past practice of making required reports on AV activity available to the public – including reports on vehicle miles traveled, disengagements, immobilizations and crashes. San Francisco supports for VMT to be severed from disengagement reporting but to be

continued for permittees at the deployment stage. San Francisco urges the DMV to collect VMT data on a county by county basis with two exceptions: (1) miles driven on state and interstate highways that are not also local surface streets (such as Van Ness Avenue and Lombard Street in San Francisco), which could be reported and aggregated at the state level; and (2) miles driven in cities with population greater than 500,000, which should be aggregated at the city level as well as the county level.

San Francisco also encourages the Department to create a public sector working group where the Department can be informed by local transportation officials and first responders in cities with driverless AV operations and regularly solicit input on its administration of current and proposed regulations.

Lastly, San Francisco states the proposed regulations call for manufacturers to include a "safety case" in their permit applications but don't include metrics or thresholds that must be met to receive or renew a deployment permit. They argue that these omissions could make safety case submissions ineffectual in actual practice.

Department Response: The Department appreciates San Francisco's comment and supports the use of a tiered enforcement framework that allows for proportional regulatory responses to safety concerns. In response to stakeholder feedback, including San Francisco's, the Department has adopted provisions in Section 227.46 and Section 228.22 that authorize the Department to impose incremental enforcement measures, such as operational restrictions or permit modifications, when performance issues arise that do not meet the threshold for suspension or revocation. These measures enhance the Department's ability to respond swiftly and appropriately to emerging safety concerns while maintaining regulatory flexibility. The Department also agrees with San Francisco's recommendation to continue crash reporting and vehicle immobilization reporting for manufacturers holding deployment permits. These requirements are retained in Section 228.34 and Section 228.36 of Article 3.8, ensuring that safety-relevant data continues to be collected and reviewed throughout the deployment lifecycle. Regarding the Autonomous Vehicle Noncompliance Form (OL 325), the Department acknowledges the importance of ensuring that peace officers can issue the form efficiently and without undue burden. The Department has revised the form to improve clarity and usability, including updates to location reporting and terminology. However, the Department recognizes that further engagement with law enforcement agencies is essential to ensure the form is practical and effective in the field. The Department will consider convening a working group with representatives from police departments in jurisdictions with active driverless operations to discuss the issuance process, training needs, and opportunities for streamlining.

In response to stakeholder feedback, including San Francisco's, the Department has adopted provisions in Section 227.42(f)(3) and Section 228.08(c)(10) requiring manufacturers to certify that a dedicated emergency response telephone line is available during all hours of autonomous vehicle operation and is staffed by remote operations support personnel with situational awareness of the vehicle. The regulations also require that emergency response officials be able to reach such personnel within 30 seconds of initiating contact through a two-way voice communication device.

While the Department agrees with the intent of San Francisco's recommendation, it has not adopted a requirement for manufacturers to submit performance data documenting compliance with the 30-second standard at this time. The Department determined that such a requirement would introduce significant administrative complexity and may not yield actionable safety insights without a standardized method of verification. However, the Department retains the authority to inquire into the functionality and reliability of emergency communication systems through the application review and Request for Information processes, as outlined in Sections 227.70 and 227.72.

The Department also agrees that communication systems supporting emergency response personnel should be maintained to a high standard. Accordingly, the regulations require manufacturers to describe redundancies and capabilities in place to ensure continued communication in the event of network degradation or failure. These requirements are intended to ensure that emergency communication systems are robust and comparable in reliability to those serving vehicle occupants.

The Department appreciates San Francisco's comment and agrees that the regulatory language should align with the statutory framework established in Vehicle Code section 38751. In response to this comment, the Department has revised the regulatory text in Section 227.42(f)(3)(F) and Section 228.08(c)(10)(E) to conform to the statute. The updated language clarifies that an emergency geofencing message remains in effect for the duration specified by the emergency response official and dissolves automatically unless extended, consistent with the provisions of AB 1777.

This revision ensures that the regulation does not impose additional procedural burdens on emergency response agencies and preserves the statutory intent to allow emergency officials discretion in managing geofencing directives. The Department remains committed to supporting effective emergency response protocols while minimizing administrative impacts on public safety personnel. The Department remains committed to ensuring that Remote Drivers and Remote Assistants meet rigorous standards for safety, accountability, and responsiveness. In response to stakeholder feedback, including San Francisco's, the Department has retained the

requirement that each Remote Driver be issued an individual permit, as specified in Section 227.38(a). Remote Drivers must meet eligibility criteria, including driver record requirements, and be identified to the Department at the time of application. Manufacturers are also required to maintain records of training and certification for each Remote Driver and ensure that these individuals are available to law enforcement during investigations.

However, the Department has removed the proposed requirement for Remote Assistants to be issued individual permits. The Department received comments that since the remote assistant is not responsible for performing the dynamic driving task or dynamic driving task fallback, which falls within test driver and remote driver obligations, this role does not require individual permitting which is intended to amplify the Department's oversight on the driving record.

Regarding the demonstration of operational capability, the Department acknowledges San Francisco's concern that Remote Drivers are not subject to an in-vehicle test comparable to that required of human drivers. While the Department has not adopted a physical in-vehicle testing requirement for Remote Drivers, the regulations require manufacturers to provide a detailed description of the tooling used for remote operations, the training and certification process, and the method for evaluating readiness to perform remote driving tasks (see Section 227.38(c)). These provisions are intended to ensure that Remote Drivers are equipped with appropriate tools and are capable of using them effectively.

The Department has not adopted a limit on the number of vehicles a Remote Driver may operate simultaneously. This decision reflects the diversity of operational models and the evolving nature of remote support technologies. However, manufacturers are required to describe their remote operations support systems, including how tasks are assigned and monitored, and the Department retains authority to inquire into operational practices through the Request for Information process (see Section 227.72).

While the regulations will not require that Remote Drivers be physically located in California, manufacturers must ensure that Remote Drivers are able to communicate effectively with California first responders, including through two-way voice communication systems. The Department may request documentation of language capabilities and communication protocols as part of its application review or enforcement processes.

Regarding sobriety and jurisdictional oversight, the Department requires Remote Drivers of autonomous heavy-duty commercial motor vehicles to be enrolled in a Controlled Substance and Alcohol Testing Program consistent with federal regulations (see Section 227.38(d)(8)). Manufacturers must maintain records of compliance and

make them available for inspection. As with any vehicle operated on California public roads, the driver, whether in the vehicle or operating it remotely, must comply with all applicable requirements of the Vehicle Code and follow all rules of the road.

The Department appreciates San Francisco's comment and supports the continued public availability of safety-relevant autonomous vehicle data. The Department agrees that transparency in AV operations is essential to public trust and regulatory oversight.

In response to stakeholder feedback, including San Francisco's, the Department has revised the regulatory text to:

- Sever VMT from disengagement reporting: The Department has removed disengagement reporting requirements and replaced them with reporting of dynamic driving task performance relevant system failures and vehicle immobilizations, which are more meaningful indicators of safety-critical events. This change is reflected in Section 227.56 and Section 227.58 of Article 3.7, and Section 228.36 and 228.38 of Article 3.8.

- Continue VMT reporting at the deployment stage: The Department has included VMT reporting requirements for manufacturers at the deployment stage, as outlined in Section 228.40 of Article 3.8.

Regarding San Francisco's recommendation to enhance the geographic granularity of VMT reporting, the Department has determined that mandating city- and county-level reporting would impose significant administrative and technical burdens on manufacturers and could result in inconsistent or incomplete data submissions. Instead, the Department retains the authority to inquire into VMT across specific jurisdictions—including counties and cities—through the application review and Request for Information processes, as outlined in Section 227.72 of Article 3.7.

While the Department is committed to transparency, it will carefully consider what data is made publicly available to ensure that the release of information does not compromise confidential business information or trade secrets. As outlined in Section 227.74, the Department will protect data that qualifies as confidential under the California Public Records Act, the Evidence Code, and related provisions of the Civil Code.

The Department agrees that regular dialogue with transportation officials and first responders can enhance regulatory oversight, support effective implementation, and ensure that public safety considerations are addressed in a timely and informed manner. While the establishment of a formal working group is outside the scope of this rulemaking action, the Department is committed to continuing and expanding its collaborative efforts with local agencies. The Department currently engages with

stakeholders through public workshops, comment periods, and targeted outreach, and will explore opportunities to continue these interactions.

As outlined in Sections 227.02(xx) and 228.08(a)(1)(C), the safety case must include a comprehensive description supported by evidence demonstrating support for key safety domains: functional safety, safety of the intended function, artificial intelligence safety, cybersecurity, and operational safety. The safety case must also include core safety information elements and safety performance indicators aligned with industry best practices.

While the Department has not adopted fixed numerical thresholds for each safety domain, the safety case is evaluated holistically to determine whether the automated driving system poses an unreasonable risk of accident, death, injury, or exacerbating injury. This performance-based approach allows the Department to assess safety across diverse vehicle platforms and operational models, while retaining flexibility to adapt to evolving technologies. The Department may consult with third-party experts during its review of safety case submissions and retains authority to request additional information or clarification from manufacturers as needed.

- ***California Highway Patrol (CHP), -45d***

Comment: CHP provided a grammar edit on page 57 of the draft regulations to DMV which is the following: (a) Commencing July 1, 2026, a Notice of Autonomous Vehicle Noncompliance, form OL 325 (Rev. 12/2024), which is hereby incorporated by reference, may be issued by a peace officer that observes an alleged violation of this the Vehicle Code, or an alleged violation of local traffic ordinance adopted pursuant to the Vehicle Code.

Department Response: The Department has made the grammatical amendment.

- ***Jessica Grove, California Department of Rehabilitation (DOR), -45d***

Comment: DOR argues that the draft regulations create several areas of concern and potential challenges for people with disabilities. DOR states that in the draft regulations, there are a lack of accessibility standards as the proposed regulations do not mandate accessible vehicle design (e.g., wheelchair ramps, securement areas, tactile/visual alerts). DOR argues that DMV should mandate that all AVs intended for passenger use meet or exceed ADA and state accessibility requirements, including physical and digital accessibility features.

DOR further states that the Operational Design Domain Restrictions do not incorporate the unique mobility needs of people with disabilities in operational design domain definitions. DOR recommends to the DMV that they require Operational Design Domain definitions to consider paratransit-style boarding, safe drop-off zones,

and first-mile/last-mile connectivity for passengers with mobility, sensory, or cognitive disabilities.

DOR is also concerned that emergency protocols for geofencing and immobilization procedures (Sections 227.02, 227.46) do not clarify how passengers with disabilities will be safely evacuated. DOR recommends that DMV update their draft regulations to develop explicit protocols for evacuating or rerouting passengers with disabilities in emergencies or vehicle failures, including training for remote drivers and emergency responders.

DOR recommends that the DMV update draft regulations on heavy-duty vehicles as they currently exclude explicit passenger accessibility considerations in heavy-duty vehicle design or deployment.

DOR also urges the DMV to update their data reporting for crash and immobilization data as there is no mandate to collect or analyze impacts on passengers with disabilities. DOR encourages the DMV to update their data reporting to require data collection and analysis to include disability impacts, such as whether vehicle immobilizations or crashes disproportionately affect passengers with disabilities.

Department Response: The Department appreciates DOR's commitment to ensuring equitable access for individuals with disabilities. While the current rulemaking focuses primarily on establishing foundational safety, permitting, and reporting structures for both light duty and heavy-duty AVs, the Department agrees that accessibility is an essential component of broader mobility policy.

Vehicle Code section 38750 governs both the testing and deployment of autonomous technology and requires the Department to adopt regulations necessary to ensure the safe operation of autonomous vehicles on public roads. The Department's authority under this statute is limited to establishing safety related regulations for AV operation, permitting, reporting, and oversight, and does not extend to implementing ADA standards.

Vehicle Code section 38750 governs the testing and deployment of autonomous technology and requires that the regulations include standards that the Department concludes are necessary for the safe operation of the vehicles on public roads. The regulations govern testing of the vehicles, not the testing of a specific uses of the vehicles, and as such it is outside the Department's authority to implement ADA standards. The Department also encourages DOR to engage with the California Public Utilities Commission (CPUC) on accessibility concerns related to AV passenger service. CPUC holds regulatory jurisdiction over the provision of commercial passenger service by autonomous vehicles in California.

- ***MaryAnn Hogan, United States Department of Commerce, National Institute of Standards and Technology, on behalf of Jiao Yang, China World Trade Organization (China WTO), -45d***

Comment: The China WTO argues that the proposed amendments to Articles 3.7 and 3.8 of Chapter Section 1, Part 13 of CCR, and the terms " Light Duty Operations" and "Heavy Duty Operations" remain undefined. The China WTO is seeking clarification on whether these terms specifically refer to vehicle operations ("Light Duty Vehicle Operations"/"Heavy Duty Vehicle Operations") and which classification standard applies EPA (40 CFR, using 8,500 lbs. GVWR threshold) or NHTSA (49 CFR, using 10,000 lbs. GVWR.

Department Response: For the purposes of Articles 3.7 and 3.8, "Heavy-Duty Commercial Motor Vehicle" is defined as a motor vehicle with a gross vehicle weight rating (GVWR) of 10,001 pounds or more, consistent with the Federal Motor Carrier Safety Administration (FMCSA) and NHTSA definitions found in Title 49 of the Code of Federal Regulations. This threshold is reflected in the regulatory text and associated definitions (see Section 227.02(e)).

The Department has not separately defined "Light Duty Operations" in the regulatory text, as the term is used descriptively to refer to vehicles with a GVWR below the 10,001-pound threshold. These vehicles are subject to different testing and deployment requirements than heavy-duty vehicles, as outlined in the respective sections of the proposed regulations.

The Department believes that the regulatory text provides sufficient clarity regarding the classification of vehicle operations based on GVWR and aligns with existing federal and state standards.

Comment: The China WTO further argues that for § 227.42(a)(2) of CCR Part 13, Chapter 1, Section 1, Article 3.7 and § 227 .42(a)(1)) to allow for foreign testing which employs internationally recognized standards (ISO 34502 for scenario testing, SAE J3016 for classification) with verification by accredited bodies (TÜV Rhineland /UL), and demonstrates compliance with California safety requirements, such data should be recognized per TBT Agreement Article 2.4 (international standards adoption). The China WTO argues that exclusive acceptance of local data may constitute disguised trade restrictions.

Department Response: The Department has incorporated references to SAE J3016 (APR2021) throughout Articles 3.7 and 3.8 to define levels of driving automation and ensure consistency with global classification frameworks.

The regulations do not prohibit manufacturers from including foreign testing data in their permit applications. However, the regulations require manufacturers to conduct

operational assessments using a valid California testing permit within the intended ODD. This requirement is designed to account for the complex and diverse driving environments encountered on California's public roads, including interactions with local infrastructure, traffic patterns, and regulatory conditions. These in-state assessments are essential to ensuring that autonomous vehicles can operate safely and reliably in California's unique traffic environment and are consistent with the Department's statutory responsibility to protect public safety.

The Department's approach is performance-based and does not exclusively rely on local data. Rather, it allows for the inclusion of foreign testing data as part of a broader safety demonstration, while maintaining a requirement for localized validation to ensure compliance with California-specific safety standards.

Comment: The China WTO further argues that for CC R Part 13, Chapter 1, Section 1, Article 3.8, the recommendation of adding ISO 22737 as an equivalent alternative to mandated SAE standards. The China WTO states further that mandating only SAE standards creates unnecessary trade barriers (TBT Article 2.2), whereas permitting equivalent international standards would maintain regulatory objectives while ensuring fairness (Articles 2.1 and 2.4). The China WTO also argues that regarding § 228.08(9) of CCR Part 13, Chapter 1, Section 1, Article 3 .8, specifying international interface standards (e.g., ISO 23150) rather than "commercially available tools.

Department Response: The SAE J3016 (APR2021) standard for the classification of driving automation systems is adopted both in the Vehicle Code Section 38750 and in California regulations. This standard is widely adopted across the autonomous vehicle industry and serves as the foundational taxonomy for defining levels of automation in both domestic and international contexts. The Department selected SAE J3016 to ensure consistency with existing federal and state frameworks and to align with industry practices.

The regulations do not preclude manufacturers from referencing or incorporating additional international standards, such as ISO 22737 or ISO 23150, in their safety case submissions or technical documentation. Manufacturers may include such standards as part of their evidence to demonstrate compliance with California's safety requirements, provided the documentation is clear, verifiable, and relevant to the operational design domain and vehicle configuration proposed for deployment.

However, the Department has not adopted ISO 22737 or ISO 23150 as formally incorporated standards in this rulemaking. The Department determined that referencing SAE J3016 and "commercially available tools" provides sufficient flexibility for manufacturers to demonstrate compliance while maintaining clarity and enforceability. The term "commercially available tools" is intended to ensure that data recorders and interface mechanisms used in autonomous vehicles are

accessible, interoperable, and capable of supporting post-incident investigations by law enforcement and regulatory agencies.

The Department's approach is consistent with the principles of the TBT Agreement, including Article 2.2, which permits regulatory measures necessary to achieve legitimate public policy objectives, such as traffic safety. The Department's performance-based framework allows manufacturers to submit a variety of supporting evidence—including data derived from international standards—so long as it demonstrates that the automated driving system does not pose an unreasonable risk of accident, death, injury, or exacerbating injury.

Comment: For § 228.08(13)'s cybersecurity certification, The China WTO recommend adopting internationally recognized standards (e.g., ISO/SAE 21434) instead of unspecified "current industry standards."

Department Response: The Department has retained the requirement that manufacturers provide a cybersecurity certification as part of their deployment permit application. The certification must demonstrate that the autonomous vehicle meets appropriate and applicable current industry standards to defend against, detect, and respond to cyberattacks, unauthorized intrusions, or false vehicle control commands.

While the Department has not formally incorporated ISO/SAE 21434 into the regulatory text, manufacturers may reference this or other internationally recognized standards in their safety case submissions to demonstrate compliance. The Department's performance-based framework allows manufacturers flexibility in how they substantiate cybersecurity readiness, provided the evidence is sufficient to support a finding that the automated driving system does not pose an unreasonable risk to public safety.

The Department determined that referencing "current industry standards" provides flexibility to account for evolving best practices and emerging technologies, while avoiding the need for frequent regulatory updates to reflect changes in specific standards. However, the Department retains authority to request additional information or clarification during the application review process and may consult with third-party experts to assess the adequacy of cybersecurity measures.

The Department's approach is consistent with the principles of the TBT Agreement, including Article 2.2, which permits regulatory measures necessary to achieve legitimate public policy objectives such as traffic safety, and Article 2.4, which encourages the use of international standards where appropriate.

- **Jesse Wiza, -45d**

Comment: Mr. Wiza urges the Department to prohibit autonomous vehicles entirely and instead prioritize investments in public transit, pedestrian, and bicycle infrastructure. Mr. Wiza recommends banning larger autonomous trucks, enforcing violations such as pedestrian-right-of-way failures under Vehicle Code section 21952, requiring stuck autonomous vehicles to be towed and fined like human drivers rather than retrieved by manufacturers, and prohibiting solutions that allow companies to dispatch retrieval teams.

Department Response: The Department is not adopting recommendations to impose towing and fine-based requirements, as these issues fall outside the scope of the Department's statutory authority under Vehicle Code section 38750. The regulations already require that autonomous vehicles comply with all applicable provisions of the California Vehicle Code, including pedestrian-right-of-way requirements, and they establish a performance-based safety framework grounded in a comprehensive safety case, robust operational data reporting, and mechanisms for the Department to investigate and address safety-critical incidents or patterns through restrictions, suspensions, or revocations when necessary.

The regulations also require manufacturers to maintain the ability to safely support, stabilize, and remove an autonomous vehicle from active travel lanes when it enters a minimal-risk condition or becomes immobilized. Manufacturers must describe in their safety case how the automated driving system, remote driver, or remote assistant will transition the vehicle to a minimal-risk state and how personnel will respond, including details on response time, staffing, roles, and procedures for addressing immobilizations and failures. These provisions ensure that the Department can rely on manufacturer-supplied retrieval capability—through designated staff, remote operators, or contracted teams—to clear a disabled vehicle safely and promptly, enabling the Department to investigate and respond to safety-critical incidents through its enforcement authorities.

- ***Peter Ciriscioli, General Public, -45d***

Comment: Mr. Ciriscioli urges the DMV to include safety validation tests before the AV are permitted. Further, Mr. Ciriscioli advocates that independent safety validation tests are needed on autonomous vehicles. Lastly, Mr. Ciriscioli argues that studies indicate that Autonomous vehicles would have to be driven hundreds of millions of miles and sometimes hundreds of billions of miles to demonstrate their reliability in terms of fatalities and injuries in testing.

Department Response: The Department has adopted a regulatory framework that requires manufacturers to submit a comprehensive description of a safety case as part of their permit application (see §§ 227.02(xx) and 228.08(a)(1)(C)). The safety case must include evidence demonstrating compliance with key safety domains,

including functional safety, safety of the intended function, artificial intelligence safety, cybersecurity, and operational safety. This framework is designed to evaluate whether the automated driving system poses an unreasonable risk of accident, death, injury, or exacerbating injury.

To support its safety determination for autonomous vehicle deployment, the Department has established minimum mileage thresholds for pre-deployment testing. Light-duty autonomous vehicles (with a gross vehicle weight rating under 10,001 pounds) must complete at least 50,000 miles of autonomous testing on public roads within their intended operational design domain (ODD) in California, while low-speed autonomous vehicles are subject to a reduced threshold of 10,000 miles. In contrast, heavy-duty autonomous commercial motor vehicles (GVWR of 10,001 pounds or more) must complete a total of 1 million miles—500,000 miles under a Drivered Testing Permit and 500,000 miles under a Driverless Testing Permit—with at least 100,000 miles driven within the intended ODD in California to ensure exposure to the state's complex roadway environments.

The Department acknowledges the limitations of relying solely on mileage-based testing to validate safety, particularly for rare events. Accordingly, the safety case framework allows manufacturers to incorporate simulation data, scenario-based testing, and other forms of technical validation, which may include methodologies aligned with international standards such as ISO 34502. These approaches provide a more scalable and targeted means of evaluating system performance across a wide range of safety-critical scenarios.

Regarding independent validation, the Department retains authority to consult with third-party technical experts during the review of safety case submissions and may request additional information or clarification from manufacturers as needed. This process ensures that safety claims are substantiated by credible evidence and subject to expert scrutiny.

- ***Lauren Barker, General Public –45d***

Comments: Lauren Barker urges the Department to require clear visual markings and company identification on all autonomous test trucks, along with mandatory disclosure of test locations and operators. Ms. Barker also calls for enforceable minimum following distances to prohibit tight convoys and for operational standards that account for real-world driving behavior, not just legal compliance. Ms. Barker also recommends creating a public reporting tool so civilians can submit observations or concerns about autonomous vehicle testing.

