December 18, 2025

Joseph Chapman, Assistant Chief Counsel
Department of Motor Vehicles, Legal Affairs Division
Sacramento, CA

RE: Revised Proposed Amendments to the California Code of Regulations relating to testing and deployment of autonomous vehicles

Submitted by email to: LADRegulations@dmv.ca.gov

Dear Mr. Chapman,

The SFMTA appreciates the Department's national leadership in developing regulations for automated driving that support innovation while protecting public safety. Thank you for the opportunity to comment on recently released amendments to proposed regulations governing testing and deployment of autonomous vehicles in California. These comments arise from close collaboration among multiple City departments, including the San Francisco Police Department (SFPD) and the San Francisco Fire Department (SFFD), and are informed by input from the City Attorney's Office.

Before addressing substantive issues, we note that the amendments to the proposed regulations are complex and reflect extensive changes—both additions and deletions. A two-week period for offering comments is not sufficient for City leaders to fully assess how the changes may affect the delivery of City services, the safety and effectiveness of public employees who interact with automated vehicles on public roads, or the safety and operation of the City's transportation network. We have done our best to identify areas of concern, and to propose line edits that reflect those concerns. Please see Exhibit A for proposed line edits and Exhibit B for a list of sections where time has been insufficient for us to provide informed feedback but where we welcome the opportunity for future discussion.

San Francisco appreciates and supports many changes, including, for example:

- Changes to more accurately reflect CVC 38751 provisions addressing geofencing messages sent by emergency response officials;

- Addition of required elements for "immobilization" reporting that appear intended to assess the impact of events on emergency responders, rail operations, and other street users; and
- Changes to permit names to support clarity.

We request Department consideration of these continuing and new concerns:

1. Emergency Response Concerns:

a. Status Information from Exterior

We are disappointed to see that the draft removes common sense language in the previous proposal that provided critical support to emergency response officials— including peace officers, firefighters, and civil traffic control and enforcement officers as they interact with AVs. The revised draft requires a permit application to include certification that an AV contains a visual indicator inside the cabin to indicate when the autonomous technology is engaged, but DMV has accepted industry arguments and removed the requirements that the indicator be visible and interpretable by first responders from the vehicle exterior and that the indicator show when the vehicle will remain stopped. See 227.42(f)(4); 228.08(b)(1)(F): Statement of Reasons pp.19-21, 48. These deletions are not required by law and increase hazards to emergency response workers, to members of the public they serve, and to other city employees.

These hazards are illustrated by a recently reported incident in which SFFD members responded to an overturned vehicle on the approach to a freeway on-ramp in which vehicle occupants were injured. Upon approach, fire department staff found multiple AVs stopped in close proximity to the overturned vehicle. As many as five or six AVs were lined up in places where their movement could have caused further injury to the occupants of the overturned vehicle or injury to SFFD staff. The inability to quickly confirm from the exterior that each of the AVs would remain stationary required staff to create barriers to protect themselves and patients from potential movement of the autonomous vehicles. Multi-vehicle incidents like this illustrate how burdensome it would be for first responders to post staff at each vehicle to assess its status through what may be multi-step process of connecting with remote assistants or drivers and receiving such assurances. This creates an unreasonable burden on emergency response officials.

In the police context, traffic stops where officers observe a violation of the rules of the road or where a criminal suspect is believed to be a driver or passenger in a vehicle pose risk of danger to officers. In each of these cases, officers must quickly assess risks to their safety arising

from malicious actions by vehicle occupants, [1] including the potential that they have weapons in the vehicle. They also face hazards arising from the vehicles themselves. Where a human driver is present, police may quickly assess that risk and act to minimize the risk by, for example, asking the driver to turn off the engine and step out of the vehicle.

Where an autonomous vehicle is stopped without a human driver present, police must be able to trust that the vehicle will not move and potentially injure officers or others. Without status information readily discernible, an officer must take multiple steps before they can be assured that a vehicle will not move. These could include seeking attention from a remote assistant, requesting that a vehicle window and/or door be opened, and speaking with. a remote assistant – all while protecting themselves from the possibility that the vehicle has not actually recognized the commanded stop and yielded as required. It is not an unreasonable interference with innovation to conclude that these additional burdens and hazards for emergency response officials are themselves unreasonable – especially in the context of multi-AV incidents. DMV should require and ensure that manufacturers invest in innovations that quickly and reliably enable emergency response officials to determine from the exterior of an AV that they can count on a not to move or to move only as directed.

