

SAN JOSE POLICE DEPARTMENT

TRAINING BULLETIN

TO: ALL DEPARTMENT PERSONNEL FROM: Anthony Mata

Chief of Police

SUBJECT: AUTONOMOUS VEHICLE

COLLISION DOCUMENTATION

DATE: November 15, 2022

Bulletin #2022-037

With the increased use of autonomous vehicles on the roadway the Department recognizes the need for additional training on how to properly document a collision involving an autonomous vehicle. This training bulletin is intended to educate Department members of the multiple levels of automation and ensure proper documentation of autonomous vehicles involved in collisions.

<u>Department of Transportation (DOT) and Society of Automotive Engineers (SAE) Autonomous Classifications</u>

The DOT and SAE have agreed upon the following six classifications to determine the level of automation being used to operate a vehicle. The first three levels (SAE Level 0 - SAE Level 2) are generally monitored by humans while the vehicle is operating various driver assisting functions to operate the vehicle. The additional three levels (SAE Level 3 - SAE Level 5) are fully automated systems which are used to operate a vehicle without human operation.

Refer to the SAE levels below for additional information:

Human Monitored Driving Environment Classifications

- <u>SAE Level 0</u>: A vehicle operated manually by a driver. The vehicle does not have driving automation.
- <u>SAE Level 1</u>: A vehicle operating with driver assistance functions, but the functions operate separately and not in conjunction with one another. The vehicle has systems that allow the vehicle and driver to share control of the vehicle. (Example: Cruise Control and Lane Assist cannot function together).
- <u>SAE Level 2</u>: A vehicle with a combination of driver assistance functions that operate in conjunction with one another and the driver is expected to take control of the vehicle if needed, with or without warning. The driver is supervising the automation systems as they operate. (Example: A Tesla operating with a driver in the seat in "Autopilot" mode or with a combination of Adaptive Cruise Control and Lane Keep Assist).

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Automated Systems Monitored Driving Environment Classifications

- SAE Level 3: A vehicle equipped with a self-driving system which operates within a
 predefined geographical area under limited environmental conditions and requires a
 human operator present to override or intervene. As of February 26, 2020, the
 Department of Motor Vehicles (DMV) has issued 64 Autonomous Vehicle Testing
 Permits. The majority of these permitted vehicles are currently operating in the Bay
 Area.
- SAE Level 4: A vehicle equipped with a self-driving system which operates within a predefined geographical area under limited environmental conditions but does not require a human operator present to override or intervene.
- SAE Level 5: A vehicle equipped with a self-driving system which does not have any
 geographic or environmental limitations and does not require a human operator. This
 vehicle and technology are theoretical and do not exist yet.

For additional information regarding different SAE classification levels refer to the SAE Website.¹

California Highway Patrol (CHP) Definitions

Autonomous vehicles involved in a collision requiring a collision report must be documented on a CHP 555 form. The Department is in the process of updating the most current CHP 555 form to AFR/RMS database. The CHP currently defines the following:

<u>Autonomous Vehicle</u>: Any vehicle equipped with autonomous technology which has been integrated into that vehicle. An autonomous vehicle does not include a vehicle which is equipped with one or more crash avoidance systems, including but not limited to, electronic blind spot assistance, automated emergency braking systems, park assist, adaptive cruise control, lane keep assist, lane departure warning, traffic jam and queuing assist, or other similar systems which enhance safety or provide driver assistance, but are not capable, collectively or singularly, of driving the vehicle without active control or monitoring of a human operator.

<u>Operator</u>: In an autonomous vehicle only, this is the person who is seated on the driver's seat, or, if there is no person in the driver's seat, causes the autonomous technology to engage.

<u>Driver</u>: A driver is a person who is in actual physical control of a vehicle. For an out-of-control vehicle, the driver is the occupant who was in control until control was lost. A driver includes an operator who takes actual physical control of the dynamic driving task of an autonomous vehicle (which must be equipped with a steering wheel, a brake, and an accelerator) prior to the crash.

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¹ https://www.sae.org/blog/sae-j3016-update

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CHP 555 Forms and Proper Documentation

Officers will determine if an autonomous vehicle was being operated in autonomous mode or driven at the time of the collision. Once the autonomy level is determined, the officer will appropriately document the driver or operator in the Involved Party section on page 1 of the updated CHP 555 form (see below).

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Once the level of autonomy is determined, an officer will mark the Vehicle Automation Level and Autonomation Engaged box on page 2 of the updated CHP 555 form (see below).

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	C REAR END			1	2	3	VEHICLE	AUTOMATION ENGAGED				H SLOWING / STOPPING			
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CHP 555 - Vehicle Automation Level and Vehicle Automation Engaged (added)

If the operator is injured during the collision, an officer should also list the operator on page three of the updated CHP 555 form and check the Operator box. (See below)

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CHP 555 – Injured /Witness / Passengers – Operator (added)

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CHP 555 Traffic Crash Report

The Department plans to update the current CHP 555 forms in the AFR/RMS database soon. Until the AFR/RMS database is updated, officers should document any autonomous vehicles involved in a collision on a printed hard copy of the updated CHP 555 form obtained from Central Supply. The CHP555 form must be submitted to OSSD, who will scan and upload the form to the AFR/RMS database for report completion.

For proper documentation of autonomous vehicles involved in collisions, add an Additional Information section in the Narrative of the report and identify the person who engaged the autonomous vehicle technology as the operator. Some autonomous vehicles are deployed by third party subjects at an off-site deployment facility. If an autonomous vehicle is operating in autonomous mode without a driver in the vehicle, the third-party subject who deployed the vehicle from the deployment facility will be considered the operator of the vehicle.

Anthony Mata Chief of Police

AM:SD:JP