Department Response: Manufacturers are not required to display trade dress however they are required to label autonomous commercial heavy-duty vehicles with the

appropriate US DOT number and/or California Carrier Identification Number. In addition, manufacturers are required to identify to the department all vehicles used in testing by make, vehicle identification number, and license plate number. The vehicle identification information provided in permit application process allows the department to match a vehicle to the manufacturer holding a testing permit.

Regarding mandatory disclosure of test locations, routes, or operators, the Department is not adopting a requirement to publicly disclose real-time or advance testing locations. Such requirements are burdensome, infeasible as operations scale, and unnecessary for effective oversight. The Department continues to conduct safety evaluation through the safety case, operational data reporting, and post-permitting controls, including the Request for Information (RFI) process. These mechanisms allow the Department to monitor safety-critical events without creating public-facing route registries.

On the recommendation to impose minimum following-distance requirements or restrictions on convoy spacing, the Department is not adopting AV-specific distance rules. The operational behavior of autonomous vehicles must comply with the California Vehicle Code and applicable traffic-safety statutes, which already govern safe following distances and prohibit unsafe driving behaviors.

Regarding the suggestion to develop operational standards that account for real-world behavior beyond legal compliance, the Department notes that this rulemaking incorporates a comprehensive safety case framework requiring manufacturers to describe how their system design, validation, and operational practices ensure safe performance—including functional safety, safety of the intended function, AI/ML safety, cybersecurity, and operational safety. This approach provides the Department with detailed insight into the manufacturer's safety methodologies without creating additional prescriptive behavioral rules not contemplated by statute.

The Autonomous Vehicle page on the department's internet web site already includes a section entitled "Public Feedback" with a link to the email address AVFeedback@dmv.ca.gov which provides members of the public an effective mechanism to report observations regarding their experience with autonomous vehicles operating on public roadways.

- ***Mark Gruberg, San Francisco Taxi Workers Alliance, -OT***

Comments (via Public Hearing): Mark Gruberg, a board member of the San Francisco Taxi Workers Alliance, emphasized the critical need for strong enforcement mechanisms in autonomous vehicle (AV) regulations, citing past failures such as Cruise's operations and raising concerns about the growing number of companies with testing permits. He stressed that relying solely on manufacturer self-certification without road testing demands heightened vigilance. Mr. Gruberg shared personal

observations of Waymo vehicles, which he said had initially operated cautiously but have recently exhibited risky behaviors, including illegal turns, failure to yield, and misuse of transit lanes. He urged regulators to maintain robust reporting requirements—particularly around disengagements and braking—as these metrics offer valuable insights into AV performance and public safety impacts.

Department Response: The Department agrees that enforcement mechanisms are critical to ensuring public safety and has incorporated provisions for incremental enforcement measures, including operational restrictions, suspension, and revocation of Deployment Permits under Articles 3.7 and 3.8. These measures allow the Department to respond proportionally to safety risks, including those that do not warrant full permit revocation. The Department has also clarified that it may impose immediate restrictions on AV operations if they pose an imminent hazard and may require manufacturers to submit data demonstrating remediation before lifting such restrictions. These provisions directly address the concerns raised regarding delayed responses to unsafe AV behavior.

In response to stakeholder concerns, including those raised by Mr. Gruberg, the Department has strengthened reporting requirements. Specifically, the Department has replaced disengagement reporting with dynamic driving task performance relevant system failure reporting, which more accurately reflects safety-critical incidents. Additionally, manufacturers must report braking events, vehicle immobilizations, and collision data using standardized templates to ensure consistency and transparency.

4) Summary of Comments Received during the First 15-day Comment Period and Department Response

After receiving and reviewing comments received during the 45-day comment period, the Department determined it necessary to amend the regulations. The Department conducted a 15-day comment period that began on December 3, 2025, and ended on December 18, 2025. The Notice of Modifications of Proposed Regulations, specifically stated, "Any interested person may submit written comments regarding the changes to the proposed text." During that time, the Department received comments from 200 interested parties. Many of those comments were not regarding changes to the proposed text. Government Code Section 11346.8(c) specifies that the Department is only required to respond to comments received regarding the changed text.

The following individuals provided written comment on the modified regulatory text.

#	Name	Entity	Date Submitted
1	Jan Oldfield	General Public	12/3/2025
2	Dick Gomez	General Public	12/3/2025

3	Kathleen Daniello	General Public	12/3/2025
4	Leslie Ann Wolff	General Public	12/3/2025
5	L Scott	General Public	12/3/2025
6	Ginny Sheehan	General Public	12/3/2025
7	Ben Thurston	General Public	12/3/2025
8	Linda Hahn	General Public	12/4/2025
9	Lindsay FitzGerald Jacobs	General Public	12/4/2025
10	Patricia Gracian	General Public	12/4/202511
	Sara Puro	Alliance for Automotive Innovation	12/5/2025
12	Jason Carr	General Public	12/5/2025
13	Ruth Brock	General Public	12/6/2025
14	Kristine White	General Public	12/6/2025
15	Kenny C	General Public	12/7/2025
16	Ann Leach	General Public	12/7/2025
17	Damon C. Simpson	General Public	12/8/2025
18	Michael Wagner	Edge Case Research	12/9/2025
19	Felicita Garcia	General Public	12/10/2025
20	Mary Cummings	George Mason University Autonomy and Robotics Center	12/11/2025
21	Paul Allison	General Public	12/15/2025
22	Juan Vazquez	General Public	12/15/2025
23	Alejandro Y	General Public	12/15/2025
24	Juan Gomez Jr	General Public	12/15/2025
25	Arjun Giri	General Public	12/15/2025
26	Kimberley Mixter	General Public	12/15/2025
27	Buddhiman Tamang	General Public	12/15/2025
28	Badara Alie Kamara	General Public	12/15/2025
29	Clarence Johnson	General Public	12/15/2025
30	Jhonatan Duarte	General Public	12/15/2025
31	Mohammad javid Aloko	General Public	12/15/2025
32	Claudia Diaz	General Public	12/15/2025
33	Dinesh Kundu	General Public	12/15/2025
34	Eric Dauster	General Public	12/15/2025
35	Jose Argelio Velasquez	General Public	12/15/2025
36	Gustavo Reyes	General Public	12/15/2025
37	Anurag Arora	General Public	12/15/2025
38	Mark Laarveld	General Public	12/15/2025
39	Douglas Fagre	General Public	12/15/2025
40	Mert Kurucay	General Public	12/15/2025
41	Parveen Singh	General Public	12/15/2025
42	Luis Salgado	General Public	12/15/2025
43	Abraham Ruiz	General Public	12/15/2025
44	AJ Lyons	General Public	12/15/2025
45	Vanessa Mayorquin Cardenas	General Public	12/15/2025

46	Cesar Cruz	General Public	12/15/2025
47	Frank Mcclure	General Public	12/15/2025
48	Adel Bakir	General Public	12/15/2025
49	Woo Han	General Public	12/15/2025
50	Mir Sultani	General Public	12/15/2025
51	KL Cole	General Public	12/15/2025
52	Winsor Harmon	General Public	12/15/2025
53	Larry Aguilar	General Public	12/15/2025
54	Alfonzo Chavez	General Public	12/15/2025
55	Christopher Sidotti	General Public	12/15/2025
56	Michael Letendre	General Public	12/15/2025
57	Dechelle Richardson	General Public	12/15/2025
58	Kenneth Brown	General Public	12/15/2025
59	Keith Douglas	General Public	12/15/2025
60	Conrado Deleon	General Public	12/15/2025
61	Gerardo Cervantes	General Public	12/15/2025
62	Seth Shumaker	General Public	12/15/2025
63	Mike Shanti	General Public	12/15/2025
64	Donald Kaiser	General Public	12/15/2025
65	Moise Romano	General Public	12/15/2025
66	Donna Borja	General Public	12/15/2025
67	Yama Sakhizada	General Public	12/15/2025
68	Malang Diedhiou	General Public	12/15/2025
69	Alex Khallouf	General Public	12/15/2025
70	Antonio Ortiz	General Public	12/15/2025
71	John Pellegrin	General Public	12/15/2025
72	Kimberly Dodd	General Public	12/15/2025
73	Arif Kinchen	General Public	12/15/2025
74	Ivan Kalvi	General Public	12/15/2025
75	Elmore McCoy	General Public	12/15/2025
76	Fernando Montes	General Public	12/15/2025
77	Raul Reyes	General Public	12/15/2025
78	Ricardo Razo	General Public	12/15/2025
79	Travis Baird	General Public	12/15/2025
80	Jonathan Hilbrands	General Public	12/15/2025
81	Tiadors Shamoon	General Public	12/15/2025
82	Shawn Johnston	General Public	12/15/2025
83	Raynaldo Gallegos	General Public	12/15/2025
84	Ramiro Barajas	General Public	12/15/2025
85	Mia Mccullouch	General Public	12/15/2025
86	Natalie Johnson	General Public	12/15/2025
87	Adison Martinez	General Public	12/15/2025
88	Marcos Torres	General Public	12/15/2025
89	Pablo Machado	General Public	12/15/2025

90	Wasila Draz	General Public	12/15/2025
91	Allen Mealey	General Public	12/15/2025
92	Brandy Ybarra	General Public	12/15/2025
93	Jay Foster	General Public	12/15/2025
94	Charles Robinson	General Public	12/15/2025
95	Jose Maldonado	General Public	12/15/2025
96	Sandra Sotelo	General Public	12/15/2025
97	Noemi R Contreras	General Public	12/15/2025
98	Angelica Rivera	General Public	12/15/2025
99	Rafael Gonzalez	General Public	12/15/2025
100	Rafat Zughaib	General Public	12/15/2025
101	Damir Urazalin	General Public	12/15/2025
102	Yonis Issaq	General Public	12/15/2025
103	Francisco Garcia	General Public	12/15/2025
104	Lennita Ozier	General Public	12/15/2025
105	Abdul Jendi	General Public	12/15/2025
106	Juan Ondo Ngomo Ayaba	General Public	12/15/2025
107	Enrique Preciado	General Public	12/15/2025
108	Miguel Martinez	General Public	12/15/2025
109	Harutyun Movsisyan	General Public	12/15/2025
110	Raquel Poveda	General Public	12/15/2025
111	Ken Angliongto	General Public	12/15/2025
112	Peter Katz	Mountain View Chamber of Commerce	12/15/2025
113	Charles Reed-Casey	General Public	12/15/2025
114	Genaro Torres	General Public	12/15/2025
115	Roberto Contreras	General Public	12/15/2025
116	Abdulvahit Azizi	General Public	12/15/2025
117	Yusufkhan Khan	General Public	12/15/2025
118	Debbie Van Eyck	General Public	12/15/2025
119	Kieran Thomas Mulderrig	General Public	12/15/2025
120	Michael Harden	General Public	12/15/2025
121	Homayon Dastjerdi	General Public	12/15/2025
122	Pablo Colocho	General Public	12/15/2025
123	Angel Benavides	General Public	12/15/2025
124	Danilo Balaysoche	General Public	12/15/2025
125	Federico Avila	General Public	12/15/2025
126	Erwin Co	General Public	12/15/2025
127	Ernesto Perez	General Public	12/15/2025
128	Shanay Duffie	General Public	12/15/2025
129	Talal Malki	General Public	12/15/2025
130	Wendy Laguna	General Public	12/15/2025
131	Nehemias Guevara	General Public	12/15/2025
132	Daniel Logan	General Public	12/15/2025
133	Ramazan Demirci	General Public	12/15/2025

134	Luis Penate	General Public	12/15/2025
135	James Tunberg	General Public	12/15/2025
136	Juan Garcia	General Public	12/15/2025
137	Zubair Ahmed	General Public	12/15/2025
138	Sergii Merkulov	General Public	12/15/2025
139	Gary Zinn	General Public	12/15/2025
140	Humberto Hernandez	General Public	12/15/2025
141	Esther Spikes	General Public	12/15/2025
142	Sanjaya Fernando	General Public	12/15/2025
143	Henry Hirapetiancferd	General Public	12/15/2025
144	Jesus Martínez	General Public	12/15/2025
145	Steven Menjivar	General Public	12/15/2025
146	Edwin Guevara Jr	General Public	12/16/2025
147	Alireza Izadi	General Public	12/16/2025
148	Dereje Lulseged	General Public	12/16/2025
149	Maged Ebrahim	General Public	12/16/2025
150	Jasper Gout	General Public	12/16/2025
151	Nathan Perez	General Public	12/16/2025
152	Edgar Argumedo	General Public	12/16/2025
153	Hasalaka Bandara	General Public	12/16/2025
154	Edgar Nava	General Public	12/16/2025
155	Jamal Khosh	General Public	12/16/2025
156	Allen Ward	General Public	12/16/2025
157	Shan chi Chang	General Public	12/16/2025
158	Aura Valdespino	General Public	12/16/2025
159	Arthur Young	General Public	12/16/2025
160	Edwin Ruffner	General Public	12/16/2025
161	Taylor Scheinuk	General Public	12/16/2025
162	Joseph Augusto	General Public	12/16/2025
163	Nicholas Haris	American Motorcycle Association	12/16/2025
164	John Mejia	General Public	12/17/2025
165	Luis A. Durruty	General Public	12/17/2025
166	Daryush Khodadadi-Mobarake	General Public	12/17/2025
167	Perry Holmes	Einride	12/17/2025
168	Timothy Haile	Contra Costa Transportation Authority	12/17/2025
169	Ziyang David Fan	Silicon Valley Leadership Group	12/17/2025
170	Ray LaHood	General Public	12/18/2025
171	Gerardo Interiano	Aurora Operations, Inc.	12/18/2025
172	Elizabeth Fishback	Stack AV Co.	12/18/2025
173	Jordan Coleman	Kodiak AI, Inc.	12/18/2025
174	Ritchie W. Huang	Daimler Truck North America LLC	12/18/2025
175	Aravind Kailas	Volvo Autonomous Solutions	12/18/2025
176	Rich Steiner	Gatik AI, Inc.	12/18/2025
177	John Lobsiger	Volkswagen Group of America, Inc.	12/18/2025

178	Nicole DuPuis	May Mobility, Inc.	12/18/2025
179	Katie Stevens	Nuro	12/18/2025
180	Dzuy Cao	Tesla Robotaxi, LLC	12/18/2025
181	Ron Thaniel	Zoox, Inc.	12/18/2025
182	Allison Drutchas	Waymo LLC	12/18/2025
183	Jean Paul Velez	San Francisco County Transportation Authority	12/18/2025
184	Jovan D. Grogan	City of Santa Clara	12/18/2025
185	Jarvis Murray	Los Angeles Department of Transportation	12/18/2025
186	Viktoriya Wise	On behalf of San Francisco Municipal Transportation Authority, San Francisco Police Department, San Francisco Fire Department	12/18/2025
187	David Grossman	Consumer Technology Association	12/18/2025
188	Greg Reading	On behalf of Beep, Holon, Redding Area Bus Authority, Contra Costa Transportation Authority, California Foundation for Independent Living Centers	12/18/2025
189	Matt Lege	Service Employees International Union California State Council (SEIU)	12/18/2025
190	Jose Torres	TechNet	12/18/2025
191	Grant Baker	Association for Uncrewed Vehicle Systems International	12/18/2025
192	Peter Leroe-Muñoz	Bay Area Council	12/18/2025
193	Shane A. Gusman	Broad & Gusman on behalf of California Conference Board of Amalgamated Transit Union	12/18/2025
194	Catherine Chase and Rosemary Shahan	Advocates for Highway and Auto Safety, Consumers for Auto Reliability and Safety	12/18/2025
195	Ariel S. Wolf	Autonomous Vehicle Industry Association	12/18/2025
196	Lindsay M. Abate	Alliance for Automotive Innovation	12/18/2025
197	Lea Rowe	Blinded Veterans Association	12/18/2025
198	Shane A. Gusman	Teamsters California	12/18/2025
199	Silvia Solis Shaw	California City Transportation Initiative	12/18/2025
200	Nick Chiappe	California Trucking Association	12/18/2025

Letters from the following commenters expressed support of the proposed modified regulations and described possible benefits to businesses, customers and local economies.

- Lea Rowe, Blinded Veterans Association -15d
- Greg Reading, Beep; Holon; California Foundation for Independent Living Centers; Redding Area Bus Authority; Contra Costa Transportation Authority, -15d
- David Grossman and Samuel Negatu, Consumer Technology Association, -15d

- Peter Katz, Mountain View Chamber of Commerce, -15d
- Ben Thurstan, General Public, -15d
- Kenny C, General Public, -15d
- Eric Dauster, General Public, –15d
- Timothy Haile, Contra Costa Transportation Authority, -15d
- Grant Baker, Association for Uncrewed Vehicle Systems International, -15d

Letters from the following commenters opposed the proposed modified regulations:

- Nicholas Haris, American Motorcycle Association -15d
- Catherine Chase and Rosemary Shahan, Advocates for Highway and Auto Safety; Consumers for Auto Reliability and Safety, -15d
- Shane A. Gusman, Broad & Gusman, on behalf of California Conference Board of Amalgamated Transit Union, -15d

Letters from the following commenters expressed general opposition. The Department acknowledges these comments, but does not respond as they are general comments of opposition:

- Dick Gomez, General Public-15d
- Leslie Ann Wolff, General Public-15d
- L Scott, General Public -15d
- Ginny Sheehan, General Public -15d
- Jason Carr, General Public -15d
- Ruth Brock, General Public -15d
- Kristine White, General Public -15d
- Ann Leach, General Public -15d
- Damon Simpson, General Public -15d
- Noemi Contreras, General Public -15d
- Felicita Garcia, General Public -15d

Letters from the following commenters expressed general support. The Department acknowledges these comments, but does not respond as they are general comments of support:

- Ray LaHood, General Public -15d
- Luis Durruty, General Public -15d

Letters from the following individuals identifying themselves as gig workers opposed the proposed modified regulations:

- Jan Oldfield, -15d
- Arjun Giri, -15d
- Kimberley Mixter, -15d
- Buddhiman Tamang, -15d
- Badara Alie Kamara, -15d
- Clarence Johnson, -15d
- Jhonatan Duarte, -15d
- Mohammad Javid Aloko, -15d
- Claudia Diaz, -15
- Dinesh Kundu, -15d
- Jose Argelio Velasquez -15d
- Gustavo Reyes , -15d
- Anurag Arora, -15d
- Mark Laarveld, -15d
- Douglas Fagre, -15d
- Mert Kurucay, -15d
- Parveen Singh, -15d
- Luis Salgado, -15d
- Abraham Ruiz, -15d
- AJ Lyons, -15d
- Vanessa Mayorquin Cardenas, -15d
- Cesar Cruz, -15d
- Frank McClure, -15d

- Adel Bakir, -15d
- Woo Han, -15d
- Mir Sultani, -15d
- KL Cole, -15d
- Winsor Harmon, -15d
- Larry Aguilar, -15d
- Alfonzo Chavez, -15d
- Christopher Sidotti, -15d
- Michael Letendre, -15d
- Dechelle Richardson, -15d
- Kenneth Brown, -15d
- Keith Douglas, -15d
- Conrado Deleon, -15d
- Gerardo Cervantes, -15d
- Seth Shumaker, -15d
- Mike Shanti, -15d
- Donald Kaiser, -15d
- Donna Borja, -15d
- Yama Sakhizada, -15d
- Malang Diedhiou, -15d
- Alex Khallouf, -15d
- Antonio Ortiz, -15d
- John Pellegrin, -15d
- Kimberly Dodd, -15d
- Arif Kinchen, -15d
- Ivan Kalvi, -15d
- Elmore McCoy, -15d

- Fernando Montes, -15d
- Raul Reyes, -15d
- Ricardo Razo, -15d
- Travis Baird, -15d
- Marcos Torres, -15d
- Wasila Draz, -15d
- Shawn Johnston, -15d
- Raynaldo Gallegos, -15d
- Ramiro Barajas, -15d
- Mia Mccullouch, -15d
- Natalie Johnson, -15d
- Adison Martinez , -15d
- Allen Mealey, -15d
- Brandy Ybarra, -15d
- Jay Foster, -15d
- Charles Robinson, -15d
- Jose Maldonado, -15d
- Sandra Sotelo, -15d
- Noemi R Contreras, -15d
- Angelica Rivera , -15d
- Rafael Gonzalez, -15d
- Rafat Zughaib, -15d
- Damir Urazalin, -15d
- Yonis Issaq, -15d
- Francisco Garcia, -15d
- Lennita Ozier, -15d
- Enrique Preciado, -15d

- Pablo Machado, -15d
- Moise Romano, -15d
- Kathleen Daniello, -15d
- Linda Hahn, -15d
- Lindsay FitzGerald, -15d
- Patricia Gracian, -15d
- Jonathan Hilbrands, -15d
- Tiadors Shamoon, -15d
- Paul Allison, -15d
- Juan Vazquez, -15d
- Alejandro Y, -15d
- Juan Gome-15d
- Damir Urazalin, -15d
- Yonis Issaq, -15d
- Francisco Garcia, -15d
- Abdul Jendi, -15d
- Juan Ondo Ngomo Ayaba, -15d
- Miguel Martinez, -15d
- Harutyun Movsisyan, -15d
- Raquel Poveda, -15d
- Ken Angliongto, -15d
- Charles Reed-Casey, -15d
- Genaro Torres, -15d
- Roberto Contreras, -15d
- Abdulvahit Azizi, -15d
- Yusufkhan Khan, -15d
- Debbie Van Eyck, -15d

- Kieran Thomas Mulderrig, -15d
- Michael Harden, -15d
- Homayon Dastjerdi, -15d
- Pablo Colocho, -15d
- Angel Benavides, -15d
- Danilo Balaysoche, -15d
- Federico Avila, -15d
- Erwin Co, -15d
- Ernesto Perez, -15d
- Shanay Duffie, -15d
- Talal Malki, -15d
- Wendy Laguna, -15d
- Nehemias Guevara, -15d
- Daniel Logan, -15d
- Ramazan Demirci, -15d
- Luis Penate, -15d
- Edwin Guevara Jr, -15d
- Alireza Izadi, -15d
- Dereje Lulseged, -15d
- Maged Ebrahim, -15d
- Jasper Gout, -15d
- Nathan Perez, -15d
- Edgar Argumedo, -15d
- Hasalaka Bandara, -15d
- Edgar Nava, -15d
- Jamal Khosh, -15d
- Allen Ward, -15d

- Shan chi Chang, -15d
- Aura Valdespino, -15d
- Arthur Young, -15d
- Edwin Ruffner, -15d
- Taylor Scheinuk, -15d
- Daryush Khodadadi-Mobarake, -15d
- Joseph Augusto, -15d
- James Tunberg, -15d
- Juan Garcia, -15d
- Sergii Merkulov, -15d
- Gary Zinn, -15d
- Humberto Hernandez, -15d
- Esther Spikes, -15d
- Sanjaya Fernando, -15d
- Henry Hirapetiancferd, -15d
- Jesus Martínez, -15d
- John Mejia, -15d
- Steven Menjivar, -15d

Comment: These commentors expressed concerns about the economic impact of AV deployment on California's gig economy workforce. They emphasized that driving for rideshare platforms is their primary source of income, and that the expansion of AV fleets threatens their ability to earn a living. Specific concerns included reduced ride availability, lower earnings, increased competition, and the lack of regulatory safeguards for human drivers. Commenters urged the Department to consider labor impacts, implement fleet caps, and ensure fair market conditions for human drivers.