b. Absence of performance time-standards and data collection

To emergency response officials, the passage of time is a critical factor that can define an outcome as either reasonable or unreasonable. Some of the unreasonable risks identified above may be addressed by the exterior - to voice communication that will be required by Section 38751 of the Vehicle Code as of July 1, 2026. [2]

We are disappointed that the regulations rely only on self-certification in permit applications to enforce the requirements related to voice-to-voice communications—especially the response time standards in CVC 38751. We suggested that the amended regulations call for regular data collection on the extent to which the 30 second response time standards for connecting dispatchers and vehicle-side emergency responders to a remote assistant who has situational awareness of the vehicle and the ability to affect its movement *are actually met*. Neither the regulatory text nor the Statement of Reasons mention this.

We urge the Department to require that permittees provide monthly reports on the distribution of calls from emergency dispatchers or on road emergency personnel that are connected within the required 30 second window, within 1 minute, within 2 minutes, or after

[1] The risk of AV occupants with malicious intent was illustrated recently by an incident in which a user found an intruder in an AV trunk. See, https://www.sfchronicle.com/california/article/waymo-robotaxi-man-in-trunk-21235567.php

[2] We are grateful that Zoox has already made this communication tool available in advance of that effective date, and San Francisco emergency response officials have used the Zoox voice-to-voice system.

more than 2 minutes. This information should be made available on request to the agencies that operate public safety answering points (911 call taking and dispatch services) and to emergency response agencies with jurisdiction at the location of the vehicle-side requests for remote assistance support. DMV should consider using this information to inform permitting decisions. For example, where data documents a poor record in achieving the response time standards or a negative trend in such performance, the Department should consider adopting permit conditions—perhaps temporary ones—that require a permit applicant to improve its response time record before expanding the fleet size in a market area or before expanding to new territory—as may be appropriate.

We are also disappointed that the regulations set no additional standards for prompt response to emergency responder needs. The absence of response time standards for field response to immobilized AVs or vehicles affected by a dynamic driving task performance relevant system failures shifts burdens for fleet management from permittees to public employees. For example, San Francisco dispatchers and first responders have experienced field response times as long as 90 minutes, including where multiple vehicles were obstructing emergency operations. Where first responders get no prompt response to disabled AVs, in order to mitigate hazards or return a street to operation, first responders may relocate AVs that have human controls themselves, with help from remote assistants. While CVC 38751 contemplates AV relocation by police and firefighters, this remedy for street and emergency scene obstructions can be easily abused. Police and firefighters should not be expected to serve as valets for disabled AVs at taxpayer expense. We urge the Department to develop field response time standards to prevent permittees from shifting these burdens to the public.[3]

c. Over-reliance on general descriptions rather than documented performance

The regulations call on permit applicants to provide general descriptions of how AVs are designed to address certain challenges—frequently without requiring documentation of actual performance. For example, a permit applicant's Safety Case as defined in Section 227.02(xx)(12) calls for applications for driverless operations to include information on "First responder safety interactions." We are confident that permit applications will all state that an automated driving system has been designed to achieve such interactions in a manner that complies with all laws and protect public safety.

Yet SFPD officers and SFMTA traffic control officers continue to report events where such interactions fall short. A key example of this concern is the frequent—and difficult to

[3] There are other troubling examples of inappropriate use of public emergency response resources by DMV permittees. Emergency responders should not be called to wake up sleeping passengers who have no need for emergency medical care.

document—experience of motorcycle officers and traffic control officers reporting that AVs pull around them when they seek to close a lane or roadway. An additional example arises when SFPD motorcycle officers conduct dignitary escorts—one of the more dangerous jobs in the police department. These call for very fast paced movements that must be precise. The officers must quickly clear vehicles off the path of travel, to reduce danger for the officers, for the protected motorcade participants, and for those that don't obey SFPD orders. SFPD uses a combination of verbal language, whistles, body language, and hand/arm signals to communicate commands. They continue to encounter situations in which AVs do not understand or respond appropriately to officer commands. SFPD has found that it needs to have motorcycle officers stop directly in front of AVs at a 1:1 ratio to prevent them from moving. While remaining stationary on a motorcade route is inherently dangerous, it is a better choice than permitting an AV to freely travel through a protected motorcade. But this use of resources is inappropriate. As drafted, the proposed regulations do not give SFPD confidence that they can expect better performance.

