

**BEFORE THE PUBLIC UTILITIES COMMISSION OF THE
STATE OF CALIFORNIA**

Order Instituting Rulemaking on Regulations
Relating to Passenger Carriers, Ridesharing, And
New On-Line-Enabled Transportation Services

R.12-12-011
(Filed December 20, 2012)

**JOINT POST WORKSHOP COMMENTS OF THE SAN FRANCISCO MUNICIPAL
TRANSPORTATION AGENCY AND THE SAN FRANCISCO COUNTY
TRANSPORTATION AUTHORITY ON THE ASSIGNED COMMISSIONER'S RULING ON
DEVELOPMENT OF NEW DATA REPORTING REQUIREMENTS FOR AUTONOMOUS
VEHICLE DRIVERLESS DEPLOYMENT PROGRAM**

JEFFREY P. TUMLIN
Director of Transportation
San Francisco Municipal Transportation Agency
One South Van Ness Avenue, 7th Floor
San Francisco, CA 94103
(415) 646-2522
jeffrey.tumlin@sfmta.com

TILLY CHANG
Executive Director
San Francisco County Transportation Authority
1455 Market Street, 22nd Floor
San Francisco, CA 94103
(415) 522-4832
tilly.chang@sfcta.org

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Pursuant to the schedule set in the Assigned Commissioner’s Ruling on Development of New Data Reporting Requirements for Autonomous Vehicles (“AV”) Driverless Deployment Program (“New AV Data Ruling”) filed by the California Public Utilities Commission (“Commission” or “CPUC”) on May 25, 2023, the San Francisco Municipal Transportation Agency (“SFMTA”) and the San Francisco County Transportation Authority (collectively, “San Francisco”) submit these joint post workshop (“New AV Data Workshop”) comments.

I. INTRODUCTION

The New AV Data Ruling identifies the need for a proactive and flexible approach to regulation of AV Passenger Services (“AVPS”) because of concerns about driverless AV operations that have come to light since the Commission adopted Decision 20-11-046 (as amended by Decision 21-05-017) (“Deployment Decision”). Because neither Department of Motor Vehicles (“DMV”) regulations nor the Commission’s Deployment Decision anticipated or considered the new hazards we have observed on San Francisco streets since Cruise LLC (“Cruise”) and Waymo LLC (“Waymo”) started driverless operations in 2022, and because the existing DMV and CPUC reporting requirements leave large gaps in both regulator and public understanding of both positive and negative effects of driverless operations, San Francisco appreciates the New AV Data Ruling’s call for prompt action and the Commission’s New AV Data Workshop on June 22, 2023.

The new hazards we have observed on San Francisco streets since Cruise and Waymo started driverless operations in 2022 continue to jeopardize first responder operations and the public transit service that is the workhorse of the San Francisco transportation network—even since San Francisco filed comments on May 31, 2023 on draft resolutions TL-19144 and TL-19145 (the “Draft Resolutions”) and since the June 22, 2023 New AV Data Workshop. The incidents are so frequent and the documentation required by the CPUC and DMV are so inadequate that neither San Francisco nor the Commission can effectively evaluate their overall impact.

Nonetheless, Cruise and Waymo both filed opening comments citing numerous objections to the collection of new data.¹Cruise states that it is willing to work with the Commission, CPED, and stakeholders to understand and address gaps in data reporting and reasonable data collection tools without creating an undue regulatory burden². San Francisco agrees that reporting requirements for other transportation providers, including transit providers, taxi companies, and other regulated mobility providers may offer useful guidance, and we stand ready to support conversation about those models. However, AVPS data collection must also address the entirely unprecedented and unique challenges arising from driverless operations. San Francisco’s Joint Opening Comments to the Assigned Commissioner’s Ruling on Development of New Data Reporting Requirements for AV Driverless Deployment Program (“San Francisco Opening Comments”) filed June 15, 2023 provided detailed recommendations for data fields, metrics and a reporting structure that would address the full range of CPUC goals for AVPS, and we stand by those recommendations.