Department Response: The Department acknowledges the concerns regarding the potential economic effects of AV deployment on gig workers. However, these concerns fall outside the scope of the current rulemaking, which is limited to the regulation of autonomous vehicle safety and operational standards under the Department's statutory authority. Matters related to labor market impacts, wage

protections, and fleet size limitations are not within the jurisdiction of this rulemaking process.

- ***Sara Puro, Alliance for Automotive Innovation (Auto Innovators), -15d***

Comment: Alliance for Automotive Innovation requested that the 15-day public comment period be extended to January 16, 2026, to allow sufficient time for stakeholders to review the modified regulations at the level of detail needed to provide substantive, meaningful comments. Alliance for Automotive Innovation furthered that there is precedent for the state to extend public comment periods, when needed.

Department Response: After careful consideration, the Department of Motor Vehicles made the determination that the 15-day comment period would not be extended.

- ***Michael Wagner, Edge Case Research (Edge Case), -15d***

Comment: Edge Case Research (Edge Case) submitted comments commending the California DMV's shift toward requiring comprehensive safety cases supported by core safety information elements in §§ 227.02(xx) and 228.08(a)(1)(C). They offered four key recommendations to strengthen the regulations: (1) require independent safety case assessments to avoid internal bias and ensure rigorous validation, especially for complex operational design domains; (2) reinforce the safety case as the primary decision-making tool by promoting standardized templates like their Open Autonomy Safety Case (OASC); (3) mandate continuous updates to safety cases, emphasizing that manufacturers must maintain current documentation and be prepared to respond to Requests for Information under § 227.72; and (4) establish a statewide AV Safety Hazard Database to proactively share lessons learned, near-miss events, and emergent hazards, modeled after aviation's ASIAS system. Edge Case emphasized that these measures would enhance public safety, streamline regulatory review, and support California's leadership in autonomous vehicle oversight.

Department Response: Edge Case recommends strengthening the role of independent safety case assessments, noting that other safety-critical industries—such as aviation and medical devices—require third-party validation to mitigate organizational bias. The Department acknowledges this recommendation and has included language in § 227.28(d) and § 228.08(a)(14) allowing for consultation with third-party experts during safety case review. Vehicle Code §38750(d)(2) authorizes the Department to "consult with any entity that has expertise in automotive technology, automotive safety, and autonomous system design" in the development of regulations. The Department interprets this authority as encompassing technical review of information submitted pursuant to those regulations because the same specialized expertise required to develop effective safety standards is equally

necessary to evaluate compliance with those standards. This interpretation aligns with the statute's purpose of ensuring public safety and supports the Department's ability to maintain ongoing oversight. While the Department does not mandate independent assessments at this time, it retains discretion to require such reviews when appropriate, particularly for complex operational design domains (ODDs).

Edge Case also recommends that safety cases be continuously updated and made available upon request. The Department agrees that AV systems evolve rapidly, and that safety documentation must reflect current operational realities. Although the requirement to submit material modifications within 10 business days was removed in response to stakeholder concerns, the Department maintains authority under § 227.72 and § 228.46 to issue Requests for Information (RFIs) in response to safety-critical incidents, ODD violations, or other investigatory triggers. Manufacturers are expected to maintain up-to-date safety documentation and provide full disclosure upon request, consistent with the Department's oversight responsibilities.

Edge Case also recommends the establishment of a statewide AV Safety Hazard Database to facilitate proactive sharing of safety lessons, near-miss events, and emergent hazards. The Department acknowledges the value of proactive safety data sharing, including voluntary reporting of near-miss events and emergent hazards, as suggested by Edge Case. However, the creation of a centralized hazard database is outside the scope of this rulemaking, which focuses on implementing robust and standardized data reporting requirements for both testing and deployment phases.

- ***Dr. Mary (Missy) Cummings, George Mason University Autonomy and Robotics Center, -15d***

Comment: Dr. Cummings, Director of the George Mason University Autonomy and Robotics Center and former Senior Safety Advisor to NHTSA, submitted comments expressing concern about the safety risks posed by remote operators located outside the United States. She specifically criticized the practice of allowing companies like Waymo to station remote drivers in the Philippines, where operators may not hold U.S. driver's licenses or meet domestic readiness standards. Dr. Cummings emphasized that such geographic separation introduces significant communication latency, which could endanger public safety in California. She urged the Department to require that all remote drivers and assistants be physically located within the contiguous United States to ensure accountability and reduce latency-related risks.

Department Response: The Department recognizes the importance of ensuring that remote operations personnel are qualified, accountable, and capable of responding effectively to safety-critical events. While the regulations do not impose a geographic restriction requiring remote operators to be physically located within the United

States, the Department has adopted comprehensive functional, training, and qualification requirements for remote drivers and remote assistants in §§ 227.38 and 227.40 of Article 3.7. These include mandatory identification of remote personnel to the Department, valid driver's license requirements, fatigue risk assessments, and certification for assigned tasks. Manufacturers are required under § 227.02(xx)(9) to provide information related to their remote operations and assistance systems. This includes a description of the activation processes for remote assistance, the triggering conditions under which remote support is initiated, the criteria used to determine when remote assistance is necessary, and the expected response times. Furthermore, § 227.02(xx)(9)(C) mandates that manufacturers describe the communication infrastructure that enables real-time data exchange between the autonomous vehicle and remote personnel. This description must include the average and maximum communication latencies observed, as well as the testing and validation procedures used to ensure that remote operations remain robust and reliable under varying latency conditions. The Department acknowledges that no binding domestic or international technical standards currently define acceptable latency thresholds for remote driving. Neither NHTSA nor the Federal Motor Vehicle Safety Standards (FMVSS) prescribe latency requirements. In the absence of harmonized technical standards, the Department determined that establishing fixed latency standards would risk adopting values not yet validated across vehicle platforms, network architectures, or operational contexts. Therefore, the Department has opted for a flexible, performance-based approach that allows for case-by-case evaluation of latency risks through the safety case and supporting operational data. This approach is consistent with the Department's authority under Vehicle Code § 38750 and aligns with industry best practices. To ensure compliance and maintain public safety, the Department has also adopted robust enforcement tools. Under § 228.26, the Department may impose operational restrictions on a manufacturer's Deployment Permit if AV operations pose an imminent hazard. These restrictions may include reductions in fleet size, geographic scope, hours of operation, or requirements for onboard personnel. Additionally, § 228.24 authorizes the Department to suspend or revoke a Deployment Permit for violations of regulatory requirements or submission of misleading information. The Department's Request for Information authority (§§ 227.72, 228.26(d)) enables it to obtain supplemental data from manufacturers to investigate incidents and assess safety risks.

- ***Allison Drutchas, Waymo LLC (Waymo), -15d***

Comment: Waymo requests that the Department publish all incorporated reporting templates—including those for vehicle immobilization, vehicle miles traveled, collisions, braking events, and system failures—for public review and comment prior to implementation. They recommend including data dictionaries to ensure

standardization and clarity. Additionally, Waymo urges the Department to provide a minimum of six months lead time after templates are finalized before the first reporting period begins, to allow manufacturers sufficient time to develop compliance processes.

Waymo supports requiring a description of the safety case rather than the full case but recommends removing the reference to "AI safety," which they view as redundant and undefined. They suggest rephrasing the requirement to focus on functional safety, safety of intended functionality, cybersecurity, and operational safety. Waymo also expresses concern about the use of third-party experts in regulatory review, citing confidentiality and conflict-of-interest risks. They recommend either removing this provision or applying strict safeguards, including compliance with Government Code §1090 and exclusivity clauses.

Waymo appreciates the extended reporting timeline but questions the safety relevance of braking event data. They recommend keeping such data confidential to avoid misinterpretation, focusing on the dominant trigger object, and allowing an option to indicate when identification is not feasible. Technical clarifications include replacing "closing rate" with "range rate," using "deceleration rate" instead of "braking rate," and refining the metric for speed reduction. They also request limiting reporting to testing data collected after the requirement becomes effective and providing six months of lead time post-template finalization. Waymo supports limiting collision reporting to incidents occurring in California and recommends aligning with NHTSA's Standing General Order 2021-01 and any successor regulations. They suggest clarifying that the requirement for a separate data recording mechanism should not duplicate future federal mandates and limiting reporting scope to testing data collected after the effective date. Waymo recommends narrowing the definition of reportable system failures to those likely to result in immediate trip cessation without intervention. They also request extending immobilization reporting deadlines from 15 to 30 days, requiring speed limits to be reported in miles per hour, and applying a six-month lead time after templates are finalized. Scope should be limited to testing data collected after reporting obligations begin.

Waymo supports clarifications to reporting timelines for Notices of AV Non-compliance but recommends refining the standard for priority review. Specifically, they suggest limiting the 24-hour reporting requirement to cases where noncompliance resulted in a collision or near-collision, rather than minor administrative violations.

Waymo acknowledges the importance of VMT reporting but emphasizes the resource burden of new requirements. They recommend providing at least six months of lead time after templates are finalized before enforcement begins.

Waymo supports same-day reporting to DMV as NHTSA Part 573 filing but opposes the provision allowing immediate permit suspension for open recalls. They recommend replacing this provision with a requirement for DMV to engage in dialogue with manufacturers regarding unresolved safety defects.

Waymo commends the Department for clarifying roles and requirements for remote assistants and remote drivers but requests a six-month lead time before enforcement. They also recommend clarifying that certain tasks apply only to vehicles assigned to specific remote personnel and removing the requirement that remote drivers have never been at fault in certain crashes, as fault determinations are often unavailable.

Waymo raises due process concerns regarding immediate permit suspensions or revocations and recommends adopting an expedited review process similar to federal emergency order procedures. Suggested measures include a conference within days, a hearing within 14 days, and a decision within five days post-hearing.

Finally, Waymo estimates that compliance with the Modified Proposed Regulations will require millions of dollars in additional costs over the first two years, primarily due to new reporting obligations and the need for additional personnel and tooling. They urge the Department to weigh these costs against the actual safety benefits of each provision.

Department Response: The Department appreciates Waymo's detailed comments. Templates are already incorporated by reference in the regulation and were made accessible during the 15-day comment period through a request to the Department's contact listed in the Notice. The Department will not add a separate, pre-implementation public review cycle for templates as the modified regulations already incorporate templates and data dictionaries for collisions, braking events, dynamic driving task performance relevant system failures (DDT PRSF), vehicle immobilizations, and VMT, and requires electronic submission in standardized .csv format via the Department's portal. This approach achieves transparency and standardization without creating a duplicative review cycle focused on template forms.

The Department is amending the regulations to establish a delayed implementation period for data reporting under Articles 3.7 and 3.8. For data reporting under Article 3.7, there will be a 120-day implementation period following the effective date of the regulations. For data reporting under Article 3.8, reports must be submitted to the Department at the end of each quarter, with specific due dates provided. The first report is due after the first full calendar quarter following the effective date of the regulations. These delays allow manufacturers sufficient time to establish reporting processes that comply with regulatory requirements. The Department determined that this approach supports an orderly transition, minimizes disruption to existing operations, and ensures timely compliance.

AI safety addresses risks unique to machine learning, and industry best practices and safety frameworks (such as AV Safety Consortium guidelines) increasingly recognize it as a separate domain that requires explicit consideration. Removing this term would create a gap in evaluating critical safety aspects of autonomous systems and weaken oversight of emerging technologies.

The core safety information elements in Article 3.7 expressly require a comprehensive description of a safety case covering functional safety, SOTIF, AI safety, cybersecurity, and operational safety, reflecting industry frameworks and best practices (e.g., AV safety consortium materials referenced in the Statement of Reasons). The Legislature, as reflected in Vehicle Code section 38750(d)(2), encourages the Department to consult with subject matter experts in automotive vehicle technology. Given this directive and the broad authority granted to the Department under Vehicle Code section 38750, engaging outside experts to conduct technical reviews of information submitted under these regulations falls fully within the Department's discretion. The same specialized expertise required to develop effective regulations is equally essential for evaluating compliance with those standards. This interpretation aligns with the statute's purpose of ensuring public safety and reinforces the Department's ability to maintain ongoing oversight. Confidential Business Information (CBI) is protected by applicable California Public Records Act exemptions and trade secret protections, which mitigates the risk of disclosing confidential information. In addition, any third-party experts are bound by contractual confidentiality obligations that require them to safeguard CBI and prohibit unauthorized disclosure.

The Department will maintain the braking event requirements and retain technical terminology and metrics. The revised thresholds and data elements are narrowly tailored to capture safety relevant events. These changes reduce low-value reporting and focus on higher-risk contexts, while enabling consistent reporting across manufacturers. The term "closing rate" and metric units will be retained to support consistency in the Department's analysis of braking events. The Department will maintain collision reporting requirements as they align with the June 2025 revision of NHTSA's SGO and clarify that manufacturers submit the same crash reports to DMV for incidents within California, thereby avoiding duplicative, inconsistent reporting regimes. The templates (with data dictionaries) and portal submission provide consistency without expanding scope beyond the effective framework already in the modified text. The Department replaced disengagement reporting with dynamic driving task performance–relevant system failures (DDT PRSF) for drivered testing and SAE Level 3 deployment features, and consolidated minimal-risk-condition reporting through immobilizations for driverless operations using objective data elements (date/time, VIN, coordinates, speed limit in meters per second, and manual intervention definitions for vehicles with or without manual controls). Using metric units

ensures consistency in reporting and analysis of incident data; narrowing the definition to only trip-ending failures would exclude safety-relevant conditions that require fallback or remote support but do not immediately end trips.

Waymo recommends limiting the 24-hour noncompliance reporting requirement to cases that result in a collision or near-collision, rather than minor administrative violations. The Department will maintain the current requirement. The regulation already clarifies submission timelines and workflows to support priority reviews while ensuring timely visibility. Narrowing the 24-hour requirement further could impede timely safety oversight and delay critical responses.

Article 3.8 §228.14 requires same-day transmittal of Part 573 reports to DMV. Article 3.8 §228.24(b)(5) gives the Department discretion—not a mandate—to suspend permits for vehicles under an open recall, allowing targeted action where a known safety defect exists. This authority is critical for public safety because dialogue alone does not provide immediate protection when a defect poses an unreasonable risk. The regulations do not require automatic suspension; they state the Department may suspend a permit when vehicles are subject to an open NHTSA recall on the automated driving system. Same-day reporting of Part 573 defect notices to DMV remains necessary to ensure timely awareness of safety defects. Requirements for remote drivers and remote assistants—including qualification standards and records—will remain unchanged.

Article 3.7 §227.38(d)(5)(B) specifies a driver record standard (e.g., no at fault injury/death crash during the lookback) consistent with the Department's safety oversight. The Department removed permitting for remote assistants in response to stakeholder feedback but retained qualification/record requirements that ensure only trained, eligible personnel engage in remote driving or assistance. The Department will retain the administrative hearing timelines and procedures specified in Articles 3.8 §§228.20, 228.24, and 228.26, including timelines for hearings following immediate orders. The express terms set out the hearing rights and schedules, including a hearing within 21 days after request for immediate orders, and specify that a request for hearing does not stay an immediate suspension, restriction, or revocation. These provisions balance public safety with due process under the Administrative Procedure Act and Government Code provisions. The regulations include multiple burden reducing adjustments adopted in response to stakeholder feedback—e.g., replacing disengagements with DDT PRSF, narrowing braking thresholds to high-risk contexts, aligning collision reporting with NHTSA SGO, consolidating immobilization metrics, and relying on standardized templates with data dictionaries to improve efficiency and consistency. These changes reflect careful balancing of costs vs. safety benefits.

- ***Elizabeth Fishback, Stack AV Co. (Stack), -15d***

Comment: Stack supports the Department's effort to authorize ADS-equipped commercial motor vehicles but raises concerns about the phased, mileage-based permit structure, calling it burdensome and disproportionately high for heavy-duty vehicles compared to light-duty AVs. Stack recommends reducing mileage thresholds and questions their safety relevance, suggesting a more flexible approach. While acknowledging the improvement of extending testing permits to two years, Stack emphasizes the need for predictability and clear timelines in the permitting process. Stack requests that the Department establish defined decision timelines for application review and approval to provide regulatory certainty and support business planning.

Department Response: Articles 3.7 (§227.42(a)(1)) and 3.8 (§228.08(a)(1)(A)–(B)) require manufacturers to demonstrate ADS safety through mileage-based testing within the intended operational design domain before applying for driverless or deployment permits. The thresholds—500,000 miles for heavy-duty vehicles—are necessary to ensure robust validation under diverse conditions. Regarding timelines, §228.10 establishes review procedures, including notification of incomplete applications within 30 business days and correction periods. While the Department acknowledges the importance of predictability, imposing rigid approval deadlines could compromise thorough safety evaluations. The Department will continue to prioritize timely reviews while maintaining flexibility to address complex technical submissions.

- ***Ritchie W. Huang, Daimler Truck North America LLC (DTNA), -15d***

Comments: Daimler Truck North America LLC ("DTNA") expresses concern about new data reporting obligations, particularly braking events, arguing that these often reflect safe driving behavior and lack a clear safety nexus. The company warns that extensive reporting requirements could impose significant operational burdens, create confidentiality risks, and divert resources without improving safety oversight. DTNA recommends minimizing reporting obligations and instead focusing on safety cases, collision reports submitted to NHTSA, and Notices of Noncompliance to monitor safety. DTNA also urges the Department to ensure reporting timelines are practical, avoid duplication, and reduce the volume of sensitive operational data collected.

Department Response: Braking event reporting requirements were adopted to avoid over-reporting routine maneuvers and focus on events that present potential risk. Reports must include standardized data elements, submitted electronically using a prescribed reporting template. These changes were made in direct response to stakeholder feedback to reduce burden and improve clarity by removing subjective reporting elements and disengagement reporting, while retaining objective metrics

that support safety oversight. Braking event data provides the Department with insight into AV performance in high-risk contexts, which is critical for evaluating operational safety and compliance. While safety cases and NHTSA collision reports remain essential oversight tools, they do not provide granular, event-level data necessary for proactive monitoring of ADS behavior in dynamic traffic conditions. Therefore, the Department will retain data reporting requirements as proposed.

- ***Aravind Kailas, Volvo Autonomous Solutions (VAS), -15d***

Comment: Volvo Autonomous Solutions ("V.A.S.") recommends that the Department provides additional regulatory clarity that a "direct route" is intended to mean a reasonably efficient and lawful route that supports safe operation within the approved ODD, even if it is not the shortest path.

V.A.S. recommends that manufacturers be allowed to leverage testing conducted out-of-state in an ODD comparable to that which is intended for driverless testing or deployment in California to meet mileage-based permitting requirements.

Department Response: Articles 3.7 (§227.42(a)(1)(B)) and 3.8 (§228.08(a)(1)(B)) require manufacturers to meet mileage thresholds and submit a comprehensive description of a safety case to demonstrate ADS safety. Mileage requirements provide objective evidence of real-world performance and complement the safety case review process. The regulations already allow reciprocity for out-of-state testing in comparable operational design domains, provided manufacturers submit equivalent operational data (§227.42(d); §228.08(a)(1)(E)). This approach balances flexibility with the Department's need for California-specific validation. Removing mileage requirements would reduce the rigor of safety oversight and create inconsistency with the phased permit structure.

The term "direct route," as used in Articles 3.7 and 3.8 (§227.18(c); §228.08(a)(3)(A)), is intended to mean a route that is reasonably efficient, lawful, and necessary to support safe operation within the approved ODD. This provision was adopted to restrict unnecessary travel on local roads with posted speed limits of 25 mph or less while allowing access between hubs, distribution centers, fueling or charging stations, and other non-residential facilities. This approach establishes a clear standard for acceptable routes for autonomous heavy-duty commercial motor vehicles—those that are the most linear, geographically logical, and efficient, while preserving safety and regulatory compliance.

- ***Perry Holmes, Einride, -15d***

Comment: Einride recommends that the proposed regulations provide a clear, viable pathway for manufacturers of purpose-built vehicles with no manual driving controls to test in California without first conducting drivered testing. Einride seeks additional

clarity on whether the proposed regulations will allow manufacturers to operate a cabless vehicle under a Driverless Testing Permit.

Department Response: Articles 3.7 and 3.8 require manufacturers to demonstrate safety through mileage-based testing and submission of a comprehensive safety case before operating in driverless mode (Title 13 CCR §§227.42(a)(1), 228.08(a)(1)(A)–(C)). These requirements apply uniformly to all manufacturers to ensure public safety and compliance with Vehicle Code §38750(c)(1). The mileage thresholds and safety case framework were adopted to provide objective evidence of ADS performance across the intended operational design domain. Einride recommends an alternative path for AVs that cannot be manually driven. However, such an alternative is not necessary. An autonomous vehicle is defined as one equipped with an automated driving system (ADS), and the mileage requirements apply to the manufacturer testing the ADS. Manufacturers have the flexibility to choose which vehicle platform to use for testing the ADS prior to applying for a driverless testing permit. This approach supports the deployment of bespoke, fully autonomous vehicles while maintaining rigorous safety oversight.

- ***Jordan Coleman, Kodiak AI, Inc. (Kodiak), -15d***

Comment: Kodiak AI, Inc. ("Kodiak") expresses concern that the proposed reporting obligations remain overly complex and burdensome, recommending that the Department rely primarily on crash reporting as the key safety metric. Kodiak also argues that the definition of "dynamic driving task performance relevant system failures" is vague and may unintentionally replicate or expand disengagement reporting. To address this, Kodiak recommends aligning definitions with SAE J3016, replacing "vehicle user" with "test driver" for clarity, and revising §227.56(a) to specify reporting only when a test driver takes over due to a system failure.

Department Response: Relying exclusively on crash data would fail to provide the Department with timely and comprehensive insight into system performance and emerging risks. Crash data is inherently lagging—it reflects incidents after they occur, often under severe conditions, and does not capture near-miss events, system degradations, or operational anomalies that could indicate elevated risk before a collision happens.

The adopted regulations in Articles 3.7 and 3.8 establish a multi-dimensional safety framework that includes reporting on dynamic driving task performance relevant system failures (§ 227.56), vehicle immobilizations (§ 227.58), braking events (§ 227.66), and vehicle miles traveled (§ 227.60), in addition to collision reporting (§ 227.54; § 228.34). These metrics provide leading indicators of ADS reliability and operational safety, enabling the Department to intervene proactively rather than waiting for crashes to occur.

This approach aligns with best practices in safety management and risk mitigation, and ensures that oversight is data-driven, timely, and comprehensive, supporting the Department's statutory mandate under Vehicle Code § 38750 to protect public safety while fostering innovation.