d. Notice of Autonomous Vehicle Non-Compliance ("NAVNC" – OL 325 Form) (Section 227.68)

The SFMTA's June 9, 2025 letter asked the Department to ensure that issuing a Notice of AV Non-Compliance is as easy as issuing a moving violation notice to a human driver—without increased costs or burdens that deter their issuance. The revised regulations do not achieve this goal. First, we asked the Department to use the TR-130 form as a model. The TR-130 uses a number of check boxes that make it easy for a peace officer to issue a violation using a handheld device in the field. While the Department has made minor changes to the proposed OL 325,[4] the form still relies primarily on a general narrative. A form that overly relies on a narrative explanation may require officers to return to a station to file a report. Combined with the deterrents to AV traffic stops addressed in subsection (a) above, this will deter issuance and frustrate efforts for manufacturers, the Department, and the general public to understand how consistently AVs comply with the rules of the road.

In addition, we appreciate that the revised regulations suggest placing an NAVNC in the vehicle location where vehicle registration and evidence of insurance are available. If these locations are locked, leaving an OL 325 will require further timely support from remote assistants and extend use of peace officer time. A solution that does not require accessing the interior of a vehicle would be more effective. Where a violation is identified in circumstances other than a traffic stop, the revised regulations call on peace officers to issue a notice within 72 hours of a violation. Requiring notices to go out on this timeline without facilitating the creation

[4] The SFMTA requested access to the OL 325 form, as it was not released to the public as part of the request for comments.

of a "back-end" processing system or providing funding to create such a system, will also deter NAVNC issuance."

In addition, the Statement of Reasons states that peace officers issuing an NAVNC will be required to identify the GIS coordinates of a violation.[5] While this seems reasonable, it may require programming changes to hand-held devices or additional processing steps that also deter issuance. And the appearance of precision in geolocation may only be an appearance. The location where a violation occurs and the location where a vehicle that has yielded appropriately to a traffic stop may differ significantly. Taken together, all of these issues create the potential that the NAVNC process will be an unfunded burden that only *appears* to be a solution for ensuring AV compliance with the rules of the road.

In light of California's status as the innovation capital of the nation, we are confident that solutions to the challenges described above can be found. But this cannot be achieved in a two-week comment period; it will require active engagement between DMV, local public agencies and industry. Further, it cannot be accomplished in a context in which DMV receives all regulatory fees while local agencies are required to carry the costs of adapting existing systems or developing new ones. We urge the Department to provide a forum for engagement with local agencies to address these issues.

e. Other sources of information about AV compliance with the rules of the road

Finally, in recognition of the significant improvements in dangerous driving behavior that have been achieved in other states that use automated enforcement systems, the California Legislature has adopted multiple laws authorizing use of such systems on California roads. Our June letter urged DMV to require manufacturers to report to the Department all citations issued by automated enforcement systems—including speed safety cameras. We see no reference to this recommendation in the revised regulations or the Statement of Reasons. We hope that no AV will ever be documented violating the rules of the road in ways that are documented by automated enforcement systems, but we can see no reason why DMV should not require that its AV permittees share any such citation promptly. We offered specific regulatory language with our June letter, and we include another approach in Exhibit A.

2. Remote Driving

As a general matter, we agree that it is appropriate to distinguish between the roles of remote assistants and remote advisors, and we do not challenge the decision that remote

[5] We do not actually see this requirement in the regulatory text and are not certain whether the Department's intention is to require latitude and longitude data or not.

assistants do not need to be issued individual permits from DMV. In addition, we appreciate that many of the functional requirements set forth in Section 227.39(b) are reasonable and appropriate. That said, we are very concerned that revisions in the regulatory text and explanations in the Statement of Reasons do not address the most significant questions posed in our June 9, 2025 letter. Would DMV find it acceptable for remote drivers to drive vehicles on California roads from locations in other states and other countries—and with no requirements about how rapidly a remote driver must be available to respond to a call for help from an AV? Will local law enforcement be required to seek extradition of remote drivers from other countries when investigating whether a remote driver's actions have contributed to a serious crash?

As we said in our opening, the California DMV has exercised pathbreaking leadership in regulating automated driving while preserving a market that *leads the nation* in automated vehicle miles traveled. As we said in our June 9, 2025 comments, the Department should not leave these questions – and others raised in our previous comments – to chance.