Industry comments state that the abbreviated schedule apparently contemplated in the New AV Data Ruling does not provide adequate time for the Commission and parties to develop sound metrics for effective evaluation of AVPS permittee operations and their impacts.³ San Francisco agrees that this process may benefit from time in which parties may identify areas of agreement on new AV data reporting—including perhaps through further workshops—and that it would be useful for the Commission to identify a reasonable timeline for issuance of a proposed decision, opportunity for comment, and adoption of a proposed decision. After completion of this process, the Commission

¹ Cruise LLC Comments in Response to Assigned Commissioner’s Ruling Requesting Comments on Development of New Data Reporting Requirements for Autonomous Vehicles Driverless Deployment Program (“Cruise Opening Comments”), at p. 5 (‘current data reporting requirements...are sufficient to advance the Commission’s goals...’), at p. 7 (‘data...is more than sufficient...’). Cruise states that it is willing to work with the Commission’s Consumer Pretention and Enforcement Division (“CPED”) to understand and address data gaps, Cruise Comments at p. 7. Comments of Waymo LLC on Assigned Commissioner’s Ruling on Development of New Data Reporting Requirements for Autonomous Vehicles Driverless Deployment Program (“Waymo Opening Comments”). Comments of Zoox, Inc. In Response to Assigned Commissioner’s Ruling on Development of New Data Reporting Requirements for Autonomous Vehicles Driverless Deployment Program (“Zoox Opening Comments”). San Francisco welcomes discussion with Cruise, Waymo, and Zoox that could narrow the disputed issues and advance Commission deliberation on new data reporting.

² Cruise Opening Comments, at p 7.

³ Cruise Opening Comments, at pp. 3-5; Waymo Opening Comments, at pp. 3-4; and Zoox Opening Comments, at pp. 6-8.

should return to consideration of Draft Resolutions^[OBJ] TL-19144 and TL-19145. ^[OBJ] Any authorization of expanded commercial service should be contingent on submission of complete and accurate required data reporting and should be based on the performance documented in such reporting.

San Francisco addresses below our key priorities for near term expansion of Commission AV data reporting requirements to close regulatory gaps in reporting on AV safety—including reporting on collisions, unplanned stops and other erratic, unsafe, and unlawful driving, and planned stops that create safety hazards for other road users. We also encourage the Commission to provide opportunity for further comment and discussion with other stakeholders.

II. THE COMMISSION SHOULD FILL CRITICAL DATA REPORTING GAPS THAT ARE ESSENTIAL TO UNDERSTANDING BOTH POSITIVE AND NEGATIVE EFFECTS OF AVPS ON THE SAFETY OF DRIVERLESS OPERATIONS

As discussed in San Francisco’s New AV Data Workshop presentation, our top priority for near term data collection improvements is to expand Commission and public understanding of the impact of driverless operations on public safety.⁴ Permittee operations under every permit should be evaluated, and that evaluation should be used to inform whether driverless operations should continue or be allowed to expand in terms of geographic area, hours of operation, and/or fleet size. Data collection should be:

- Comprehensive – including all data elements required for robust understanding of performance;
- Disaggregated – describing individual events (trips, collisions, incidents, etc.) so that the Commission can aggregate those events in multiple ways to support analysis;
- Complete and non-duplicative – including reporting under all permits with events assigned to a single DMV permit and a single associated CPUC permit;
- Timely – reported at a cadence that supports analysis of both new problems as they emerge and permittee improvement; and

⁴ See San Francisco slides as presented at the New AV Data Workshop on June 22, 2023, attached hereto as Appendix A.

- Public – reported data should be as transparent as possible to support trust in the industry and to provide for confidential treatment only as required to protect individual privacy and to protect actual trade secrets.

These characteristics of data requirements, data submission, and data availability are necessary to support the evaluation of goal-based metrics; to make explicit links between events and permits so that, for example, vehicle miles traveled (VMT) can be correctly associated with events for purposes of calculating event *rates* that may differ in important ways in driving under one permit vs. another; to enable flexible analysis that is responsive to issues as they arise—as well as to recognize potentially rapid improvements in performance; and to support transparency that facilitates peer reviewed academic research and that builds public trust in both industry and in Commission regulation.