Regarding DDT PRSF, the Department will maintain the existing definition and reporting because these events provide critical insight into ADS performance in safety-relevant scenarios, complementing crash data and supporting proactive oversight. Disengagement reporting was removed and replaced with DDT PRSF reporting to focus on objective, safety-critical events rather than subjective driver actions.

- ***Rich Steiner, Gatik AI, Inc. (Gatik), -15d***

Comment: Gatik AI, Inc. ("Gatik") expressed concerns about the proposed mileage thresholds, arguing they are arbitrary, lack safety relevance, and disproportionately burden heavy-duty AVs compared to light-duty vehicles. Gatik recommends eliminating fixed mileage requirements and instead assessing readiness through the safety case, or at minimum counting miles driven during permit review toward thresholds. Gatik also contends that not all situations prescribed should necessitate a modification or amendment to the approved permit as they would not create a material change in the operational capabilities of the vehicle platform or its ODD, specifically adding a new vehicle model equipped with the same automated driving system used under the existing permit and making a vehicle capable of operation on roadway types or geographic areas other than those in the approved permit.

Gatik recommends that the Department provides additional regulatory clarity that addresses the qualifications and roles of third-party experts which may review the manufacturer's safety case and impact permitting decisions and the evaluation criteria that they would employ. In addition, Gatik contends that manufacturers certify receiving independent, third-party review of their safety case by credible experts prior to application should not require further review from the Department's third-party experts.

Department Response: Articles 3.7 (§227.42(a)(1)) and 3.8 (§228.08(a)(1)(A)–(B)) require manufacturers to demonstrate ADS safety through mileage-based testing within the intended operational design domain before applying for driverless or deployment permits. These thresholds—500,000 miles for heavy-duty vehicles—are necessary to ensure robust validation under diverse conditions and complement the safety case review process. The mileage requirements provide objective evidence of real-world performance and were adopted to maintain rigorous safety oversight.

Articles 3.7 (§227.42(o)) and 3.8 (§228.12(b)) identify operational changes that materially affect safety, such as changes to SAE level, speed increases, or expansion of the operational design domain. Adding a new vehicle platform may require the manufacturer to conduct a rigorous safety evaluation, including sensor calibration and input adjustments to account for differences in vehicle dynamics. These triggers ensure that significant changes undergo review supported by a safety case and mileage validation.

The Legislature, as reflected in Vehicle Code section 38750(d)(2), encourages the Department to consult with subject matter experts in automotive vehicle technology. Given this directive and the broad authority granted to the Department under Vehicle Code section 38750, engaging outside experts to conduct technical reviews of information submitted under these regulations falls fully within the Department's discretion. The same specialized expertise required to develop effective regulations is equally essential for evaluating compliance with those standards. This interpretation aligns with the statute's purpose of ensuring public safety and reinforces the Department's ability to maintain ongoing oversight.

Confidential Business Information (CBI) is protected by applicable California Public Records Act exemptions and trade secret protections, which mitigates the risk of disclosing confidential information. In addition, any third-party experts are bound by contractual confidentiality obligations that require them to safeguard CBI and prohibit unauthorized disclosure.

- **Gerardo Interiano, Aurora Operations, Inc. (Aurora), -15d**

Comment: Aurora urges the Department to refine the Deployment Permit framework to better accommodate Driver-as-a-Service business models, ensuring enforcement actions and reporting obligations do not penalize ADS manufacturers for issues outside their control. The company also recommends limiting permit reapplication triggers to material changes, such as changes in SAE level, speed increases, or removal of restricted conditions, rather than minor operational adjustments. Aurora supports requiring only a safety case summary for original permits and allowing evidence submission only upon the Department's request, with reduced frequency for renewals. Additionally, Aurora advises removing or strictly limiting third-party expert consultation, with strong confidentiality protections and clear timelines if retained. Aurora recommends aligning recall provisions with the federal framework by eliminating immediate suspension for any "open recall" and instead limiting action to recalls accompanied by "do not drive" advisories. Aurora also seeks clarification on operational restrictions for local roads and alternate routing and encourages adopting a performance-based approach for design mandates such as in-cabin

indicators. Aurora also recommends that event and data reporting requirements use objective criteria, avoid subjective fields, and occur quarterly rather than monthly.

Department Response: Articles 3.7 and 3.8 establish a uniform regulatory framework to ensure public safety and compliance with Vehicle Code §38750. The Deployment Permit framework appropriately assigns responsibilities to the permit holder, because the ADS manufacturer is responsible for the safe operation of the automated driving system regardless of business model. Enforcement provisions in §228.22 and §228.24 are necessary to address imminent hazards and unreasonable risks, and the Department will continue to exercise discretion to tailor restrictions as appropriate.

Regarding permit modifications, §227.42(o) and §228.12(b) identify changes that materially affect operational safety, such as SAE level, speed increases, or expansion of the operational design domain. These triggers ensure that significant changes undergo review supported by a safety case. Mileage requirements and safety case submissions provide objective evidence of ADS performance and are critical for oversight.

The description of a safety case should explain how the manufacturer's evidence supports the safety case, rather than requiring submission of all supporting evidence, which may be highly technical and voluminous. The Department will retain the requirement for a comprehensive safety case summary that describes supporting evidence for original permits and material modifications (§227.28(d); §228.08(a)(1)(C)). This approach aligns with best practices and ensures transparency in evaluating safety claims.

The Department will also retain authority to consult third-party experts under §227.28(d) and §228.08(a)(1)(C). The Legislature, as reflected in Vehicle Code section 38750(d)(2), encourages the Department to consult with subject matter experts in automotive vehicle technology. Given this directive and the broad authority granted to the Department under Vehicle Code section 38750, engaging outside experts to conduct technical reviews of information submitted under these regulations falls fully within the Department's discretion. The same specialized expertise required to develop effective regulations is equally essential for evaluating compliance with those standards. This interpretation aligns with the statute's purpose of ensuring public safety and reinforces the Department's ability to maintain ongoing oversight. Confidential Business Information (CBI) is protected by applicable California Public Records Act exemptions and trade secret protections, which mitigates the risk of disclosing confidential information. In addition, any third-party experts are bound by contractual confidentiality obligations that require them to safeguard CBI and prohibit unauthorized disclosure. Aurora's recommendation to remove immediate suspension authority for open recalls is not adopted. §228.24(b)(5) provides the

Department discretion—not an automatic mandate—to suspend permits when vehicles are subject to an open NHTSA recall related to the ADS. This authority is necessary to address known safety defects promptly, as detailed in the Statement of Reasons (pp. 10–11). Event and data reporting requirements in §227.54, §227.56, §227.58, §227.60, and §227.66, and §228.36–§228.40, have been revised to include objective metrics and standardized templates with data dictionaries. Monthly reporting in testing ensures timely visibility into safety-critical events, and the Department retains authority to request additional information when needed. Quarterly reporting, as suggested, would reduce oversight effectiveness and delay identification of emerging risks.

- ***Nicole DuPuis, May Mobility Inc. (May Mobility), -15d***

Comment: May Mobility raises concerns about overly burdensome requirements for startups. They recommend clarifying or deferring the definition of "artificial intelligence safety" until industry standards emerge, expanding the exemption for transit vehicles by removing restrictive weight and passenger limits, and allowing remote drivers and assistants to hold licenses from any jurisdiction, not just California. May Mobility also urges limiting reporting requirements for permit modifications to new vehicles only, reverting monthly reporting of system failures and vehicle miles traveled back to annual reporting, and reducing duplicative data submissions for incremental operational expansions.

Department Response: The core safety information elements in Article 3.7 expressly require a comprehensive description of a safety case covering functional safety, SOTIF, AI safety, cybersecurity, and operational safety, reflecting industry frameworks and best practices (e.g., AV safety consortium materials referenced in the Statement of Reasons). AI safety addresses risks unique to machine learning, and industry best practices and safety frameworks (such as AV Safety Consortium guidelines) increasingly recognize it as a separate domain that requires explicit consideration. Removing this term would create a gap in evaluating critical safety aspects of autonomous systems and weaken oversight of emerging technologies. The targeted exemption for medium duty passenger vehicles (GVWR < 14,001 pounds; ≤15 passengers) balances mobility innovation with public safety. Heavier passenger vehicles present distinct risk profiles that warrant additional rulemaking beyond the scope of this package, and the Department will revisit heavy-duty passenger AVs in a future rulemaking. Removing these limits now would undermine enforceability and increase exposure to risk in complex environments.

- ***Katie Stevens, Nuro, -15d***

Comment: Nuro requests that DMV allow mileage thresholds for testing and deployment permits to be certified at the time of application and permit mileage

gathered during the application review period, noting that both drivered and driverless miles should count toward thresholds. They recommend clarifying reporting requirements by excluding remote assistance maneuvers from immobilization reporting, providing guidance on how to calculate "highest braking rate averaged over 0.5s," and limiting DDT performance relevant system failure reporting to unexpected failures rather than planned disengagements or test scenarios. Nuro urges DMV to address inefficiencies in the Notice of AV Noncompliance process by enabling direct agency-to-agency communication and clarifying manufacturer responsibilities when consumers fail to transmit notices. For first responder interactions, Nuro suggests tying training frequency to substantial operational changes and allowing training upon request, and for emergency geofencing, they advocate for a standardized, statewide open communication protocol to ensure interoperability. They also request excluding personally owned AVs from emergency geofencing requirements or limiting them to notice-only obligations to avoid undue hardship for private owners, particularly those with accessibility needs. Finally, Nuro asks DMV to ensure any third-party reviewer of safety case submissions is publicly identified, maintains strict confidentiality, possesses technical expertise, and has no conflicts of interest.

Department Response: The regulations require preapplication demonstration of sufficient operational maturity before a permit may be issued, not during the Department's review, in order to ensure that the automated driving system (ADS) has already exhibited safe performance in the intended operational design domain (ODD). Articles 3.7 § 227.42(a) and 3.8 § 228.08(a)(1) establish minimum mileage requirements tailored to the permit sought. The application evidence enables the Department to conduct a consistent, data driven safety assessment. Allowing thresholds to be met during review would undermine the Department's ability to evaluate an application against a fixed evidentiary record and could lead to inconsistent outcomes. The regulatory text specifies drivered versus driverless miles, and those distinctions are intentional, and safety based; they reflect the difference in risk profiles and oversight conditions (e.g., safety drivers versus fully driverless operation). The term autonomous miles refers to ADS operation on public roads, and the regulations specify how autonomous miles under each permit type must be accumulated when applying. The intent of Section 228.08(a)(1)(A) is that a manufacturer applying for a Level 3 system must provide 50,000 miles accumulated under a drivered testing permit, while a manufacturer applying for a Level 4 (driverless) system must provide 50,000 miles accumulated under a driverless testing permit. The regulation is written this way to allow flexibility based on the capabilities of the specific ADS feature. The Department cannot require a manufacturer of a Level 3 feature to accumulate 50,000 miles under a driverless testing permit because a Level

3 feature, by definition, requires a person in the driver's seat to take over when the system exits its operational design domain.

However, under Section 228.08(a)(2)(C) and (D), a manufacturer may use miles accumulated under either a drivered testing permit or a driverless testing permit to satisfy the mileage requirement for an amendment. This provides greater flexibility for manufacturers during subsequent permit modifications and supplements the testing already completed to obtain the original deployment authorization.

California adopted mileage requirements as part of a graduated safety pathway to ensure sufficient real-world validation of SAE Level 4 automated driving systems before deployment. This approach requires manufacturers to demonstrate performance under both drivered and driverless testing conditions, reflecting the different risk profiles and oversight levels of each stage. Testing with a safety driver validates core ADS functionality in a controlled environment, while driverless testing confirms the system's ability to operate without human fallback. Together, these requirements provide layered assurance that the ADS can safely perform the dynamic driving task within its operational design domain prior to commercial deployment.

While the remote assistant (RA) is not responsible for performing the dynamic driving task (DDT), the RA can play a critical role in the ADS's ability to navigate complex or unexpected situations. The Department's oversight role for safety includes understanding this aspect of ADS support to ensure that remote operations processes are robust, timely, and do not introduce additional risk. For these reasons, the Department will retain the reporting requirement as adopted. The Department has adopted the requirement to report the "highest braking rate, averaged over a 0.5second interval, during the braking event" as stated in Article 3.7 § 227.66. This metric is clear and represents the braking rate within the strongest 0.5second interval of the event, showing how high the sustained peak is. The Department cannot prescribe the specific calculation methodology because doing so would impose design specific constraints and could conflict with proprietary systems or evolving industry standards. The adopted language provides sufficient clarity for manufacturers to identify the required value while allowing flexibility in calculation methods consistent with their internal data architecture.

To support consistency, the Department will provide electronic Braking Event Reporting Templates and a data dictionary that define the required data fields and units (e.g., meters per second squared), but the regulation does not mandate a single computational approach. This approach ensures enforceability while respecting technical diversity and innovation.

The Department replaced disengagement reporting with DDT performance relevant system failures (drivered testing) and immobilizations (driverless testing) to focus on meaningful safety signals. The adopted definition—Article 3.7 § 227.02(aa)—covers malfunctions or inhibitions that prevent reliable performance of the ADS's portion of the dynamic driving task on a sustained basis. Narrowing the category to "unexpected failures" would create subjective distinctions across manufacturers and risk omitting safety critical events that arise from foreseeable but still hazardous conditions.

The Notice of Autonomous Vehicle Noncompliance process ensures timely communication with the Department and manufacturer, and the proposed process reduces burden and ambiguity by (1) requiring electronic submission to the Department, (2) basing the submission deadline on receipt, and (3) specifying vehicle placement for the notice and officer identification procedures. These changes address scale and timeliness concerns while preserving a verified record of the manufacturer's role in remediation. The Department clarifies that the reporting timeframe begins upon receipt of the notice, not issuance. This change addresses industry concerns about fairness and feasibility, ensuring compliance obligations are triggered only when the manufacturer has actual possession of the notice. This approach is critical for safety oversight because timely reporting enables the Department to review alleged violations, assess potential risks, and take enforcement action if necessary.

To further support compliance and transparency, law enforcement will also provide a copy of the Notice directly to the Department, and the Department will follow up with the manufacturer to evaluate the circumstances surrounding the alleged violation. This dual notification process ensures that the Department is aware of potential safety concerns even if there is a delay in manufacturer receipt, and it allows the Department to initiate engagement and investigation promptly. If a manufacturer never receives the notice, they are not out of compliance, because the obligation is based on receipt. However, manufacturers must maintain accurate contact information and ensure accessibility of the designated location for notices (as specified in the First Responder Interaction Plan) to facilitate proper delivery. For personally owned AVs, the regulations are clear that manufacturer is responsible for submitting the notices upon receipt, and the manufacturer must still support lawful compliance and may be subject to Requests for Information or enforcement where appropriate. Establishing a statewide direct agency to agency transmission would entail IT integration beyond the scope of this rulemaking.

The Department already revised the cadence of First Responder updates from quarterly to "at least annually" and requires the training program to be documented and versioned after review, which balances currency and feasibility as operations

scale. Manufacturers remain free to supplement training more frequently—including upon request by local responders—and the Department retains investigatory tools (Preliminary Information Notice, Request for Information) to address specific safety critical interactions.

The adopted text aligns with statutory requirements of Vehicle Code § 38751, focusing on manufacturer directives to instruct fleets to leave/avoid defined avoidance areas for the duration specified by the emergency response official. While the Department supports interoperability, prescribing a specific statewide technical protocol is outside the scope of these regulations. Excluding personally owned AVs would create safety gaps and inconsistent behavior within the same roadway environment; the rule's focus is on ADS equipped vehicles responding consistently to emergency geofencing directives irrespective of ownership to protect public safety.

The Legislature, as reflected in Vehicle Code section 38750(d)(2), encourages the Department to consult with subject matter experts in automotive vehicle technology. Given this directive and the broad authority granted to the Department under Vehicle Code section 38750, engaging outside experts to conduct technical reviews of information submitted under these regulations falls fully within the Department's discretion. The same specialized expertise required to develop effective regulations is equally essential for evaluating compliance with those standards. This interpretation aligns with the statute's purpose of ensuring public safety and reinforces the Department's ability to maintain ongoing oversight. Confidential Business Information (CBI) is protected by applicable California Public Records Act exemptions and trade secret protections, which mitigates the risk of disclosing confidential information. In addition, any third-party experts are bound by contractual confidentiality obligations that require them to safeguard CBI and prohibit unauthorized disclosure.

- ***Dzuy Cao, Tesla Robotaxi LLC (Tesla), -15d***

Comment: In the definition of an "autonomous vehicle", Tesla recommends removing reliance on third-party or media sources for determining autonomy levels, deleting speculative language from the "imminent hazard" definition, and clarifying timelines and criteria for permit application reviews. Tesla raises concerns about the added layer of third-party experts in the review process, which could extend timelines and introduce subjectivity. They also highlight risks related to Confidential Business Information (CBI) sharing and recommend strict safeguards such as secure transmission, encryption, nondisclosure agreements, and limiting disclosure to only essential data. Tesla also objects to publishing the dedicated law enforcement phone number in First Responder Interaction Plans, citing risks of abuse and delays in emergency response, and recommends removing this requirement.

Tesla recommends replacing mileage-based thresholds with performance-based metrics, allowing out-of-state miles for non-heavy-duty vehicles, and revising requirements for notifying local authorities to permit geographic zones instead of listing all roads. Tesla argues that monthly reporting of collisions, braking events, immobilizations, and system failures imposes an undue burden that exceeds safety benefits and creates redundancy with NHTSA's Standing General Order (SGO). They recommend aligning timelines and scope with NHTSA SGO and successor regulations, limiting reporting to ADS-engaged incidents, and clarifying Preliminary Information Notices and Requests for Information to avoid duplicative reporting. Tesla also calls for refining hard braking reporting to focus on safety-critical events (e.g., ABS activation or tire jerk changes) and narrowing Dynamic Driving Task Performance Relevant System Failure reporting to exclude undefined terms and non-critical events, aligning definitions with SAE J3016 and distinguishing them from immobilizations.

Department Response: The adopted definition of "autonomous vehicle" in Article 3.7 § 227.02(h) allows the Department to consider any relevant information to determine whether a vehicle meets SAE Levels 3–5. The determination of whether a vehicle qualifies as an "autonomous vehicle" under California law is foundational to the State's regulatory framework for AV safety. To ensure public safety and regulatory integrity, the Department bases this determination on a holistic assessment of relevant evidence available to it. Consistent with SAE J3016 § 8.2, "Levels are assigned, rather than measured, and reflect the design intent for the driving automation system feature as defined by its manufacturer." The Department does not measure an SAE level directly; instead, it reviews the manufacturer's claim across all representations, including permit applications, owner's manuals, marketing materials, safety cases, and first-responder documentation. While manufacturer intent is the starting point, the Department may challenge a claim if contradicted by evidence of actual use, instructions, or incident data. Relevant evidence might also come from sources other than the manufacturer, including regulatory reports, documented operational data, credible media reports, and whistleblower disclosures. The Department will verify any third-party information before relying on it and will prioritize authoritative sources. Excluding such evidence would impair oversight and public safety. The Department retains the proposed language because it is necessary to ensure public safety and regulatory integrity.

Similarly, the definition of "imminent hazard" in § 227.02(gg) aligns with federal safety standards and is necessary to authorize immediate restrictions when conditions present a substantial likelihood of severe injury. Removing language would weaken the Department's ability to act promptly in high-risk scenarios.

The adopted text in Articles 3.7 § 227.28 and 3.8 § 228.10 outlines clear procedural steps for notifying applicants of deficiencies. These timelines strike a balance

between administrative efficiency and flexibility for manufacturers. Imposing rigid deadlines for substantive review could compromise the thoroughness of safety evaluations.

The Legislature, as reflected in Vehicle Code section 38750(d)(2), encourages the Department to consult with subject matter experts in automotive vehicle technology. Given this directive and the broad authority granted to the Department under Vehicle Code section 38750, engaging outside experts to conduct technical reviews of information submitted under these regulations falls fully within the Department's discretion. The same specialized expertise required to develop effective regulations is equally essential for evaluating compliance with those standards. This interpretation aligns with the statute's purpose of ensuring public safety and reinforces the Department's ability to maintain ongoing oversight. Confidential Business Information (CBI) is protected by applicable California Public Records Act exemptions and trade secret protections, which mitigates the risk of disclosing confidential information. In addition, any third-party experts are bound by contractual confidentiality obligations that require them to safeguard CBI and prohibit unauthorized disclosure.

The requirement in Article 3.7 § 227.42(i)(5) ensures emergency responders have immediate access to remote operations support during critical incidents. This requirement preserves rapid response capability.

Mileage thresholds in Articles 3.7 § 227.42(a) and 3.8 § 228.08(a)(1) establish an objective, enforceable baseline for operational maturity. Out-of-state mileage is permitted for heavy-duty vehicles under defined conditions because these vehicles are currently tested in other states and have been prohibited in California. Light-duty autonomous vehicles, however, have been authorized to operate in California since 2014, and manufacturers may test them on any public road with a safety driver present.

Monthly reporting requirements in Articles 3.7 §§ 227.54–227.66 and 3.8 § 228.34 are necessary for timely detection of safety trends and enforcement actions. The Department aligned collision reporting with NHTSA's Standing General Order (SGO) to minimize duplication but retains monthly cadence for non-collision metrics (e.g., braking, immobilizations, DDT failures) to ensure proactive oversight.

The adopted braking event threshold in Article 3.7 § 227.66 reflects objective, risk-relevant criteria. Adding ABS or tire jerk conditions would introduce complexity and reduce comparability. The DDT performance relevant system failure definition in § 227.02(aa) is aligned with SAE J3016 concepts and focuses on malfunctions preventing reliable ADS performance. Narrowing scope could omit safety-critical events and undermine oversight.

- ***John Lobsiger, Volkswagen Group of America (VWGoA), -15d***

Comment: VWGoA emphasizes that safety cases should be treated as evolving documents and recommends removing the term "completed" from safety case references. They request clarification on the level of detail expected in safety case descriptions and suggest referencing industry best practices like NHTSA's Safety Assessment Letter and AVSC guidelines. VWGoA also seeks clarity on software version reporting, recommending that permit amendments be required only for major releases or material changes in functionality, not for minor updates or weekly builds. For braking event reporting, they propose aligning reporting deadlines with other monthly reports for consistency. Regarding deployment permits, VWGoA asks for clarification on First Responder Interaction Plan requirements for Level 3 vehicles, recommends excluding personally owned vehicles from mileage reporting to protect privacy, and suggests flexibility in mileage-based criteria for low-risk features or small ODDs. They also request clarification on what constitutes a material ODD change, propose a six-month transition period for compliance, encourage acceptance of NHTSA SGO reports in their original format, and advocate for automation-friendly reporting templates and centralized portals to reduce administrative burden.

Department Response: The Department has amended the regulations to remove the term "completed" from the definition of a safety case. A safety case is a document that manufacturers must refine throughout the lifecycle of the automated driving system. While safety cases evolve, the Department requires a comprehensive description supported by evidence of functional safety, SOTIF, AI safety, cybersecurity, and operational safety. The Department seeks summary-level information, not exhaustive proprietary data, and may request additional details as needed.