3. Data Reporting

a. Vehicle Miles Traveled (VMT) Reporting

We appreciate the Department's improvement of VMT reporting by requiring monthly VMT reports from both testing and deployment permittees. Without comment in the Statement of Reasons, the Department has declined to incorporate our request to require VMT reporting by county and large city to support the Department's assessment of safety performance in different driving environments. The ability to make highly relevant comparisons in safety performance is profoundly limited by this omission. Sections 227.60, 228.40. We have no objection to statewide reporting for all driving on state and interstate highways that are not also used as surface streets, but we renew the request to require VMT reporting to be allocated on a county and large city basis on other roadways.

b. Definition of Immobilization, Sections227.58 / 228.36

As stated above, we appreciate many changes to the definition of immobilization and to the reporting requirements for immobilizations. As a general matter, we note increased alignment with reporting requirements adopted by the CPUC. We think it is important to seek further alignment to reduce burdens on industry reporters. The changes leave us with the following more specific concerns:

- The inclusion of "in an active travel lane" in the definition is troubling. What does this mean? And who decides what it means? Is the apron of a fire station not an "active travel lane" when there is no vehicle exiting or returning to the station? There are numerous places

on urban roads where all stopping is prohibited because stops create significant hazards. DMV permittees should not be given room to make subjective judgments about when a lane of travel is "active." If the language is intended to exclude events that take place on the shoulder of a highway from immobilization reporting, that may be fine, but that exclusion should be specifically addressed, not addressed via a vague and subjective term that is not used in California law. We request that the duty to report on immobilizations on public roads be framed by resort to the term "highway" as it is defined in Section 360 of the California Vehicle Code. The term active should be deleted.

- The current definition of immobilization should be amended to include situations where an AV must be towed from a public street because of an immobilization (or a Dynamic Driving Task Performance Relevant System Failure).

- The current definition could be read to exclude situations where an AV has called for help and is waiting for input from a remote assistant or a remote driver. Since there is no minimum time duration identified and no response time standard for responses to vehicle requests for help from remote assistants or remote drivers, such a condition could extend for 10, 20, or 30 minutes without a permittee considering the vehicle to be "unable to continue the dynamic driving task." Absent correction, it will be easy for permittees to avoid reporting events that have significant consequences for other road users and thus undermine a primary purpose of the reporting requirement.

- We appreciate the inclusion of "Whether the autonomous vehicle was blocking an active emergency vehicle" or "interfering with the scene of an active emergency" in Subsections 227.58 (b)(8) and (b)(9); however, we note first that the term "active" should be removed for the same reasons identified above. Permittees should not be give the opportunity to define when an emergency scene is "active". In addition, interference is in the eye of the beholder, and the experience of SFFD and SFPD suggests that DMV permittees may not be good judges of when their vehicles are interfering with emergency vehicles and emergency scenes—even where there may be multiple AVs immobilized too close to emergency vehicles or operations. Indeed, they recently experienced an incident in which AVs approach too close to an active emergency scene and then state that they are unable to move because emergency responders or their equipment are too close to the AV. Under the circumstances, we encourage DMV to consider how the completeness of immobilization reporting can be informed by information from emergency responder agencies.

c. Reportable Braking Events 227.66

We support the requirement that DMV permittees report selected braking events as a leading indicator of crash risk – even while recognizing that braking events are not inherently negative. Rather, they may reflect either effective response to momentary events that cannot

be reasonably perceived or foreseen or failure to drive prudently and defensively to avoid risks to other road users that are then only prevented by sudden braking. In other words, braking events can illustrate either excellent driving or unduly risky driving. We appreciate the importance of limiting reporting to avoid an enormous volume of data beyond the Department's ability to effectively analyze and note that DMV has appropriately reserved the ability to request further information about braking events. That said, we ask DMV to reconsider reporting details.

Reportable Braking Events are defined to include only events on public roads with a posted speed limit of 35 mph or higher. Section 227.66. While this will eventually change, the largest volume of automated driving in California has occurred in San Francisco, yet there are virtually no roads in San Francisco with speed limits at or above 35 mph (except limited access freeways). This means that there will likely be no braking events reported in San Francisco.