A. Collisions

As of today, the Commission does not require reporting of AV involved crashes under its pilot permits, and the DMV does not require reporting of AV involved crashes during driving under its commercial deployment permits.⁵ While NHTSA requires that AV operators submit reports of crashes under its Standing General Order, the Standing General Order has a sunset clause.⁶ As of now, DMV, CPUC, and NHTSA records show significant differences in the number of crashes involving AVs in San Francisco for any given time period. As a leader in the development of state regulations of driverless operations, the CPUC should contribute to the creation of comprehensive evaluation of AV involved crashes. San Francisco supports the CPED proposal provisions in Section 1 (AV Pilot Program Quarterly Reporting) and Section 2 (Collision Reporting) calling for individual crash reports to be submitted under all permits. San Francisco supports disaggregated crash reporting using an existing model as a foundation, however, San Francisco urges the Commission to require that each crash report identify both the DMV permit and the CPUC permit under which an AV was driving

⁵ Cruise states that it already provides the Commission with each OL-316 report and SR-1 report submitted to the DMV. *See* Cruise Opening Comments, at p. 10. Yet the DMV does not require submission of an OL-316 report when an AV operating under a DMV deployment permit is involved in a collision. This regulatory gap must be closed by both the DMV and CPUC. (SR-1 reports are focused on party identification and do not include the kinds of information identified in the CPED proposal and otherwise at issue here).

⁶ Currently set for May 15, 2026. *See* National Highway Traffic Safety Administration (“NHTSA”) May 15, 2023 Second Amended Standing General Order 2021-01.

when it was involved in a crash. In light of the regulatory gaps that currently exist in collision reporting, San Francisco urges the Commission to post crash reports publicly (as the DMV has done for reports not associated with deployment permits) but with personally identifying information about other road users redacted.

B. Unplanned Stops and Other Erratic or Unlawful Driving Incidents

As of now, no California regulator requires reporting of unplanned stops on roadways, such as the unplanned stops that have repeatedly affected San Francisco first responder operations, transit services, roadway workers, and other road users. While we hope for a time when this reporting becomes obsolete and unnecessary, automated driving is far from reaching this goal, and filling this regulatory gap is essential to understanding the capabilities of AVs as they interact with existing infrastructure and other road users.

As stated in our opening comments, San Francisco generally supports Section 3 of the CPED Proposal (Monthly Reporting), including the provisions addressing reporting of minimal risk condition (“MRC”) events. However, we agree with other comments noting the need for detailed discussion of definitions of such events. As stated in our Opening Comments, reporting should not be limited to MRC events as permittees may define them, as operators may use different definitions. MRC reporting should capture all unplanned stops in which a vehicle comes to an unplanned stop for at least 30-seconds and requires remote or in-person intervention to resume operations, or if operations are not resumed and the vehicle is cleared from the scene. In his remarks at the New AV Data Workshop on June 22, 2023, Dr. Steven Shladover called for even broader reporting of every occasion in which an AV calls for human help from remote advisors and/or field response teams. We also repeat our recommendation that there should be one record for each incident on a per vehicle basis in order to ensure understanding of incidents in which multiple AVs make unplanned stops in a single location or area. While we understand that not every call by an AV for human assistance may have significant impacts on street hazards and operations, we support discussion of this broader reporting obligation and reiterate the importance of using a single definition of reportable events that is clearly defined.

We note that unplanned stops are not the only incidents of concern that are not currently captured by any California regulator’s data reporting requirements. Members of the public have

reported other examples of erratic and unlawful driving, including incidents in which an AV does not appear to understand its location in relation to the edges of the roadway, does not respond appropriately to road signs, for example, signs limiting use of road space to transit vehicles or bicycles or restricting turns by any driver. Not all of these reported incidents warrant close evaluation, but many *do raise very significant questions about AV safety performance*. Further discussion of reportable events should include consideration of how to capture these events.