The adopted text requires manufacturers to identify software versions to ensure traceability and safety oversight. While the Department acknowledges a manufacturer may make frequent updates, however software updates do not automatically trigger a permit amendment. Permit modifications or amendments are only required when changes materially affect the conditions under which the ADS operates, such as operational design domain (ODD) changes—for example, expansion to new road types, speed ranges, or geographic areas; vehicle platform changes, such as adding a new make or model or altering vehicle configuration; or material changes to ADS functionality that impact safety or performance in the approved ODD. Minor software updates, such as bug fixes or weekly builds that do not alter ODD or safety-critical functionality, do not require a permit amendment. Manufacturers must maintain version records and provide details upon request, but amendments are limited to material changes as defined above.

The Department is amending the regulations to establish a delayed implementation period for data reporting under Articles 3.7 and 3.8. For data reporting under Article 3.7, there will be a 120-day implementation period following the effective date of the regulations. For data reporting under Article 3.8, reports must be submitted to the Department at the end of each quarter, with specific due dates provided. The first report is due after the first full calendar quarter following the effective date of the regulations. These delays allow manufacturers sufficient time to establish reporting processes that comply with regulatory requirements. The Department has created automation friendly electronic reporting templates to create consistency in reporting across all manufacturers. The Department determined that this approach supports an orderly transition, minimizes disruption to existing operations, and ensures timely compliance.

Mileage reporting is necessary for oversight and safety analysis. The regulations specify that manufacturers providing privately owned vehicles must report vehicle miles traveled but are not required to include the vehicle identification number or any other information that could identify the private owner.

VWGoA suggests allowing alternative data accumulation strategies for low-risk features or small ODDs. However, the proposed mileage thresholds provide an objective baseline for operational maturity and case-by-case exceptions would introduce subjectivity and reduce consistency.

- ***Ron Thaniel, Christopher Nalevanko, Zoox Inc. (Zoox), -15d***

Comment: Zoox raises concerns about ambiguous safety case language and burdensome reporting requirements. They recommend revising the definition of "safety case" to remove unclear terms like "completed" and "compliance," and applying the revised definition consistently throughout the regulations. Zoox strongly opposes third-party review of safety cases, citing statutory limits and confidentiality risks. For reporting, Zoox suggests eliminating braking event reporting or at least removing the requirement to identify the perceived object, aligning backup collision reporting timelines with NHTSA's Standing General Order (SGO), and limiting dynamic driving task failure reporting to fallback events while removing plain-language cause descriptions. They propose harmonizing immobilization reporting with CPUC requirements, reverting certain text for clarity, and reducing duplicative data points. Additional recommendations include requiring only acknowledged Part 573 safety defect reports, allowing peace officers to issue notices via mail or electronic means, creating a process for contesting notices, clarifying deployment application safety case requirements, removing references to remote assistant removal from permits, and establishing a 180-day implementation timeline of data reporting after final rule adoption.

Department Response: The Department has amended the regulations to remove the terms "completed" and "compliance with" from the regulatory text. A safety case is a document that manufacturers must refine throughout the lifecycle of the automated driving system. The Department recognizes that no single overarching safety standard exists for automated driving systems. Instead, multiple recognized approaches exist for addressing safety and engineering. The intent of the regulation is not to prescribe one specific standard but to require manufacturers to clearly articulate the standards, methodologies, and best practices they applied in the design and validation of their systems. The amendment further specifies that the required description should articulate how the manufacturer's evidence supports the safety case, rather than requiring submission of all supporting evidence, which may be highly technical and voluminous. Additionally, the amendment removes capitalization from the phrase "Artificial Intelligence (AI) safety," as it does not reference a specific standard or defined term within the regulations. AI safety addresses risks unique to machine learning, and industry best practices and safety frameworks—such as those developed by the AV Safety Consortium—are increasingly recognizing AI safety as a distinct domain that warrants explicit consideration.

The Legislature, as reflected in Vehicle Code section 38750(d)(2), encourages the Department to consult with subject matter experts in automotive vehicle technology. Given this directive and the broad authority granted to the Department under Vehicle Code section 38750, engaging outside experts to conduct technical reviews of information submitted under these regulations falls fully within the Department's discretion. The same specialized expertise required to develop effective regulations is equally essential for evaluating compliance with those standards. This interpretation aligns with the statute's purpose of ensuring public safety and reinforces the Department's ability to maintain ongoing oversight. Confidential Business Information (CBI) is protected by applicable California Public Records Act exemptions and trade secret protections, which mitigates the risk of disclosing confidential information. In addition, any third-party experts are bound by contractual confidentiality obligations that require them to safeguard CBI and prohibit unauthorized disclosure.

Zoox recommends eliminating braking event reporting or removing the requirement to identify perceived objects, aligning backup collision reporting timelines with NHTSA's Standing General Order (SGO), and limiting dynamic driving task failure reporting to fallback events while removing plain-language cause descriptions. The Department denies these changes because braking and DDT failure reporting provide critical safety, and plain-language descriptions support transparency. Backup collision reporting guidelines were developed to ensure the Department receives collision data from both testing and deployment programs in a manner that reflects the severity of the incident. These backup reporting requirements, if triggered, enable

the Department to take appropriate action when an unreasonable risk to safety is identified.

The Department notes that the California Public Utility Commission's (CPUC) "stoppage" reporting under Decision 24 11 002 is designed to support CPUC's consumer-focused oversight of ride-hail reliability and service continuity, while the Department's "immobilization" reporting is safety-centric and tailored to operational risk on public roads. CPUC stoppages capture service interruptions affecting passenger experience, whereas the Department defines immobilization as a stop in an active travel lane where the autonomous vehicle cannot continue the dynamic driving task and requires retrieval or manual or remote intervention, accompanied by detailed technical data such as location, speed limit, VIN, cause, and intervention status. While the Department agrees harmonization is important, each framework appropriately supports its agency's distinct role: CPUC's stoppage reporting addresses rider experience and equitable service delivery, and the Department's immobilization reporting implements Vehicle Code §38750 by enabling continuous evaluation of the safe operation of autonomous technology through standardized electronic reporting.

Limiting safety defect reporting to "acknowledged" Part 573 filings is rejected because §228.14 requires same-day submission to Department upon filing with NHTSA to ensure timely oversight. Similarly, no change is needed to allow peace officers to issue notices via mail or electronic means, as §227.68 the regulations already provide for mailing and electronic submission within specified timeframes.

The Department is amending the regulations to establish a delayed implementation period for data reporting under Articles 3.7 and 3.8. For data reporting under Article 3.7, there will be a 120-day implementation period following the effective date of the regulations. For data reporting under Article 3.8, reports must be submitted to the Department at the end of each quarter, with specific due dates provided. The first report is due after the first full calendar quarter following the effective date of the regulations. These delays allow manufacturers sufficient time to establish reporting processes that comply with regulatory requirements. The Department determined that this approach supports an orderly transition, minimizes disruption to existing operations, and ensures timely compliance.

- ***Silvia Solis Shaw, California City Transportation Initiative (CaCTI), -15d***

Comment: The California City Transportation Initiative recommends that route information for autonomous heavy-duty commercial motor vehicles be shared with local transportation authorities within the operational design domain at least 60 days prior to permit approval. It also urges the Department to make testing and deployment data reports, as well as Notices of Autonomous Vehicle Noncompliance,

publicly accessible—or at minimum, available to local authorities where incidents occur. Additionally, the Initiative requests greater consultation with local first responders and traffic control officers during the review and approval of First Responder Interaction Plans.

Department Response: The Department declines to adopt additional requirements for 60-day pre-approval of heavy-duty routes and expanded co-approval of First Responder Interaction Plans because these measures are unnecessary. The final regulations already address these concerns through robust provisions: mandatory local authority notifications for operational design domains, comprehensive routing restrictions for heavy-duty vehicles, standardized monthly and quarterly reporting aligned with NHTSA's Standing General Order (June 2025), and detailed First Responder Interaction Plan development, annual review, and distribution to local agencies. These requirements, combined with the Department's authority to request additional information and consult technical experts, ensure public safety, transparency, and local coordination while preserving Confidential Business Information and operational feasibility.

While transparency is important, the Department must balance public access with the protection of Confidential Business Information (CBI) and operational feasibility. Public release of raw data reports or Notices of Autonomous Vehicle Noncompliance could disclose sensitive safety information, proprietary technology, or personal data protected under the California Public Records Act and trade secret laws. The adopted regulations already ensure effective oversight through required monthly and quarterly reporting, alignment with NHTSA crash-reporting requirements, and the Department's authority to request additional information as needed, without unnecessary public disclosure that could create competitive or security risks.

- ***Jose Torres, TechNet, -15d***

Comment: TechNet remains concerned about the categorical prohibition on AV commercial motor vehicles (CMVs) operating on local roads with 25-mph speed limits, urging the Department to create a process for operation where safety can be demonstrated rather than maintaining outright bans. They request clarity on alternate routing provisions and recommend streamlining reporting requirements, aligning timelines with NHTSA's Standing General Order (SGO), and contextualizing data against human-driven benchmarks to improve safety insights. TechNet supports recognizing out-of-state mileage for phased permitting but seeks clarification on what changes trigger the 250,000-mile requirement, noting that minor operational adjustments—such as changing hours or adding routes—should not require extensive mileage thresholds. They call for transparency on safety case review processes, including criteria for selecting and qualifying third-party validators and managing

conflicts of interest. TechNet expresses concern about state-specific equipment mandates, such as in-cab autonomy indicators, which they argue fall under federal authority and risk creating a patchwork of requirements that burden interstate commerce. They also recommend that AV permits not be automatically suspended due to motor carrier issues and caution against per-vehicle reporting that could expose confidential business information, while requesting clarity on notice-of-noncompliance procedures. Additional recommendations include allowing flexible, web-based training for first responders across large operational design domains. Finally, TechNet appreciates clarification that the hazardous materials prohibition applies only to placarded materials but warns that prohibiting entire use cases without a defined future pathway sets a concerning precedent.

Department Response: Operational design domain restrictions for heavy-duty vehicles have been refined to allow "direct routes" between operational facilities and detours for safety or compliance, eliminating previously proposed requirements to list all local roads. Regarding permit suspension, the Department emphasizes that it may suspend, revoke, or restrict a permit based on enumerated safety-related grounds and does not automatically suspend an AV manufacturer's permit solely due to a motor carrier's maintenance or compliance issues. Notices of Autonomous Vehicle Noncompliance (OL 325) may be transmitted directly by law enforcement to the Department, and manufacturers must also submit notices pursuant to Vehicle Code §38752; these notices do not include confidential customer information. Reporting requirements—including crash data aligned with NHTSA's Standing General Order (June 2025)—are necessary for safety oversight, and the Department provides a 120-day implementation period to allow manufacturers time to establish compliance systems. Removal of in-cab indicator requirements, and exemption from enforcement provisions, would conflict with statutory safety objectives and Vehicle Code §38750 and could undermine public safety.

The Legislature, as reflected in Vehicle Code section 38750(d)(2), encourages the Department to consult with subject matter experts in automotive vehicle technology. Given this directive and the broad authority granted to the Department under Vehicle Code section 38750, engaging outside experts to conduct technical reviews of information submitted under these regulations falls fully within the Department's discretion. The same specialized expertise required to develop effective regulations is equally essential for evaluating compliance with those standards. This interpretation aligns with the statute's purpose of ensuring public safety and reinforces the Department's ability to maintain ongoing oversight.

Flexible training methods for first responders are permissible so long as they meet regulatory content requirements.

The Department's prohibition on autonomous commercial motor vehicles transporting placarded hazardous materials is grounded in public safety and statutory authority under Vehicle Code §38750. Placarded hazardous materials present unique and heightened risks in the event of a collision, immobilization, or emergency response scenario, including potential harm to first responders and the public. Unlike general freight or household goods, these materials require specialized containment, routing, and emergency protocols. As stated in the Modified Statement of Reasons, this prohibition was clarified to apply only to vehicles transporting hazardous materials requiring placards under 49 CFR Part 100, avoiding unintended restrictions on routine goods such as household cleaning products (Art. 3.7 §227.26(a)(3)). These restrictions reflect the complexity and risk profile of these scenarios and ensure that initial deployments focus on controlled, lower-risk applications. Future rulemaking may revisit these prohibitions to provide a pathway for expanded use cases as data, safety evidence, and industry standards mature, consistent with the Department's incremental approach to AV integration and statutory mandate to protect public safety.

- ***Matt Lege, Service Employees International Union California State Council (SEIU), -15d***

Comment: The Service Employees International Union (SEIU) California expresses significant concerns about the proposed DMV regulations for autonomous vehicles (AVs), emphasizing economic, safety, and equity issues. SEIU highlights the lack of an economic impact assessment on California's workforce, noting that AV deployment threatens the livelihoods of hundreds of thousands of drivers in TNC, trucking, and transit sectors. They cite data showing declining driver earnings in cities where AVs operate and recommend measures such as phased deployment caps, workforce transition programs, and ongoing economic monitoring to mitigate displacement.

SEIU raises strong concerns about transparency and local control, arguing that the proposed regulations fail to provide adequate public access to AV operational data and real-time data for local governments. They recommend making all permit applications, crash reports, violations, and system failures publicly available, subjecting confidentiality claims to review, and granting municipalities unredacted, real-time access to safety and performance data. SEIU also calls for a 120-day advance notice before permit approvals and formal opportunities for local input, along with the creation of a public sector working group to advise on AV oversight.

SEIU insists AVs must be held to the same traffic laws as human drivers and urges the DMV to make issuing Notices of Autonomous Vehicle Noncompliance (NAVNCs) as simple as issuing citations to humans. They recommend expanding enforcement authority to traffic and parking officers, enabling automated systems to issue notices,

and requiring public disclosure of violations. SEIU also calls for clear performance standards and mandatory DMV intervention when AVs pose "unreasonable risk," with enforcement triggers based on metrics like collision rates, immobilizations, and system failures.

SEIU expresses concern over remote operator standards, criticizing the removal of California presence and licensing requirements. They argue remote operators should hold California licenses, be physically located in-state, and undergo DMV-administered proficiency testing. Additional recommendations include setting staff-to-vehicle ratios, mandating equipment standards (including latency limits and LiDAR), requiring English proficiency, and certifying remote driving facilities. SEIU warns that non-standardized protocols for first responders create dangerous burdens, urging the DMV to adopt uniform procedures for vehicle approach, power disconnection, and override systems, along with a visible external indicator for AV mode. They also call for standardized training and 60-day advance notice before deployment. SEIU also highlights weather-related safety gaps recommending mandatory real-time weather monitoring, automatic disengagement when conditions exceed permit limits, and detailed safe removal plans coordinated with remote operators and local authorities, supported by reporting and performance standards.

SEIU identifies what they argue are gaps in accessibility, cybersecurity, and private ownership rules. They urge the DMV to mandate accessibility features for persons with disabilities, robust cybersecurity protections including encryption and incident response protocols, and a moratorium on private AV sales until comprehensive regulations are developed.

Department Response: The Department acknowledges SEIU California's comprehensive comments regarding economic, safety, and equity concerns related to autonomous vehicle (AV) regulations. Regarding economic impacts, the DMV notes that the January 2026 amendment to the Initial Statement of Reasons includes a detailed Economic Impact Assessment (pp. 11–13), which addresses job creation, business expansion, and compliance costs estimated at approximately $5.8 million in the first year and $6.8 million annually thereafter. The assessment recognizes that AV integration will occur incrementally, driven by manufacturers' development timelines, and does not impose statewide deployment caps or workforce transition programs, as these measures exceed DMV's statutory authority. Instead, the regulations provide risk-based tools such as operational restrictions, suspension, and revocation of permits under Sections 227.46–227.48 and 228.22–228.24 to address safety concerns.

The Department has adopted standardized electronic reporting templates and portal-based submissions for collisions, vehicle immobilizations, dynamic driving task performance relevant system failures, and vehicle miles traveled, and has aligned

crash reporting with the June 2025 revision of NHTSA's Standing General Order. These measures enhance oversight and data consistency while maintaining confidentiality protections.

The Department declines to provide 120-day advance notice or any additional advance notice prior to issuing permit approvals. The Department addresses transparency and engagement through other mechanisms such as requiring manufacturers to submit detailed safety cases, operational data, and First Responder Interaction Plans, and by granting the Department authority to request additional information or impose restrictions when necessary. However, the regulatory process itself provides multiple opportunities for stakeholder input, which the Department actively incorporated. For example, the Department published the initial proposed regulations on April 25, 2025, held a public hearing on June 10, 2025, and conducted two additional 15-day comment periods for modified texts in December 2025 and January 2026. These steps allowed stakeholders—including local governments, industry representatives, labor organizations, and advocacy groups—to submit written and oral comments. The Department responded to these comments by making significant revisions, such as clarifying safety case requirements, aligning emergency geofencing provisions with statute, and refining reporting timelines and templates. The Department also retained authority to request additional information and impose operational restrictions post-permit, ensuring ongoing engagement and oversight throughout the permit lifecycle. These measures demonstrate that while extended advance notice and formal local approval processes are not adopted, stakeholder participation is integral to the rulemaking process and has materially shaped the final regulations.

Engagement with local agencies is addressed through First Responder Interaction Plan requirements and the Department retains the authority to consult with third party experts in the review of safety case documentation. The Legislature, as reflected in Vehicle Code section 38750(d)(2), encourages the Department to consult with subject matter experts in automotive vehicle technology. Given this directive and the broad authority granted to the Department under Vehicle Code section 38750, engaging outside experts to conduct technical reviews of information submitted under these regulations falls fully within the Department's discretion. The same specialized expertise required to develop effective regulations is equally essential for evaluating compliance with those standards. This interpretation aligns with the statute's purpose of ensuring public safety and reinforces the Department's ability to maintain ongoing oversight.

The Department has strengthened the Notice of Autonomous Vehicle Noncompliance process by updating form OL 325 to include GPS coordinates and plain language terminology, and by enabling electronic submission within 72 hours of

receipt (or 24 hours if marked priority. However, statutory limits prevent expanding issuance authority to parking officers or automated systems. The DMV retains authority to restrict, suspend, or revoke permits when AV operations pose an unreasonable risk, based on case-specific evaluations supported by expanded reporting requirements, rather than fixed numeric triggers.

The Department is not mandating that remote operators hold California-only driver licenses or remain physically located within the state because such requirements could conflict with the operational realities of autonomous vehicle technology. The regulatory framework focuses on ensuring safety through performance-based standards rather than imposing geographic or residency restrictions. Remote operations often involve interstate activity and requiring California-only licensure or in-state presence could create unnecessary barriers to innovation and compliance without a clear safety benefit. Instead, the regulations require remote drivers to maintain valid licenses of the appropriate class and endorsements, enroll in the Employer Pull Notice program, and meet functional and training requirements under Section 227.38, while remote assistants are subject to operational and recordkeeping standards under Section 227.40. These measures allow the Department to monitor driver qualifications and safety performance without imposing location-based mandates.

The Department has adopted standardized First Responder Interaction Plan content, including procedures for safe approach, immobilization, towing coordination, and visual indicators, with annual review requirements under Section 227.42(i). External indicators align with Vehicle Code section 38750(c)(1)(B). Weather-related safety is addressed through operational design domain disclosures and minimal risk condition protocols under Sections 227.42(h), rather than imposing blanket automatic disengagement mandates.

Finally, accessibility and cybersecurity concerns are addressed by requiring cybersecurity measures within the safety case and deployment certifications (Sections 227.02(xx), while accessibility mandates largely fall under federal and sector-specific authorities. The Department declines to impose a moratorium on private AV sales, as this exceeds its statutory scope; instead, Article 3.8 includes end-user education and registration provisions under Sections 228.08(c) and 228.30.

These regulations implement Vehicle Code sections 38750–38752, align with SAE J3016 taxonomy, and harmonize with federal safety frameworks to ensure the safe and transparent integration of AV technology in California.

- ***Peter Leroe-Muñoz, Bay Area Council (BAC), -15d***

Comment: The Bay Area Council recommends creating a process for autonomous heavy-duty trucks to operate on local roads when safety or operational needs warrant, rather than maintaining outright prohibitions, and seeks clarification on alternate routing provisions. They support the inclusion of out-of-state mileage for phased permitting and appreciate reduced triggers for mileage requirements but request clearer guidance on what changes—such as hours of operation or adding vehicle models—necessitate permit modifications. BAC urges flexibility in compliance with equipment requirements, particularly autonomy indicators in heavy-duty cabs, to avoid conflicts with federal authority and interstate commerce. They request clarification on enforcement provisions to ensure AV permits are not suspended due to motor carrier issues and recommend that notices of noncompliance be provided directly by law enforcement to the Department, along with protections for confidential customer information. Additional recommendations include clear criteria for selecting third-party validators, as well as allowing web-based training options for first responders across large operational design domains.

Department Response: The Department declines to remove autonomy indicator requirements, as these provisions are necessary to ensure public safety and compliance with Vehicle Code §38750. The adopted regulations already provide flexibility by defining "direct routes" for heavy-duty vehicles, allowing detours for safety or compliance, and reducing triggers for mileage requirements to material changes only. Enforcement provisions remain appropriate to protect roadway safety, and law enforcement reporting processes will continue to follow statutory requirements, including for issuing Notices of AV noncompliance; however, the Department clarifies that law enforcement may send a Notice of Autonomous Vehicle Noncompliance (form OL 325) directly to the Department, and manufacturers are also required to submit the notice pursuant to Vehicle Code §38752. The Department further clarifies that the Notice of Noncompliance does not include any confidential customer information.

Safety case submissions will be processed using established review protocols, and the Department retains authority to consult qualified third-party experts. The Legislature, as reflected in Vehicle Code section 38750(d)(2), encourages the Department to consult with subject matter experts in automotive vehicle technology. Given this directive and the broad authority granted to the Department under Vehicle Code section 38750, engaging outside experts to conduct technical reviews of information submitted under these regulations falls fully within the Department's discretion. The same specialized expertise required to develop effective regulations is equally essential for evaluating compliance with those standards. This interpretation aligns with the statute's purpose of ensuring public safety and reinforces the Department's ability to maintain ongoing oversight.

The regulations permit flexibility in first responder training methods, including web-based options, provided content requirements are met.