While we hope that there will be few braking events that raise concerns about the safety of AV driving, the reporting requirement should be revised to address the circumstances of greatest concern. High speed roadways are one place of high concern. Yet limited access freeways, for example, are the driving environment in which crashes with vulnerable road users are the most unlikely. It is well established that vulnerable road users face as much as a 25% risk of death when hit at speeds below 35 mph and face risks of serious injury at even lower speeds.[6] Because of these realities of physics, the Insurance Institute for Highway Safety tests pedestrian front crash prevention capabilities for motor vehicles at speeds of 12 and 25 miles per hour.[7] A filter that excludes braking events in driving environments where vulnerable road user injuries are common and lethal is unwise. At a minimum, the braking reporting requirement should be amended to include *any incident* in which braking arises in connection with a potential interaction with a vulnerable road user.

d. Dynamic Driving Task Performance Relevant System Failures. 227.56

We do not necessarily oppose replacing disengagement reporting with reporting of "dynamic driving task performance relevant system failures". That said, we find the new defined term to be deeply problematic—perhaps even more problematic than the term "disengagement" as it appears to be entirely subjective. We appreciate the many places where the Statement of Reasons identifies the value of data templates that "create a standard, structured format for manufacturers to submit required data" that "will include a data dictionary that describes the required data elements in detail, including data format, field names, and

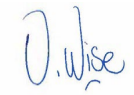
[6] See, e.g. Tefft, B.C. (2011). *Impact Speed and a Pedestrian's Risk of Severe Injury or Death* (Technical Report). Washington, D.C.: AAA Foundation for Traffic Safety. Accessed at https://aaafoundation.org/impact-speed-pedestrians-risk-severe-injury-death/

[7] See e.g., https://www.iihs.org/ratings/about-our-tests/front-crash-prevention-pedestrian

measurement units." We request that the Department make this and other data templates available for review so that the effectiveness of efforts to eliminate subjectivity can be evaluated.

We again thank you for the opportunity to comment on the Department's proposed revisions.

Sincerely,



Viktoriya Wise
Director of Streets, SFMTA

Copies to:

SFMTA Director, Julie Kirschbaum
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SFPD Deputy Chief, Nicole Jones
SFPD Commander, Special Operations, Luke Martin
SFFD Chief, Dean Crispin
SFFD Deputy Chief for Operations, Patrick Rabbitt
SFMTA General Counsel, Susan Cleveland Knowles,

Exhibit A – Proposed Line Edits

Reporting Citations Issued by Automated Enforcement Systems:

227.XX/228.XX Reporting Citations Issued by Autonomous Enforcement Systems. Where a manufacturer has received a citation from an automated enforcement system, including, but not limited to, red-light cameras authorized by Vehicle Code section 21455.5, automated speed enforcement cameras authorized by Vehicle Code sections 22425-22431, and parking violations occurring in transit-only lanes authorized by Vehicle Code section 40240, the manufacturer shall provide the notice and/or information related to the incident to the department within 72 hours of receipt. The notice shall be submitted electronically to the department via the department's web page or portal.

Exhibit B – Issues Not Addressed Due to Short Comment Period

The following are only some of the issues we would likely have addressed above with additional time. We may address these at future stages of this process.

1) A shift away from the Department's historic leadership in making data about events on public roads available to the public so that independent researchers may continue to use critical data to understand all the implications of automated driving.

2) Extensive use of terms in the current version of the SAE Taxonomy and Definitions for Terms Related to Driving Automation Systems for On-Road Motor Vehicles, including, for example "minimal risk condition," for which change is very likely and may be imminent.

3) Requirements for AV Permittee disaster planning and preparation.

4) Assurance that all remedies and authorities DMV has established in connection with compliance with provisions of CVC 38750 and DMV regulations are also available in relation to the provisions of CVC 38751 and 38752.

5) We appreciate the Department's effort to improve industry wide data reporting standardization and enhance the "consistency, quality, and reliability of data to support the department's oversight, regulation and enforcement of autonomous vehicle operations" by use of digital templates. As the Department notes, the data dictionary is the key to these benefits – yet numerous forms and data templates have not actually been made available for review in this rulemaking. It appears the Department intends to make these important documents available only to manufacturers. We ask the Department to make at least the following templates available for review by the public
    a) Autonomous Vehicle Noncompliance Template
    b) Vehicle Miles Traveled Template
    c) Dynamic Driving Task Performance Template
    d) Collision Reporting Template
    e) Dynamic Driving Task Performance Relevant Failure Template
    f) Vehicle Immobilization Template