C. Planned Stops

San Francisco comments at the New AV Data Workshop noted that planned stops by driverless Cruise and Waymo vehicles continue to occur in travel lanes and continue to interfere with transit. San Francisco notes that these incidents appear to be the rule, not the exception, for stops to pick up and drop off passengers. The Commission has already adopted reporting requirements to capture these events (for driving only under commercial deployment permits), and the CPED Proposal did not newly address the safety hazards posed by planned stops in travel lanes. However, for the quarter ending February 2023, Cruise reported zero “pickup and drop-off events where the AV is stopped more than 18 inches from the curb” and the data in this field was redacted in Waymo’s report. Social media reports suggest that the Commission data definitions as to planned stops need refinement, that the transparency issues addressed in Section E below require attention, and that data being reported—redacted or otherwise—is not likely capturing hazards arising from planned stops in travel lanes. As this matter moves forward, we request further discussion of how this reporting can be effective for both documenting performance and demonstrating improvement of planned stops in appropriate locations that do not create new hazards.

D. Feasibility of Data Collection & Data Sharing from Local Jurisdictions

The New AV Data Reporting Order sought comment on the feasibility of data collection as recommended by CPED, and also noted that cities have unique access to data ‘on what is occurring on the streets within their jurisdiction.’ Industry comments have all raised concerns about the feasibility

and expense of data collection as suggested in the CPED proposal.⁷ San Francisco has two key observations about these concerns.

First, data reporting itself is not necessarily sufficient for good analysis of operator performance. While data may illustrate the scope of an issue, very often data must be combined with qualitative analysis to understand both positive performance and negative performance. Data reported by AV permittees may need to be combined with information from other sources—including cities and other public agencies—as well as qualitative analysis in order to reach reasonable conclusions that can be addressed in permitting decisions and CPUC regulations. Consistent with our opening comments, San Francisco is eager to discuss methods for incorporating data that we routinely maintain or that has newly arisen since the start of driverless operations into AV performance evaluation.

Second, the Commission must carefully investigate assertions that data collection is infeasible. For example, industry commenters raised concerns about the feasibility of collecting data on minimal risk conditions.⁸ Since 2009, the SFMTA has used a program called Drivecam to monitor and evaluate driving performance issues on its fleet of transit buses.⁹ Drivecam triggers retention of video data when pre-set G-forces reflect abrupt braking, or excessive turning motions or when AI identifies that a bus is following another vehicle too closely, that an operator is making improper use of a cell phone, eating or drinking during driving, or in other cases of improper driving behavior. Drivecam is currently in use on 920 SFMTA transit vehicles. Similar telematics tools are used by insurance companies and owners and operators of professional driving fleets in numerous transportation contexts. AV operators are certainly using similar tools for internal monitoring of AV performance. As Commissioner Shiroma requested at the AV Data Workshop, CPUC AV permittees should identify the tools and metrics they use for internal analysis to support the most effective and cost-effective methods for providing adequate data to regulators and the public. The Commission should explore how data retention requirements can support qualitative assessment of information initially submitted

⁷ Cruise Opening Comments, at pp. 12, 15; Waymo Opening Comments, at pp. 5-11, 13, 15-16; Zoox Opening Comments, at pp. 4-8.

⁸ Cruise Opening Comments, at pp. 13-14; Waymo Opening Comments, at 6-9.

⁹ Drivecam is owned by Lytx, based in San Diego.

in quantitative form, and as discussed in San Francisco’s Opening Comments, should consider how existing nationally replicable data reporting tools may support complete and cost-effective data collection and analysis.