- ***Ziyang David Fan, Silicon Valley Leadership Group (SVLG), -15d***

Comment: The Silicon Valley Leadership Group (SVLG) remains concerned that non-safety-related changes—such as adjusting days or hours of operation, adding local roads, or changing vehicle models—still require a modified application and 250,000 autonomous miles. They urge that AV permits not be automatically suspended due to motor carrier-related issues and caution against per-vehicle reporting that could expose confidential customer data, recommending clearer processes for how notices of noncompliance are transmitted to the DMV. SVLG acknowledges improvements to the 25-mph local road prohibition, including the allowance for "direct routes," but questions the rationale for outright prohibitions on AV trucks where human-driven trucks are permitted and seeks clarity on alternate routing language. They express concern that extensive reporting requirements—covering miles traveled, crashes, immobilizations, and harsh braking—lack context since no comparative baseline with human-driven trucks exists, and they request transparency on safety case processing and criteria for selecting third-party validators. SVLG also notes that implementation timelines for these reporting requirements may not provide sufficient time for companies to build compliance systems. While they appreciate limiting the in-cab autonomy indicator requirement to when autonomous technology is engaged, they remain concerned about its application to heavy-duty AVs without passengers, citing safety and interstate commerce implications. Finally, they welcome shifting First Responder Interaction Plan updates from quarterly to annual but emphasize that training requirements for first responders across large operational design domains, especially for long-haul trucking, require flexibility such as web-based options.

Department Response: The requirement for a modified application and mileage thresholds applies only when changes materially affect the operational design domain (ODD) or safety profile of the automated driving system. Adjustments such as adding local roads or changing vehicle models can introduce new safety considerations, including route complexity and vehicle dynamics. These requirements ensure that the Department evaluates safety impacts before expanded operations occur. However, the Department has clarified in the modified text that administrative changes unrelated to safety do not trigger full mileage requirements. The Department retains authority to suspend, or revoke permits when safety risks arise, including those identified through federal or state motor carrier enforcement actions (Art. 3.7 §227.48; Art. 3.8 §228.24). This authority is necessary to protect public safety. However, the Department does not impose automatic suspension; actions are based on substantiated findings and allow manufacturers to remediate. The Department has strengthened confidentiality protections under §227.74, consistent with the Public

Records Act and trade secret laws. NAVNC processes have been clarified to require electronic submission within 72 hours of receipt (or 24 hours if priority), and placement of notices in designated vehicle locations for law enforcement access. These measures standardize transmission while safeguarding sensitive data. The prohibition on AV operation on roads with posted speed limits of 25 mph or less reflects public safety concerns in complex environments such as school zones and residential areas. The "direct route" allowance was adopted to provide flexibility for essential travel between hubs, terminals, and other operational facilities.

Reporting on miles traveled, collisions, immobilizations, and braking events is essential for DMV oversight and aligns with NHTSA's Standing General Order (June 2025). While no human-driver baseline is mandated, these data enable trend analysis and risk assessment over time. DMV may publish aggregate metrics to enhance transparency. While transparency is important, the Department agrees that reporting practices must balance public access with the protection of Confidential Business Information (CBI) and operational feasibility. Public release of raw data reports or Notices of Autonomous Vehicle Noncompliance could disclose sensitive safety information, proprietary technology, or personal data protected under the California Public Records Act and trade secret laws. The adopted regulations already ensure effective oversight through required monthly and quarterly reporting, alignment with NHTSA crash-reporting requirements, and the Department's authority to request additional information as needed, without unnecessary public disclosure that could create competitive or security risks.

To address concerns about compliance readiness, DMV adopted a 120-day implementation period for new reporting requirements, allowing manufacturers time to establish systems.

Indicator requirements apply only when autonomous technology is engaged and align with statutory provisions (VC §38750(c)(1)(B)). These measures enhance first responder awareness without imposing unnecessary burdens on vehicles without passengers.

DMV revised First Responder Interaction Plan updates from quarterly to annual and encourages scalable training solutions, including web-based options, to accommodate large ODDs and long-haul operations.

- ***Jovan D. Grogan, City of Santa Clara (City), -15d***

Comment: The City of Santa Clara (City) recommends that the proposed regulations explicitly grant local authority to manage AV operations during major events, emergencies, and unique roadway conditions, including creating exclusion zones for certain roads and special event days. The City urges coordination between

manufacturers and law enforcement during declared emergencies and requires AVs to slow down, prioritize officers, and move aside without waiting for geofencing updates. They request mandatory training for local authorities on disabling and securing AVs, communicating with remote operators, and safely removing occupants during emergencies, supported by standardized training materials and quick reference guides. The City also calls for streamlined enforcement mechanisms for documenting violations and issuing timely penalties, as well as differentiated operational requirements for larger AVs. Additionally, the City proposes a dashboard or heat map accessible to local agencies showing real-time data on vehicle operations, routes, incidents, and permit violations, along with public outreach and coordination during deployment. Finally, the City emphasizes the need for common operating standards, consistent terminology, and uniform response protocols to ensure safety and consistency across jurisdictions.

Department Response: The Department's authority is defined by Vehicle Code §§38750–38752 and does not extend to granting local jurisdictions independent regulatory control over AV operations. However, the regulations incorporate emergency geofencing requirements aligned with VC §38751, requiring manufacturers to direct AV fleets to leave or avoid areas designated by emergency response officials for the duration specified incident. This ensures coordination during emergencies without creating conflicting local mandates. The regulations also require AVs to comply with California Vehicle Code provisions governing interactions with emergency vehicles, ensuring AVs yield and prioritize law enforcement and first responders. These requirements are integrated into the First Responder Interaction Plan and the manufacturer's operational safety case.

The DMV mandates manufacturers to develop and maintain a First Responder Interaction Plan, including procedures for immobilization, occupant removal, and remote operator communication. The plan must be reviewed annually and provided to law enforcement and first responder agencies within the operational design domain. While the regulations do not prescribe specific training formats, the Department encourages scalable solutions such as web-based training to accommodate large ODDs.

The regulations strengthen enforcement through standardized Notice of Autonomous Vehicle Noncompliance (NAVNC) procedures, requiring electronic submission within 72 hours of receipt and placement of notices in designated vehicle locations for law enforcement access. These measures streamline documentation and ensure timely regulatory action.

The Department has adopted operational restrictions for heavy-duty AVs, including prohibitions on certain local roads with posted speed limits of 25 mph or less, while

allowing "direct routes" between hubs, terminals, and other operational facilities to balance safety and operational feasibility.

The regulations require comprehensive reporting of miles traveled, collisions, immobilizations, and braking events via standardized electronic templates and the Department's web portal. While the Department does not provide real-time dashboards to local agencies, aggregate data may be published to enhance transparency. While transparency is important, the Department must balance public access with the protection of Confidential Business Information (CBI) and operational feasibility. Public release of raw data reports or Notices of Autonomous Vehicle Noncompliance could disclose sensitive safety information, proprietary technology, or personal data protected under the California Public Records Act and trade secret laws. The adopted regulations already ensure effective oversight through required monthly and quarterly reporting, alignment with NHTSA crash-reporting requirements, and the Department's authority to request additional information as needed, without unnecessary public disclosure that could create competitive or security risks. The regulations require manufacturers to engage and coordinate with local authorities throughout the application and post application process. Manufacturers must develop, publish, and maintain a First Responder Interaction Plan, submit it to local law enforcement and first responder agencies within the operational design domain, and review it annually with updated training materials, including scalable options like web-based programs. Additionally, manufacturers must comply with emergency geofencing directives issued by local officials to redirect AV fleets during emergencies or special events. These provisions ensure structured coordination, transparency, and readiness between manufacturers and local authorities throughout AV testing and deployment.

The regulations adopt SAE J3016 taxonomy and standardized definitions for remote operations, safety case elements, and reporting templates to ensure the use of common standards and consistency in terminology across manufacturers and jurisdictions.

- ***Viktoriya Wise, on behalf of San Francisco Municipal Transportation Authority (SFMTA), San Francisco Police Department (SFPD), San Francisco Fire Department (SFFD), -15d***

Comment: San Francisco public agencies recommend that when a manufacturer receives a citation from an automated enforcement system—such as red-light cameras, automated speed enforcement, or transit-only lane parking violations—the manufacturer must provide notice and related information to the Department within 72 hours via the Department's online portal. San Francisco urges the Department to maintain transparency by continuing its historic practice of making public road event

data available for independent research. It also emphasizes the need for consistent use of SAE taxonomy terms, noting that some definitions, like "minimal risk condition," may soon change. San Francisco supports requiring AV permittees to develop disaster planning and preparation measures. Additionally, it calls for assurance that all compliance remedies and authorities under CVC 38750 also apply to CVC 38751 and 38752. San Francisco appreciates efforts to standardize industry-wide data reporting through digital templates but expresses concern that key templates and data dictionaries have not been made publicly available. Therefore, San Francisco requests public access to templates such as the Autonomous Vehicle Noncompliance Template, Vehicle Miles Traveled Template, Dynamic Driving Task Performance Template, Collision Reporting Template, Dynamic Driving Task Performance Relevant Failure Template, and Vehicle Immobilization Template.

Department Response: San Francisco recommends that citations generated by automated enforcement systems (e.g., red light cameras, automated speed enforcement, transit only lane violations) trigger a 72-hour manufacturer notice to the Department via the online portal. The Department appreciates the objective of rapid visibility into events affecting safety and operations on San Francisco streets. At this time, the Department is not adopting a new 72-hour automated enforcement citation reporting requirement because California's citation issuance, contest, and adjudication processes already operate under existing Vehicle Code and local authority frameworks that ensure notice to the affected party and due process. Moreover, the Department has just established multiple, safety critical early warning reporting channels that provide timelier operational insight than post issued citations—namely monthly testing reports for hard braking events, immobilizations, dynamic driving task performance relevant system failures, and vehicle miles traveled for testing and quarterly reporting for deployment, all with specific due dates and an initial phase in to enable orderly compliance. These mechanisms were expressly designed to furnish near real time operational data to the Department and local partners, with required minimum elements including date/time, latitude/longitude, vehicle identifier, duration of lane blockage, and actions taken to clear the roadway, thereby addressing the core public safety concerns underlying San Francisco's request.

Regarding transparency and public access for independent research, aggregate data may be published to enhance transparency. While transparency is important, the Department must balance public access with the protection of Confidential Business Information (CBI) and operational feasibility. Public release of raw data reports or Notices of Autonomous Vehicle Noncompliance could disclose sensitive safety information, proprietary technology, or personal data protected under the California Public Records Act and trade secret laws. The adopted regulations already

ensure effective oversight through required monthly and quarterly reporting, alignment with NHTSA crash-reporting requirements, and the Department's authority to request additional information as needed, without unnecessary public disclosure that could create competitive or security risks.

On SAE taxonomy and San Francisco's note that certain definitions (e.g., "minimal risk condition") may evolve, the regulatory text is anchored to SAE J3016 (APR 2021) to ensure statewide consistency across Articles 3.7 and 3.8, including definitions for dynamic driving task, minimal risk condition, operational design domain, remote driver/assistant, and other program critical terms. The Department recognizes SAE standards are periodically updated and will evaluate future revisions to J3016 for potential incorporation through subsequent rulemaking to preserve clarity and interoperability.

San Francisco supports disaster planning and preparation. The Department agrees and has embedded emergency readiness and responder coordination throughout the final package. The safety case requires manufacturers to describe incident response and post incident analysis processes, first responder safety interactions, and remote operations support (for driverless configurations), including training, latency management, and fallback to minimal risk condition. In addition, the Department replaced the prior law enforcement plan with a comprehensive First Responder Interaction Plan mandating a dedicated hotline answered within 30 seconds, two way voice communication near the vehicle, visible mode indicators, and an override/immobilization capability; manufacturers must also respond to emergency geofencing within two minutes and update plans quarterly, distributing them proactively to CHP and local agencies in the ODD (including SFMTA). Collectively, these measures operationalize disaster preparedness, on scene communication, and rapid hazard abatement in dense urban settings.

San Francisco requests assurance that compliance remedies and enforcement authorities in CVC §38750 also apply to §§38751 and 38752. The Department has explicitly cross referenced and applied enforcement across Articles 3.7 and 3.8, including for violations of §§38750, 38751, and 38752, and expanded tools to include operational restrictions (in addition to suspension/revocation) with immediate action permissible upon a finding of imminent hazard. The Department also implemented AB 1777 via the Notice of Autonomous Vehicle Noncompliance (OL 325), which requires manufacturer submission within 72 hours (and 24 hours for priority reviews where a peace officer identifies clear or potential danger), ensuring that first responder observations and urgent local safety concerns reach the Department promptly for potential enforcement and remediation.

San Francisco seeks public access to standardized digital templates and data dictionaries (e.g., the Autonomous Vehicle Noncompliance template, VMT template, dynamic driving task performance templates, collision reporting, failure reporting, immobilization reporting). The Department has standardized the content requirements for each report in regulation and is accepting reports within the Departmental online portal to ensure uniform intake and data quality. The templates were included in the rulemaking package and are available for review.

- ***Jean Paul Velez, San Francisco County Transportation Authority (SFCTA), -15d***

Comment: The San Francisco County Transportation Authority (SFCTA) urges DMV to release all data-reporting templates in advance of implementation to allow public feedback and ensure clarity and practicality. SFCTA emphasizes that hard-braking data is critical for identifying High-Injury Networks and recommends removing the current 35-mph threshold so that all qualifying hard-braking events are reported. It calls for the establishment of transparent performance standards for AV manufacturers, including accountability for traffic law violations documented through notices of noncompliance under AB 1777, and requests clarification on how repeated violations could reduce permitted activities. SFCTA recommends reverting to full safety case submissions rather than summaries and supports DMV's ability to use third-party experts for review, while noting that the current $3,600 application fee is insufficient and should be increased based on market costs. The agency stresses the importance of public access to data on braking events, dynamic driving task performance relevant system failures, immobilizations, and noncompliance notices to enable local planning and oversight. SFCTA also proposes DMV host workshops to develop a confidentiality matrix that balances proprietary protections with transparency, fostering trust and regulatory consistency. Finally, SFCTA requests that local jurisdictions receive notice when applications include their areas within an operational design domain (ODD) and that DMV publicly post permit details—including ODD, conditions, and status—on its website prior to approval.

Department Response: Regarding the request to release data-reporting templates prior to implementation, the Department agrees that clarity and usability are critical. The Department has standardized reporting requirements in regulation for disengagements, braking events, dynamic driving task performance relevant system failures, immobilizations, vehicle miles traveled, and notices of noncompliance. These requirements are delineated in Articles 3.7 and 3.8 and will be implemented through DMV's secure online portal using structured digital templates. The templates were made available during the rulemaking.

On hard-braking data, the Department recognizes its value for safety analysis and High-Injury Network planning. The Department adopted §227.66 to require monthly

reporting of braking events exceeding 0.5g and involving a speed reduction of at least 7 mph within one second. The 35-mph threshold was retained to focus on events most relevant to higher-risk operational contexts and to align with research indicating that severe braking at higher speeds correlates strongly with crash risk. Removing the threshold could introduce large volumes of low-speed data with limited predictive value, imposing disproportionate compliance burdens without commensurate safety benefit. The Department will continue to evaluate thresholds as technology and research evolve.

Regarding performance standards and enforcement transparency, the Department has incorporated AB 1777 into Articles 3.7 and 3.8 by creating the Notice of Autonomous Vehicle Noncompliance (OL-325) and requiring manufacturers to submit notices within 72 hours (or 24 hours for priority review). The Department also expanded enforcement authority to include operational restrictions, suspension, and revocation for violations of CVC §§38750, 38751, and 38752, and clarified that repeated or severe noncompliance may result in incremental enforcement actions. These measures ensure accountability while preserving due process and flexibility to address emerging risks.

The Department acknowledges SFCTA's preference for full safety case review. The final text requires manufacturers to provide comprehensive descriptions of their safety case, including standards, methodologies, and evidence supporting safety claims, rather than submitting all underlying technical artifacts. This approach balances transparency with administrative feasibility. DMV retains authority to request additional information and may engage third-party experts for complex reviews, as noted in the ISOR. The Department agrees that current fees may not cover such costs and may assess fee structures in future rulemaking.

The Department will continue publishing summary statistics and aggregated data consistent with confidentiality protections. The Department adopted §227.72 to require manufacturers to submit both unredacted and redacted versions of applications and reports, with justification for confidential business information claims. This framework supports transparency while safeguarding proprietary content.

Regarding confidentiality workshops, DMV appreciates the collaborative intent but will not mandate workshops in regulation. The regulations have addressed clear confidentiality protocols for manufacturers. The Department remains committed to engaging local agencies and industry through outreach and technical assistance, which may include conducting workshops and roundtables.

Regarding local jurisdiction notice and public posting of permits, the Department agrees that early awareness supports coordination. The regulations require manufacturers to engage and coordinate with local authorities throughout the

application and post application process. Manufacturers must develop, publish, and maintain a First Responder Interaction Plan, submit it to local law enforcement and first responder agencies within the operational design domain, and review it annually with updated training materials, including scalable options like web-based programs. Additionally, manufacturers must comply with emergency geofencing directives issued by local officials to redirect AV fleets during emergencies or special events. These provisions ensure structured coordination, transparency, and readiness between manufacturers and local authorities throughout AV testing and deployment. The Department also consistently notifies local jurisdiction contacts when applications include their areas within an operational design domain and will continue to publish permit status and conditions on its website, consistent with privacy and security considerations.

- ***Jarvis Murray, Los Angeles Department of Transportation (LADOT), -15d***

Comment: The Los Angeles Department of Transportation (LADOT) emphasizes that any data collected by DMV should be made available in unredacted form to cities within the operational design domain (ODD) and advocates for near-real-time data access for municipalities. LADOT strongly supports leveraging the Mobility Data Specification (MDS) platform to facilitate real-time communication between AVs and local jurisdictions, enabling cities to manage right-of-way, curb space, and traffic planning effectively. LADOT recommends that DMV collect and share detailed data points—including vehicle location, trip origin and destination, telemetry, speed compliance, vehicle type, VMT, idle time, vehicle ID, and operational status—and make collision and immobilization data filterable by city or county and date. It also urges DMV to include immobilizations that block intersections or create obstructions and to require reporting of all recalls, including voluntary software updates.

LADOT raises concerns about enforcement and compliance for heavy-duty AV restrictions on local roads under §227.18, asking DMV to clarify mechanisms and resources for monitoring adherence. It supports emergency geofencing requirements but calls for a clear process to communicate detours and closures to AV operators and verify compliance, recommending MDS as the preferred solution. LADOT also requests written notification to local jurisdictions for all testing and deployment applications and any subsequent changes, along with public posting of permit details—including ODD, conditions, and status—on DMV's website. Additionally, LADOT advocates for expanding the authority to issue Notices of Noncompliance beyond peace officers to include traffic and transportation enforcement staff and automated enforcement systems, with outcomes reported back to issuing agencies and shared with jurisdictions in the ODD.

Finally, LADOT supports DMV's expanded reporting requirements but urges greater transparency by making all reports publicly available, including collisions, immobilizations, hard-braking events, dynamic driving task performance failures, and other system failures. It recommends removing the 35-mph threshold for hard-braking reporting and requiring VMT data broken down by county and large jurisdictions (population ≥500,000). LADOT expresses concern that safety case requirements lack rigor and calls for baseline safety metrics, frequent updates, and consideration of an AV safety certification framework similar to FAA standards. It also seeks clarity on the definition of "system failure" in the modified rules. LADOT believes these measures—combined with integration of MDS—are essential to ensure safety, accountability, and equitable management of AV operations on local streets.

Department Response: The Department will continue its practice of publishing aggregated AV operational data consistent with the California Public Records Act while protecting confidential business information (CBI). The adopted §227.72 requires manufacturers to submit both unredacted and redacted versions of applications and reports, with justification for CBI claims, enabling the Department to share non-confidential data publicly and provide filterable datasets by city or county where feasible. While LADOT requests unredacted data for local jurisdictions, the Department must balance transparency with statutory confidentiality obligations.

The Department recognizes the value of digital infrastructure and supports interoperability where practical. The regulations require manufacturers to provide detailed operational design domain (ODD) information, including routes, days/times, and vehicle counts, to local jurisdictions prior to testing or deployment and upon any material changes. While the Department is not mandating MDS integration in regulation, manufacturers may voluntarily adopt MDS or similar platforms to enhance local coordination.

Regulations include operational limits for autonomous heavy-duty commercial motor vehicles under §227.18(c) and §228.08(a)(3)(A), prohibiting operation on local roads posted at 25 mph except for direct routes between, hubs, terminals, and other operational facilities, while requiring use of roads legal for the size weight and loading of the vehicle or vehicle combination. LADOT's concern about resources is noted. Oversight of commercial motor vehicles is broadly enforced through local law enforcement, the California Highway Patrol and through the Department's permit conditions, reporting obligations, and the Department's expanded authority to impose operational restrictions, suspend, or revoke permits for violations of CVC §§38750–38752.

- ***Ariel S. Wolf, Autonomous Vehicle Industry Association (AVIA), -15d***

Comment: AVIA urges the DMV to delay the effective date of new requirements by at least 180 days to allow companies time to comply, particularly with novel data reporting obligations. They recommend publishing draft reporting templates for stakeholder input before implementation and allowing a transition period for testing new processes. AVIA supports aligning collision reporting with NHTSA's Standing General Order (SGO) and opposes DMV's proposed reporting of braking events, citing that abrupt braking is often the safest response and such reporting would not indicate unsafe operation. They also request clarifying changes to definitions and reporting requirements for dynamic driving task failures and vehicle miles traveled, and recommend quarterly—not monthly—reporting during testing to reduce burdens and align with CPUC timelines. AVIA further suggests streamlined templates with checkboxes and binary responses, removal of "no-event" reports, and simultaneous electronic issuance of notices of noncompliance to manufacturers and DMV.

AVIA strongly opposes fixed mileage thresholds for permit eligibility, arguing they are arbitrary and could incentivize premature scaling rather than incremental deployment. They recommend assessing readiness through existing permit review processes and allowing all miles driven—including out-of-state and under existing permits—to count toward thresholds. AVIA also urges limiting permit modification triggers to material changes in operational parameters and eliminating duplicative requirements for annual summaries of data already reported regularly. Regarding safety case submissions, AVIA recommends requiring only high-level summaries rather than detailed technical evidence, removing language mandating "compliance with" undefined standards, and eliminating provisions for third-party reviews due to confidentiality and unclear roles. They emphasize that safety case requirements should remain practical, transparent, and appropriately scoped.

AVIA appreciates removal of certain route and inspection restrictions but remains concerned about disproportionate operational limits on heavy-duty AVs without evidence of safety benefits. They recommend eliminating alternate routing provisions and clarifying ambiguous language in routing requirements. AVIA also urges revising hazardous materials restrictions to allow transport of routine goods by excluding Table 2 materials from placard requirements, aligning with DMV's stated intent. Finally, AVIA opposes the proposed in-cabin autonomy indicator mandate, noting impracticality for heavy-duty AVs and potential conflicts with federal design standards. They stress that vehicle design requirements should remain under federal jurisdiction to ensure national consistency. AVIA concludes that adopting these recommendations would create a more practical, pro-safety regulatory framework while supporting innovation and deployment.

Department Response: The Department is amending the regulations to establish a delayed implementation period for data reporting under Articles 3.7 and 3.8. For data

reporting under Article 3.7, there will be a 120-day implementation period following the effective date of the regulations. For data reporting under Article 3.8, reports must be submitted to the Department at the end of each quarter, with specific due dates provided. The first report is due after the first full calendar quarter following the effective date of the regulations. These delays allow manufacturers sufficient time to establish reporting processes that comply with regulatory requirements. The Department has also created standardized electronic templates to enable web portal submissions to streamline compliance and reduce administrative burden. For example, the Dynamic Driving Task Performance Relevant System Failure Reporting Template allows manufacturers to report the "Description of the Underlying Causes" by selecting from enumerated categories—such as software issue, hardware issue, actions of other road users, weather conditions, road surface or traffic conditions, construction, loss of communication, emergencies, or collisions—rather than providing a free-form narrative. This approach supports consistency and clarity while reducing subjectivity. The Department retains authority under Section 227.56(e) to request supplemental information when necessary to assess the behavior of an autonomous vehicle in connection with a reported system failure. The Department determined that this approach supports an orderly transition, minimizes disruption to existing operations, and ensures timely compliance.

The Department is retaining the definitions for data reporting as proposed because they were developed to ensure clarity, consistency, and specificity in the information collected. These definitions—such as those for "Dynamic Driving Task Performance Relevant System Failure," "Vehicle Immobilization," and "Braking Event"—are grounded in industry standards (e.g., SAE J3016) and were refined during the rulemaking process to eliminate ambiguity. AVIA expressed concern that the proposed reporting requirement for dynamic driving task performance relevant system failures could be interpreted as requiring reporting of any instance where a test driver takes over control, similar to the former disengagement reporting requirement. AVIA requested clarification that reporting should not apply to all takeovers, but only those in response to a system failure. The Department clarifies that the reporting requirement in Section 227.56 applies only to instances where a test driver takes over or performs the dynamic driving task fallback in response to a dynamic driving task performance relevant system failure, which is a malfunction or degradation that prevents the automated driving system from reliably performing its portion of the driving task. This is distinct from the former disengagement reporting under Section 227.50, which required reporting any deactivation of autonomous mode, including precautionary or routine interventions. Disengagement reporting was removed because it did not provide meaningful safety insights, whereas the current requirement focuses on system reliability and safety-critical failures. This ensures that

data collected reflects actual performance issues rather than operational decisions or conservative safety practices.

Clear definitions are essential for generating uniform data across manufacturers, enabling DMV to evaluate safety performance objectively and compare results across different automated driving systems (ADS). This specificity supports the Department's oversight role in assessing incidents, monitoring compliance, and reviewing permit applications. Without standardized definitions, reporting could become inconsistent, limiting the Department's ability to identify trends, evaluate risk, and make evidence-based decisions to protect public safety.

The Department is retaining monthly reporting requirements during testing because this phase represents the highest level of variability and risk as ADS technology is still being developed and validated. Frequent reporting ensures the Department receives timely data on critical safety events—such as system failures, braking anomalies, and immobilizations—allowing the Department to intervene quickly if incidents of concern emerge. Monthly reporting also supports proactive oversight, enabling DMV to identify deficiencies before they escalate into broader safety risks. By the time a manufacturer reaches deployment, its ADS has undergone extensive testing and validation, and the operational design domain is well-defined. Quarterly reporting balances the Department's need for ongoing oversight with the practical realities of large-scale operations, reducing administrative burden while maintaining sufficient visibility into safety performance.

The Department recognizes AVIA's concern regarding the requirement to provide summaries of out-of-state testing data in permit applications. The Department is not mandating other jurisdictions to adopt California's regulatory standards, nor imposing California-specific requirements on operations outside the state. Rather, this provision serves a critical purpose: to evaluate a manufacturer's readiness to operate safely on California public roads. Autonomous vehicle technology is complex and highly dependent on operational design domains (ODDs), which vary by geography, traffic density, and regulatory environment. By reviewing comparable testing data from other jurisdictions, the Department can assess whether the manufacturer's automated driving system has demonstrated safe performance under conditions similar to those expected in California. This approach ensures that the Department's permitting decisions are informed by a comprehensive safety record, including evidence of operational maturity and incident response capabilities. Out-of-state data provides valuable insight into how the system performs in real-world scenarios, beyond controlled environments, and helps the Department identify potential risks before granting expanded testing or deployment authority. The intent is to protect traffic safety in California—not to regulate other states—by leveraging existing

operational data to make evidence-based determinations about readiness and risk mitigation.

The Department clarified that only material changes—such as significant ODD expansions or speed increases—trigger permit modifications, reducing unnecessary administrative updates. Regarding safety case submissions, The Department revised language to remove "completed" and "compliance with" phrasing, requiring instead a descriptive articulation of standards and methodologies applied and how evidence supports safety claims. Confidential Business Information protections were reaffirmed.

Regarding the use of third-party experts, the Legislature, as reflected in Vehicle Code section 38750(d)(2), encourages the Department to consult with subject matter experts in automotive vehicle technology. Given this directive and the broad authority granted to the Department under Vehicle Code section 38750, engaging outside experts to conduct technical reviews of information submitted under these regulations falls fully within the Department's discretion. The same specialized expertise required to develop effective regulations is equally essential for evaluating compliance with those standards. This interpretation aligns with the statute's purpose of ensuring public safety and reinforces the Department's ability to maintain ongoing oversight. Confidential Business Information (CBI) is protected by applicable California Public Records Act exemptions and trade secret protections, which mitigates the risk of disclosing confidential information. In addition, any third-party experts are bound by contractual confidentiality obligations that require them to safeguard CBI and prohibit unauthorized disclosure.

Regarding alternative routing requirements, these provisions were adopted to address traffic safety in emergency or detour situations, where an autonomous commercial motor vehicle (CMV) may be directed off its predesignated route by first responders or traffic control personnel. The requirement that the AV CMV be legally parked and that the manufacturer confirm the vehicle's ability to proceed ensures that routing decisions are made with due regard for size, weight, and legal access constraints. The Department specified that alternate routing decisions shall not rely solely on commercially available mapping programs, as these tools often lack freight-specific restrictions and could lead to unsafe or unlawful routing for heavy-duty vehicles. This safeguard is necessary to prevent AV CMVs from inadvertently selecting routes that cannot accommodate their configuration, thereby reducing risks to infrastructure and public safety. While AVIA characterized these provisions as burdensome, the Department emphasizes that these provisions are narrowly tailored to scenarios where safety and compliance are paramount. The regulations do not prohibit the use of mapping tools entirely; rather, they require that such tools be supplemented with manufacturer assessments to confirm legality and physical feasibility. By requiring a

legal parking assessment by the manufacturer and prohibiting sole reliance on consumer-grade mapping, the regulation aims to mitigate risks associated with emergency rerouting while preserving operational flexibility. These measures are designed to protect California's traveling public and infrastructure as autonomous vehicle technology scales.

Mileage thresholds are not arbitrary; they serve as an objective indicator of operational maturity and readiness for expanded testing or deployment. Autonomous vehicle safety cannot be evaluated solely through simulation or controlled environments—real-world exposure across diverse conditions is essential to demonstrate system reliability. Mileage requirements provide the Department with measurable evidence that the automated driving system has been validated under actual traffic scenarios before granting broader operational authority. For heavy-duty CMVs, the higher mileage requirement reflects their unique operational characteristics and broader ODDs. Unlike light-duty passenger AVs, which typically operate in confined urban or suburban areas, heavy-duty trucks are designed for long-haul freight movement across multiple states, often traveling thousands of miles across several state jurisdictions in a single journey. These vehicles encounter varied roadway types, weather conditions, and traffic patterns, which are critical factors in assessing safety performance. By design, heavy-duty CMVs accumulate significantly more mileage than light-duty AVs, and the regulation accounts for this reality by requiring a proportionally higher mileage threshold to ensure robust validation across the intended ODD. Heavy-duty vehicles present different risk profiles due to their size, weight, and stopping distances, and their interaction with infrastructure and other road users demands heightened assurance of system reliability. The mileage requirement does not imply that heavy-duty AVs are less safe; rather, it recognizes that their operational scope and potential impact on public safety necessitate a more extensive demonstration of readiness. The Department's framework ensures that before deployment in California, manufacturers have proven their technology under conditions comparable to those expected in-state, thereby reducing risk and supporting safe integration of autonomous freight operations.

The Department has aligned the in-cabin visual indicator with the statutory mandate in California Vehicle Code § 38750(c)(1)(B). That section requires autonomous vehicles to have a mechanism that clearly indicates when the autonomous technology is engaged. The Department's regulations implement this requirement by specifying that the indicator must be visible and interpretable to first responders and must identify when the vehicle is operating in autonomous mode, conventional mode, and when it will remain stopped. This alignment ensures consistency with state law and supports critical safety objectives, including enabling law enforcement and

emergency personnel to quickly assess the operational status of the vehicle during traffic stops, collisions, or emergency situations.

The Department's prohibition on autonomous commercial motor vehicles transporting placarded hazardous materials is grounded in public safety and statutory authority under Vehicle Code §38750. Placarded hazardous materials present unique and heightened risks in the event of a collision, immobilization, or emergency response scenario, including potential harm to first responders and the public. Unlike general freight or household goods, these materials require specialized containment, routing, and emergency protocols. This prohibition applies only to vehicles transporting hazardous materials requiring placards under 49 CFR Part 100 and related provisions, which generally include shipments of non-bulk hazardous materials exceeding an aggregate gross weight of 1,000 pounds. As stated in the Modified Statement of Reasons, this prohibition was clarified to apply only to vehicles transporting hazardous materials requiring placards under 49 CFR Part 100, avoiding unintended restrictions on routine goods such as household cleaning products (Art. 3.7 §227.26(a)(3)). These restrictions reflect the complexity and risk profile of these scenarios and ensure that initial deployments focus on controlled, lower-risk applications. Future rulemaking may revisit these prohibitions to provide a pathway for expanded use cases as data, safety evidence, and industry standards mature, consistent with the Department's incremental approach to AV integration and statutory mandate to protect public safety.

- ***Shane A. Gusman, Teamsters California (Teamsters) and the Amalgamated Transit Union, -15d***

Comment: Teamsters California strongly opposes the expansion of testing and deployment for heavy-duty autonomous vehicles (AVs), citing significant safety risks and potential job losses. They emphasize that the recent modifications fail to address their concerns and, in some cases, worsen them by allowing passenger AVs under 14,001 pounds to carry up to 15 passengers, which they argue increases vulnerability and safety hazards. Teamsters also object to the inclusion of "direct route" language in section 227.18(c), stating that the phrase "or other non-residential facilities" effectively eliminates meaningful route restrictions and could allow AVs to travel to virtually any destination. They request that this language be removed to prevent broad operational access and maintain stricter limitations on where heavy-duty AVs can operate.

Department Response: The Department is retaining the "direct route" provision because it is essential to ensuring traffic safety and operational clarity for heavy-duty autonomous commercial motor vehicles (CMVs). As explained in the Modified Statement of Reasons, this language was introduced to limit heavy-duty AV

operations to routes that are geographically logical and necessary for accessing critical facilities—such as hubs, terminals, fueling or charging stations, and maintenance locations—while minimizing exposure to local roads. The phrase "direct route" establishes a clear standard for manufacturers by requiring that routing between designated points follow the most efficient and legally permissible path. This provision works in tandem with other safeguards, including compliance with size, weight, and roadway restrictions, and the requirement for manufacturers to provide route details as part of their operational design domain. Removing this language would undermine these safety objectives and create ambiguity about permissible routing, which could lead to inconsistent practices and enforcement challenges. The requirement is not intended to expand operational access but to constrain routing decisions to the safest, most predictable paths between essential non-residential facilities.

- ***Nick Chiappe, California Trucking Association (CTA), -15d***

Comment: The California Trucking Association (CTA) emphasized that equipment requirements should be promulgated by a federal standard, noting that Federal Motor Vehicle Safety Standards (FMVSS) established by NHTSA preempt state-specific standards and citing NHTSA's interpretation that Congress intended a single uniform set of standards. Regarding out-of-state mileage credit, commenters requested that DMV expand eligibility beyond the calendar year immediately preceding the application, arguing that states such as Nevada and Arizona have permitted AV testing and deployment since 2024 and that limiting credit to one year unnecessarily restricts recognition of prior operational experience. They also sought clarification on permit modification requirements, stating that the current proposal imposes significant administrative burdens and triggers additional mileage testing that is not justified by minor changes. Specifically, CTA recommend that modifications such as changes to hours or days of operation or substituting one Class 8 truck brand for another with the same ADS, should not require a new permit or additional mileage thresholds because these changes do not alter the operational design domain or underlying safety case. Additionally, commenters expressed concern about the proposed use of third-party experts in safety case reviews, noting that the language is vague and does not define what constitutes a third-party expert, the criteria for selection, their scope of review, or an appeal process for applicants.

Department Response: The equipment requirements in these regulations are aligned with Vehicle Code §38750, which authorizes the Department to establish conditions for autonomous vehicle operation in California. The regulations do not create conflicting design standards; they require compliance with existing Federal Motor Vehicle Safety Standards (FMVSS) or evidence of a federal exemption, consistent with federal preemption principles. Regarding out-of-state mileage, the regulations do not

impose a 12-month or calendar-year restriction on mileage accumulation. Mileage thresholds are cumulative and may include qualifying out-of-state miles. The requirement for 12 months of operational data (e.g., braking events, immobilizations, collisions) ensures DMV has recent safety performance information to evaluate readiness for deployment, as specified in Articles 3.7 and 3.8. On permit modifications, the Department has clarified that only material changes—such as significant ODD expansions or speed increases—trigger additional review, not minor adjustments like changes to operating hours or substituting vehicle brands using the same ADS.

Regarding third-party experts, Vehicle Code §38750(d)(2) authorizes the Department to "consult with any entity that has expertise in automotive technology, automotive safety, and autonomous system design" in the development of regulations. The Department interprets this authority as encompassing technical review of information submitted pursuant to those regulations because the same specialized expertise required to develop effective safety standards is equally necessary to evaluate compliance with those standards. This interpretation aligns with the statute's purpose of ensuring public safety and supports the Department's ability to maintain ongoing oversight. Protections for Confidential Business Information (CBI) are delineated (California Public Records Act exemptions, trade secret protections), which mitigates risks of disclosure of confidential.

- ***Lindsay Abate, Alliance for Automotive Innovation (Auto Innovators), -15d***

Comment: Auto Innovators requests clarification of definitions, specifically asking the DMV to confirm that the revised definition of "deployment" correctly expands deployment activities without restricting use cases, and to clarify who qualifies as an "end user," such as whether ride-share platforms or operators are included. They also seek clearer minimal risk condition requirements for Level 3 vehicles to avoid contradictory obligations. The Auto Innovators urges removal of provisions allowing third-party expert consultation in safety case reviews due to confidentiality concerns and lack of defined qualifications. They recommend clarifying when software updates trigger permit modifications and providing flexibility on minimum mileage thresholds for driverless and deployment permits, as well as replacing "redundant" with "robust" in communication link requirements. On reporting, they propose exempting or reducing obligations for privately owned Level 3 vehicles, clarifying braking event and system failure reporting to prevent double counting, and limiting reporting to autonomous miles driven in California. They also suggest eliminating frequent "no event" reports and simplifying noncompliance notice procedures by requiring peace officers to transmit notices directly to DMV, with manufacturers given an opportunity to respond. Overall, Auto Innovators supports the regulatory framework but seeks adjustments to enhance clarity, reduce administrative burden, and maintain safety.

Department Response: The revised definition of "deployment" in section 228.02 is intended to distinguish deployment from testing without imposing restrictions on specific use cases. The previous definition was overly long and complex and was simplified to ensure that the regulated public understands the distinction between testing and operations that occur outside of a testing program. The regulations provide a clear definition of an "end user" in Article 3.7, Section 227.02, which applies to both testing and deployment provisions. Specifically, "end user" means the registered owner or lessee of the relevant autonomous vehicle who is not the manufacturer. This definition is intended to distinguish reporting and compliance obligations between manufacturers and vehicle owners or lessees.

SAE Level 3 features are designed to perform the dynamic driving task (DDT) within their operational design domain (ODD) but rely on a fallback-ready user to intervene when the ADS requests or when a system failure occurs. The fallback-ready user is expected to perform the dynamic driving task fallback, which may include bringing the vehicle to a controlled stop or executing other maneuvers to achieve a minimal risk condition. The regulatory text in §228.08(a)(6) requires manufacturers to describe how the ADS reacts when outside its ODD or when encountering restricted conditions. The provision allows flexibility by stating that such reactions "can include but are not limited to" notifying and transitioning control to the driver or remote driver, or the ADS performing a fallback maneuver to achieve a minimal risk condition. This language is intended to accommodate Level 3 designs where the fallback-ready user is the primary fallback mechanism, while permitting automated fallback strategies for higher levels of automation (SAE Levels 4 and 5). This interpretation aligns with SAE J3016, which specifies that Level 3 systems must have a failure mitigation strategy that engages the fallback-ready user and may allow the vehicle to stop safely in its lane if the fallback-ready user does not respond. The Department's approach avoids imposing prescriptive requirements, while ensuring that manufacturers demonstrate a clear and safe fallback strategy in their safety case and permit application.

On safety case reviews, the Department retains discretion to consult technical experts. Vehicle Code §38750(d)(2) authorizes the Department to "consult with any entity that has expertise in automotive technology, automotive safety, and autonomous system design" in the development of regulations. The Department interprets this authority as encompassing technical review of information submitted pursuant to those regulations because the same specialized expertise required to develop effective safety standards is equally necessary to evaluate compliance with those standards. This interpretation aligns with the statute's purpose of ensuring public safety and supports the Department's ability to maintain ongoing oversight. Protections for Confidential Business Information (CBI) are delineated (California

Public Records Act exemptions, trade secret protections), which mitigates risks of disclosure of confidential manufacturer data.

The ADS software version referenced in Article 3.7 § 227.16 (a) (4) serves as a time marker and does not trigger permit modifications for minor updates; modifications are required only for substantive changes. Under Article 3.7, material changes to a Driverless Testing Permit—such as changes in SAE level, roadway type, maximum speed (+15 mph), geographic area, restricted conditions, vehicle make/model, operating hours/days, or first responder interaction—require prior approval through an Operational Parameters Modification Application. Similarly, Article 3.8 requires an amended Deployment Permit Application for these same categories of changes before implementation to ensure safety and regulatory compliance.

Minimum mileage thresholds remain necessary for safety oversight. These thresholds are not arbitrary; they reflect the Department's determination that a baseline level of operational experience is necessary to demonstrate system reliability under real-world conditions. Recognizing that certain use cases operate in more constrained environments, the Department has already carved out a 10,000-mile requirement for low-speed autonomous vehicles, which typically operate on limited, lower-speed roads. This adjustment reflects the Department's commitment to tailoring requirements where appropriate while maintaining safety objectives.

The Department declines to replace "redundant" with "robust" in communication link requirements, as redundancy reflects a safety-critical expectation for fault tolerance.

On data reporting, the intent of braking event reporting requirement under §227.66(a) is to capture significant deceleration events indicative of safety-critical conditions, not routine ADS disengagements. The modified regulations already incorporate refined thresholds (≥0.5g or ≥3 m/s speed drop) to minimize inclusion of normal disengagement maneuvers. If a hard braking event occurs as a result of a dynamic driving task (DDT) performance relevant system failure, reporting under both categories is appropriate. The Department will utilize both indicators—braking events and DDT failures—to understand how manufacturers identify, mitigate, and address these issues in their safety case and operational practices. This approach ensures comprehensive oversight of safety-critical behaviors without imposing unnecessary burden or misrepresenting event frequency.

Auto Innovators recommends adding language to §228.38(a) and (b) to clarify that reporting of DDT performance relevant system failures for privately owned Level 3 vehicles should be contingent upon the manufacturer's receipt of notice from the vehicle owner. The Department finds this recommendation unnecessary because the regulation already reflects this intent. Under §228.38(a), manufacturers providing privately owned vehicles for non-commercial use are required to report occurrences

of DDT performance relevant system failures upon being made aware after receipt of notice. This language ensures that reporting obligations apply only when the manufacturer has actual knowledge of an event, thereby addressing privacy and feasibility concerns.

The Department confirms that VMT reporting applies only to autonomous miles driven in California. The scope of both Articles 3.7 and 3.8 is explicitly limited to operations on California public roads. This is established the purpose section (§227.00) and reinforced throughout the reporting provisions. Reporting requirements under §227.60 and §228.40 apply only to miles accumulated during testing or deployment on California public roads, not out-of-state mileage. Out-of-state mileage is addressed separately for permit eligibility (e.g., heavy-duty vehicle allowances in §227.42(d) and §228.08(a)(1)(B)), but those provisions do not affect the reporting requirements for ongoing operations.

Requiring manufacturers to report "no event" during a specified reporting period is essential to ensure compliance with the reporting requirements in Articles 3.7 and 3.8. Without an affirmative submission, the Department would lack a standardized mechanism to distinguish between a manufacturer that had no reportable events and one that failed to comply with reporting obligations. This requirement supports transparency and accountability in the oversight process. To minimize administrative burden, the Department has standardized reporting through electronic templates and a secure portal, allowing manufacturers to quickly upload a "no event" report when applicable.

Auto Innovators recommends simplifying the Notice of AV Noncompliance process by requiring peace officers to electronically transmit all notices directly to the Department, rather than requiring manufacturers to submit notices upon receipt. The regulations already address this concern, and the statutory framework requires manufacturer involvement. Under Articles 3.7 and 3.8, peace officers are required to provide a copy of the Notice of Autonomous Vehicle Noncompliance to the Department. Additionally, Vehicle Code §38752 expressly requires manufacturers to provide the notice to the Department. This statutory obligation ensures that manufacturers remain accountable for their vehicles and that the Department receives timely and accurate information for enforcement and safety oversight.

- ***Zubair Ahmed, Enrique Preciado, Lennita Ozier, Angelica Riviera, Jose Maldonado, Brandy Ybarra, Allen Mealy, Adison Martinez, Seth Shumaker, Ketih Douglas, AJ Lyons, Badara Alie Kamara, Arjun Giri, General Public, -15d***

Comment: These commenters argue that autonomous vehicles frequently stall in roadways and create safety hazards, citing incidents where multiple AVs blocked residential streets, and recommends that the regulations impose heavy fines on AV

companies for any "stalling" or roadway-blocking incidents. They urge the Department to require AV operators to maintain rapid-response field teams capable of physically removing a disabled autonomous vehicle within 10 minutes to prevent traffic obstruction and ensure emergency-access readiness.

Department Response: The Department is not adopting prescriptive response-time mandates or fine-based requirements. The regulations require manufacturers to maintain the capability to safely support, stabilize, and remove an autonomous vehicle from active travel lanes when it enters a minimal-risk condition or becomes immobilized, and to document in the safety case how the automated driving system, remote driver, or remote assistant will manage such events, including details on staffing, roles, response procedures, and anticipated response times. These provisions ensure that the Department can rely on manufacturer-supplied retrieval capability—through designated staff, remote operators, or contracted teams—to clear a disabled vehicle promptly and safely, and they provide the Department with authority to address safety-critical patterns or incidents directly through operational restrictions, suspensions, or revocations when warranted.

- ***Joseph Augusto, General Public, -15d***

Comment: Mr. Augusto urges the Department to consider the economic impacts of autonomous vehicle expansion on gig-economy drivers and recommends regulatory measures to prevent AVs from displacing human drivers, especially in airport and long-distance markets. He also calls for stronger safety oversight, asserting that AVs increasingly engage in dangerous behaviors such as running red lights, and recommends that law enforcement have clear authority to immediately stop AVs for traffic violations and remove them from service. He recommends that repeated violations lead to permit suspension and that city and county authorities be granted timely access to AV safety, permit, and violation data to support local oversight.

Department Response: The regulations already address these issues by requiring autonomous vehicles to comply with all provisions of the California Vehicle Code, including those related to traffic-law compliance and enforcement, and by establishing clear mechanisms for peace officers to stop AVs and issue citations when violations occur. Additionally, the regulatory framework requires manufacturers to submit a comprehensive safety case with core safety elements, maintain robust safety-related reporting, and comply with the Department's enforcement authorities, which include restrictions, suspensions, and revocations for repeated or safety-critical violations. The regulations also ensure that local jurisdictions receive appropriate notice regarding operational design domains and permit information, providing a structured pathway for oversight without altering statutory limits on local authority

5) Summary of Comments Received during the Second Modified 15-day Comment Period and the Department Response

After receiving and reviewing comments received during the 45-day comment period, and the initial 15-day comment period, the Department determined it necessary to amend the regulations. The Department conducted a second 15-day comment period that began on January 21, 2026, and ended on February 5, 2026. The Notice of Second Modifications of Proposed Regulations, specifically stated, "Any interested person may submit written comments regarding the changes to the proposed text." During that time, the Department received comments from 22 interested parties. Many of those comments were not regarding changes to the proposed text. Government Code Section 11346.8(c) specifies that the Department is only required to respond to comments received regarding the changed text.

The following individuals provided written comment on the second modified regulatory text.

#	Name	Entity	Date Submitted
1	Matt Broad	On behalf of California Teamsters; California Conference Board of the Amalgamated Transit Union; International Association of Machinists and Aerospace Workers; California Federation of Labor Unions, AFL-CIO; American Federation of State, County, and Municipal Employees, California; California Alliance for Retired Americans; California IATSE Council; CA/NV Conference of Operating Engineers; California School Employees Association; California State Legislative Board of the SMART – Transportation Division; State Building & Construction Trades Council of California; Transport Workers Union, California State Conference	2/4/2026
2	James Shannon	General Public	1/27/2026
3	Peter Katz	Mountain View Chamber of Commerce	1/28/2026
4	Timothy Haile, April Chan, Deborah Dagang, Toby McGraw, Rob Thompson, William Churchill, Christy Wegener, Danielle Schmitz	On behalf of Contra Costa Transportation Authority, San Mateo County, Transportation Authority, Santa Clara Valley Transportation Authority, Beep, Western Contra Costa Transit Authority, County Connection, Amador Valley Transit Authority, Napa Valley Transportation Authority	1/29/2026

5	Ziyang David Fan	Silicon Valley Leadership Group	1/29/2026
6	Robert Singleton	Chamber of Progress	2/2/2026
7	Joseph Zaki	Loko AI	2/3/2026
8	Lindsay Abate	Alliance for Automotive Innovation	2/4/2026
9	Matt Lege	Service Employees International Union California State Council	2/4/2026
10	Aravind Kalias	Volvo Autonomous Solutions	2/4/2026
11	Elizabeth Fishback	Stack AV Co.	2/4/2026
12	Ariel Wolf	Autonomous Vehicle Industry Association	2/5/2026
13	Nick Chiappe	California Trucking Association	2/5/2026
14	Allison Drutchas	Waymo LLC	2/5/2026
15	John Lobsiger	Volkswagen Group of America	2/5/2026
16	Ron Thaniel	Zoox, Inc.	2/5/2026
17	Jose Torres	TechNet	2/5/2026
18	Jarvis Murray	Los Angeles Department of Transportation	2/5/2026
19	Viktoriya Wise	On behalf of San Francisco Municipal Transportation Authority, San Francisco Police Department, San Francisco Fire Department	2/5/2026
20	Jean Paul Velez	San Francisco County Transportation Authority	2/5/2026
21	Gerardo Interiano	Aurora Operations, Inc.	2/5/2026
22	Dzuy Cao	Tesla Robotaxi LLC	2/5/2026

Letters from the following commenters expressed support of the second modified regulatory text and described possible benefits to businesses, customers and local economies. The Department acknowledges these commenters but does not address their comments individually because they do not pertain to the changes outlined in the January 21,2026, Second 15Day Notice.

- James Shannon, General Public, -Second 15d
- Peter Katz, Mountain View Chamber of Commerce, -Second 15d
- Timothy Haile, April Chan, Deborah Dagang, Toby McGraw, Rob Thompson, William Churchill, Christy Wegener, Danielle Schmitz, on behalf of Contra Costa Transportation Authority; San Mateo County; Transportation Authority; Santa Clara Valley Transportation Authority; Beep; Western Contra Costa Transit Authority; County Connection; Amador Valley Transit Authority; Napa Valley Transportation Authority, -Second 15d
- Robert Singleton, Chamber of Progress, -Second 15d
- Ziyang David Fan, Silicon Valley Leadership Group, -Second 15d
- Lindsay Abate, Alliance for Automotive Innovation, -Second 15d

- Elizabeth Fishback, Stack AV Co., -Second 15d
- Nick Chiappe, California Trucking Association, -Second 15d
- Jose Torres, TechNet, -Second 15d
- Jarvis Murray, Los Angeles Department of Transportation, -Second 15d
- Viktoriya Wise, On behalf of San Francisco Municipal Transportation Authority, San Francisco Police Department, San Francisco Fire Department, -Second 15d
- Jean Paul Velez, San Francisco County Transportation Authority, -Second 15d
- Dzuy Cao, Tesla Robotaxi LLC, -Second 15d
- Aravind Kailas, Volvo Autonomous Solutions, -Second 15d
- John Lobsiger, Volkswagen Group of America, -Second 15d
- Ron Thaniel, Christopher Nalevanko, Zoox, Inc., -Second 15d

Letters from the following commenters opposed the second modified regulatory text.

- Matt Broad, Teamsters California (Teamsters), - Second 15d
- Matt Lege, Service Employees International Union California State Council (SEIU), - Second 15d
- **Matt Broad, Teamsters California (Teamsters), Matt Lege, Service Employees International Union California State Council (SEIU) and the following organizations: California Conference Board of the Amalgamated Transit Union; International Association of Machinists and Aerospace Workers; California Federation of Labor Unions, AFL-CIO; American Federation of State, County, and Municipal Employees, California; California Alliance for Retired Americans; California IATSE Council; CA/NV Conference of Operating Engineers; California School Employees Association; California State Legislative Board of the SMART – Transportation Division; State Building & Construction Trades Council of California; Transport Workers Union, California State Conference- Second 15d**

Comment: The Teamsters, SEIU and other labor organizations indicate that the proposed regulations are legally deficient because the Department failed to conduct the economic analysis required under California law, including a Standardized Regulatory Impact Assessment (SRIA). They assert that California statutes mandate a meaningful evaluation of economic, employment, and business impacts for major regulations, and the Teamsters consider these rules qualify for a SRIA due to their significant effects on freight, transit, and logistics sectors and potential large-scale job displacement. They argue that the rulemaking file lacks credible analysis of labor-

market impacts, wage effects, and secondary economic harms, which they claim constitutes a substantive violation of the Administrative Procedure Act and SRIA requirements. They urge the Department to withdraw the proposed regulations and restart the rulemaking process with a legally compliant SRIA that fully addresses employment, wage, and economic displacement impacts before considering testing or deployment authority for heavy-duty autonomous vehicles.

Department Response: The Department addresses the specific comments associated with the 2nd 15 Day changes to the rulemaking package. The Teamsters, SEIU and other labor organizations assert that the Department must conduct a Standardized Regulatory Impact Assessment (SRIA). However, the Department does not anticipate that the proposed regulations will meet the economic impact threshold for major regulations within the first 12 months of full implementation; therefore, a SRIA is not required.

Government Code Section 11346.3(c) requires a state agency proposing to adopt a major regulation to prepare a standardized regulatory impact analysis in the manner prescribed by the Department of Finance. Under Title 1, Division 3, Chapter 1, Section 2000 of the California Code of Regulations, a "major regulation" includes any proposed regulation "that will have an economic impact on California business enterprises and individuals in an amount exceeding fifty million dollars ($50,000,000) in any 12-month period between the date the major regulation is estimated to be filed with the Secretary of State through 12 months after the major regulation is estimated to be fully implemented (as estimated by the agency)…." The Department considers the regulations to be "fully implemented" once they become effective and the Department has completed the first 12-month cycle of processing applications. Accordingly, the Department anticipates that the relevant 12-month period will be the one immediately following the effective date of the regulation.

Although AV technology continues to develop, it has not reached full maturity or large-scale adoption. Use of the technology in California remains limited to specific geographic areas and is constrained by certain road and weather conditions, which may prevent manufacturers from operating statewide. Of the 31 manufacturers currently authorized to test with a safety driver, six have been authorized to test without one. Most companies remain in the testing phase within fixed geographic areas in the Northern California Bay Area. Only three companies have been authorized to commercially deploy their technology. While additional manufacturers are expected to move into deployment eventually, the timing of their applications remains uncertain.

Unlike other regulations with clear compliance timelines, there is no standard schedule for when manufacturers will seek DMV approval to test or deploy AVs. The

development lifecycle for autonomous technology is iterative and complex, often involving mapping specific locations, testing on non-public roads, using simulations, and conducting tests with a safety driver. Initial testing of heavy-duty vehicles is expected to follow the same pattern as light-duty AVs, beginning with a safety driver. Factors such as creating valid testing routes, accounting for roadway and weather conditions, and addressing infrastructure and logistics must be resolved before testing can begin. Even if a company has conducted driverless operations elsewhere, testing in a new location always begins with a safety driver.

Manufacturers' decisions to apply for new or expanded permissions will depend on factors outside the regulatory process, including internal development timelines, the level of autonomy being pursued, and business plans for testing and deployment. For example, one manufacturer may be ready to deploy a Level 3 vehicle within the next year but may take several years to begin testing Level 4 or Level 5 vehicles. Another manufacturer may still be in early development and not ready to test Level 3 vehicles for several years. Deployment models will also vary among manufacturers. Based on industry discussions, the Department has not received reliable information to make long-term predictions about when or how the technology will become widely available.

In the first 12 months that the regulations are in effect, the Department estimates that approximately 37 permit holders will be required to comply with the expanded data reporting requirements. The Department estimates that each manufacturer will spend approximately 500 hours to develop the data reporting framework, and up to 1000 hours each year to review and disseminate the required reports. Manufacturers may utilize cross disciplinary teams comprised of engineering, and safety personnel. Hours will differ across manufacturers depending on size of fleet, scale, and complexity of operational design domain(s). The Department estimates the hourly costs to be $105.21 per hour using hourly wage estimates for architectural and engineering managers in the motor vehicle manufacturing industry as described by the US Bureau of Labor Statistics (Standard Occupational Classification # 11-9041). Based on assumed rate of $105.21, applied to 37 manufacturers, this would be a total of $5.8 million.

While testing and deployment of AVs may have indirect costs and benefits affecting transportation-related businesses, the environment, and roadway safety, these impacts will be driven by factors outside the scope of DMV regulations—such as the level of AV technology developed, anticipated use cases, and the time required to transition from a testing fleet to one that is commercially available beyond the manufacturer. Any attempt by DMV to quantify such costs and benefits for the long-term scaling and use of heavy-duty AVs in California would be highly speculative.

Given these gradual timelines and the limited number of manufacturers expected to apply for permits in the initial 12 months, the Department concludes that the proposed regulations do not meet the $50 million threshold for a major regulation under Government Code Section 11346.3(c), and therefore, a SRIA is not required.

- ***Joseph Zaki, Loko AI, -Second 15d***

Comment: Mr. Zaki indicates that the Department should include additional clarification to the regulations regarding safety case submissions. Specifically, the manufacturer should maintain objective, non-proprietary integrity records sufficient to make the report independently testable if questions arise.

Department Response: The Department appreciates the recommendation and agrees that maintaining integrity records is an important best practice for transparency and accountability. However, the regulations already require manufacturers to provide comprehensive safety case documentation and supporting evidence upon request, which ensures the Department can independently verify compliance. Therefore, no additional amendments are necessary at this time.

- ***Gerardo Interiano, Aurora Operations, Inc. (Aurora), -Second 15d***

Comment: Aurora Operations, Inc. (Aurora) supports the Department's provision on maintaining crash reporting requirements set forth in the National Highway Traffic Safety Administration Standing General Order 2021-01 (June 2025) should the Standing General Order 2021-01 be rescinded. However, Aurora recommends that the proposed regulatory language also considers if the federal crash reporting requirements become codified. Aurora supports the Department's recognition of a safety case-based approach and agrees with requiring a comprehensive safety case description for original Testing and Deployment Permits. However, Aurora opposes the blanket requirement to submit all supporting evidence with the safety case summary, citing the highly technical and confidential nature of such data and the burden it would place on both manufacturers and the Department. Instead, Aurora recommends that evidence only be provided upon written request from the DMV in response to specific questions or concerns, with the option for manufacturers to brief the Department as needed.

Department Response: The Department agrees that crash reporting should remain aligned with federal requirements. The regulations already reference NHTSA's Standing General Order and incorporate harmonized reporting timelines, templates, and data dictionaries to ensure consistency if federal rules are codified. Should there be changes in the version of the federal crash report, the Department will continue to update references as needed to maintain alignment with federal standards.

The Department appreciates Aurora's concerns regarding the submission of voluminous and highly technical evidence with safety case summaries. In response, the regulations have been amended to remove the requirement for evidence to "accompany" the safety case and instead require a description of the evidence that articulates how the manufacturer's evidence supports the safety case, rather than requiring submission of all supporting evidence, which may be highly technical and voluminous. Additionally, the regulations specify specific safeguards for confidential business information. Article 3.7, Section 227.74 establishes clear protections for manufacturer data submitted to the Department during autonomous vehicle testing and deployment processes. It defines "Confidential Business Information" as data exempt from disclosure under the California Public Records Act, trade secrets under Evidence Code §1060, and proprietary information protected by Civil Code §§3426.1–3426.11. These safeguards apply to permit applications, operational data, reporting templates, and responses to Requests for Information, ensuring that sensitive technical, financial, and safety-related information is not publicly disclosed. The Department believes this approach strikes an appropriate balance between transparency, safety assurance, and operational efficiency.

- **Allison Drutchas, Waymo LLC (Waymo), -Second 15d**

Comment: Waymo appreciates the Department's clarification that reporting periods begin 120 days after the effective date but emphasizes this does not fully address timing concerns. They note that implementing significant new reporting requirements—especially monthly reports—requires extensive system design, data pipelines, and personnel training, which cannot be achieved without adequate preparation time. Accordingly, Waymo recommends a minimum six-month (180-day) lead time following finalization and public availability of reporting templates before the first reporting period begins. They stress that this lead time should account for public comment and ensure manufacturers can implement sustainable, repeatable compliance processes at scale.

They also request that the Department modify regulatory text to account for future versions or successor regulations of the SGO, ensuring alignment with current federal requirements rather than outdated constructs. This approach would provide regulatory certainty and promote uniform collision reporting across jurisdictions.

Waymo emphasizes that compliance with the Regulations will impose significant costs, estimating millions of dollars in the first two years due to new reporting requirements for braking events, immobilizations, dynamic driving task performance relevant system failures, and vehicle miles traveled. They argue that the Department's Economic Impact Assessment underestimates the burden, as Waymo's internal projections exceed the statewide cost estimates, largely because of the scale of its

operations in California. Additionally, Waymo recommends adopting efficient data submission mechanisms like APIs to reduce compliance costs and improve automation, complementing the Department's move toward .csv templates. APIs would streamline reporting, increase efficiency for both manufacturers and the Department, and allow resources to be focused on higher-level safety analysis rather than manual data entry.

Department Response: The Department acknowledges the recommendation for a six-month lead time following finalization of reporting templates and agrees that manufacturers need sufficient time to implement new processes, train staff, and integrate technical systems. However, the Department adopted a 120-day lead time to balance the Department's need for data while allowing manufacturers sufficient time to develop, test, and implement new data collection and reporting systems, train staff, and integrate standardized templates into workflows. This phased approach prevents rushed, error-prone submissions, supports the transition from disengagement reporting to dynamic driving task performance relevant system failure reporting, and aligns with industry best practices and federal standards. The lead time ensures accurate, safety-relevant data collection while maintaining regulatory clarity and compliance feasibility for both testing and deployment permit holders.

The Department agrees that crash reporting should remain aligned with federal requirements. The regulations already reference NHTSA's Standing General Order and incorporate harmonized reporting timelines, templates, and data dictionaries to ensure consistency if federal rules are codified. Should there be changes in the version of the federal crash report, the Department will continue to update references as needed to maintain alignment with federal standards.

The Department acknowledges Waymo's concerns regarding the cost of compliance and appreciates the recommendation to adopt efficient reporting mechanisms. Manufacturers are likely already collecting the required data elements for use within their own testing and deployment operations. Manufacturers may incur some costs related to providing this data such as creating internal processes to compile and submit in the required reporting format. While Waymo indicates that the impact could be in the millions across all companies, no details on the estimated workload or timeframe for this potential cost was provided. Potentially, as companies scale operations, these costs could increase, but that scaling – and any associated increase in reporting workload - is expected to occur over a number of years.

In the first 12 months that the regulations are in effect, the Department estimates that approximately 37 permit holders will be required to comply with the expanded data reporting requirements. The Department estimates that each manufacturer will

spend approximately 500 hours to develop the data reporting framework, and up to 1000 hours each year to review and disseminate the required reports. Manufacturers may utilize cross disciplinary teams comprised of engineering, and safety personnel. Hours will differ across manufacturers depending on size of fleet, scale, and complexity of operational design domain(s). The Department estimates the hourly costs to be $105.21 per hour using hourly wage estimates for architectural and engineering managers in the motor vehicle manufacturing industry as described by the US Bureau of Labor Statistics (Standard Occupational Classification # 11-9041). Based on assumed rate of $105.21, applied to 37 manufacturers, this would be a total of $5.8 million.

The modified regulations already incorporate standardized electronic templates in .csv format to streamline reporting and reduce manual burden, and the Department will continue to explore additional automation options, such as APIs, in future system enhancements.

- ***Ariel Wolf, Autonomous Vehicle Industry Association (AVIA), -Second 15d***

Comment: AVIA supports the DMV's proposal for a 120-day implementation period but recommends that this timeline begin after the publication of final reporting templates rather than the effective date of the regulations. They request clear guidance on the due dates for initial and subsequent reports, including the specific periods each report must cover, to avoid ambiguity. This approach would ensure sufficient lead time for industry to implement new processes and maintain regulatory clarity.

Department Response: The Department appreciates AVIA's request for clarification and confirms that the first monthly reports for testing will be due at the end of the 120-day implementation period, with subsequent reports submitted monthly in arrears. For deployment, reports shall be submitted on the following dates: March 31, June 30, September 30, and December 31. The first report will be due for the first full calendar quarter after the effective date of the regulations, covering activities beginning with that quarter. This schedule ensures consistency and predictability for reporting entities while supporting the Department's oversight objectives.

If no reportable events occur during a reporting period, manufacturers must submit a "no event" report. All reporting templates, including data dictionaries and standardized .csv formats, will be published online to ensure clarity and consistency in compliance.

6) Forms Incorporated by Referenced and Templates Referenced in the Regulatory Text

The following forms are incorporated by reference in the regulatory text:

- Autonomous Vehicle Testing Program Manufacturer Permit, form OL 315 (Rev. 9/2024), in Section 227.02(r)
- Autonomous Vehicle Testing Program Application for Manufacturer's Testing Permit, form OL 311 (Rev. 2/2025), in Section 227.02(s)
- Autonomous Vehicle Testing Program Manufacturer Permit – Driverless Vehicles, form OL 315A (Rev. 10/2023), in Section 227.02(t)
- Autonomous Vehicle Tester Program Application for Manufacturer's Testing Permit Driverless Vehicles, form OL 318 (Rev. 2/2025), in Section 227.02(u)
- Drivered Testing Permit Application, form OL 311 (Rev. 2/2025), in Section 227.02(v)
- Autonomous Vehicle Testing Program Test Vehicle Permit, form OL 313 (Rev. 9/2024), in Section 227.16(d)
- Autonomous Vehicle Testing Program Test Vehicle Operator Permit, form OL 314 (Rev. 10/2023), in Section 227.34(a)
- Remote Driver Permit, form OL 323 (Rev. 8/2025), in Section 227.38(a)
- Permit to Deploy Autonomous Vehicles on Public Streets, form OL 321A (Rev. 12/2024), in Section 228.02(c)
- Application for a Permit to Deploy Autonomous Vehicles on Public Streets, form OL 321 (Rev. 2/2025), in Section 228.02(d)
- Notice of Autonomous Vehicle Noncompliance, form OL 325 (Rev. 12/2024), in Sections 227.68(a) and 228.42(a)
- Vehicle Miles Travelled Template (Rev. 12/2025), in Section 227.42(c)(1)
- Dynamic Driving Task Performance Relevant System Failure Reporting Template (Rev. 12/2025), Section 227.42(c)(1)
- Collision Reporting Template (Rev. 12/2025), in Section 227.42(c)(2)
- Braking Event Reporting Template (Rev. 12/2025), in Section 227.42(c)(3)
- Vehicle Immobilization Reporting Template (Rev. 12/2025), in Section 227.58(b)
- Notice of Autonomous Vehicle Noncompliance Reporting Template (Rev. 12/2025), in Section 227.68(b)
- National Highway Traffic Safety Administration Standing General Order 2021-01 (June 2025)

The department made these forms and templates available to interested parties who requested them. During each comment period, the department received various requests for forms and templates which were provided to the requesters via email.

7) Consultation with the California Highway Patrol (VC 38750)

In accordance with Vehicle Code section 38750, the department has consulted with the California Highway Patrol through the entirety of its rulemaking activities, including providing the CHP with the department's proposed regulatory text, conducting

meeting that included CHP staff, and involving CHP staff as panelists at the department's public hearing.

8) Weight Impacts (GC 11343.3)

In accordance with Government Code section 1343.3, the department has taken into account vehicle weight impacts and the ability of vehicle manufacturers or vehicle operators to comply with laws limiting the weight of vehicles and has determined there to be no impact.

9) Determination of Alternatives

The department has determined that no reasonable alternative considered by the department or that has otherwise been identified and brought to the attention of the department would be more effective in carrying out the purpose for which the action is proposed, or would be effective as and less burdensome to affected private persons than the proposed action, or would be more cost-effective to affected private persons and equally effective in implementing the statutory policy or other provisions of law.