E. Confidentiality Matrix

As stated in our Opening Comments, San Francisco proposes that the Commission follow the precedent it has established in its Transportation Network Company (“TNC”) data disclosure proceedings since 2020—all data should be presumed public to facilitate effective oversight and evaluation with limited exceptions only where an AV company carries their burden of showing that privacy, trade secret, or other interests justify confidential treatment.¹⁰ This is consistent with the Commission’s Decision in D. 20-11-046.¹¹ . In D. 20-11-046, the Commission established that AV companies would be required to report required data on a quarterly basis.¹² The Commission rejected suggestions that AV data be reported on an annual basis, stating that an “annual basis does not provide CPED and other stakeholders with the timely data they need to track developments in a rapidly evolving field.” Yet Cruise and Waymo have submitted Quarterly Reports to Commission with confidentiality claims that are yet to be resolved and on which San Francisco and other stakeholders have not been given the opportunity to comment.¹³ These delays substantially impact the ability of the Commission and other stakeholders to utilize timely data.

To reduce the burden on the Commission in considering confidentiality requests from the AV companies when they submit their quarterly reports, increase the timely access to data by stakeholders, and to effectuate the public’s right to access public information, San Francisco strongly urges the Commission to seek comment on and adopt a confidentiality matrix that preemptively designates each

¹⁰ D. 20-03-014, Decision on Confidentiality Issues Track 3, issued on March 16, 2020.

¹¹ D. 20-11-046, Decision Authorizing Deployment of Drivered and Driverless Autonomous Vehicle Passenger Service, issued on November, 23, 2020, as modified by D. 21-05-017, at p. 73 (“The Commission places the burden on AV companies to establish that their quarterly data reports, or components thereof, should not be made publicly available.”)

¹² *Id.* at 74.

¹³ See CPUC, AV Program Quarterly Reporting, available at: <https://www.cpuc.ca.gov/regulatory-services/licensing/transportation-licensing-and-analysis-branch/autonomous-vehicle-programs/quarterly-reporting> (last accessed June 27, 2023).

data point required to be submitted by the AV companies as public or confidential.¹⁴ This matrix should incorporate principles learned in the TNC context to settle these questions going forward and not allow permittees to relitigate the matter with every filing.

The confidentiality matrix should also address fields in AVPS reporting not previously addressed in the Commission’s TNC rulings. There are some areas where data required to be reported by AV permittees operating large commercial fleets for profit should not be protected from disclosure in the way the Commission has provided for TNC drivers. For example, license plates of AVPS permittee vehicles should not be protected from disclosure. License plates are critical to local traffic enforcement, and do not raise the kind of privacy issues that led the Commission to allow redaction of this information for TNC drivers operating their personally owned vehicles. Similarly, specific location information associated with collisions involving AVs in commercial fleets and detailed location information for unplanned stop incidents should be disclosed to the public. Information about unplanned AV stops is not meaningful without precise location information. There may be other data fields for which the Commission should allow public release, even if corresponding information for TNC incidents is allowed to be redacted.

While San Francisco appreciates that CPED has been working to expand its data analysis capabilities, maximizing transparency in reporting by AVPS permittees vastly accelerates the state’s understanding of AVPS benefits and impacts. It gives both the DMV and the CPUC the benefit of independent third-party analysis by researchers affiliated with the University of California Transportation Center, as well as by the state’s many transportation planning and congestion management agencies. This kind of independent research is essential to rapid development of knowledge about how AVPS do and do not satisfy Commission goals and public interests more generally.

¹⁴ Per General Order 66-D, Section 3.4 “The Commission may adopt confidential matrices which preemptively designate certain information as confidential or public in a decision.”

III. CONCLUSION

San Francisco strongly supports the Commission's recognition of its evolving regulatory oversight role with respect to AVs, and the importance of robust data reporting to fulfilling the Commission's responsibilities. San Francisco believes that the CPED Staff Proposal in Attachment 1 is a good starting point upon which to expand and specify a more comprehensive and useful set of AV data reporting requirements. We look forward to collaborating with the Commission and other interested parties and stakeholders in developing data reporting requirements that will help the Commission assess progress towards its identified goals.

Most importantly, San Francisco opposes Commission action on Draft Resolutions TL-19144 and TL-19145 until the Commission has adopted new, comprehensive AV data reporting requirements and until sufficient data has been collected under these new reporting requirements to allow the Commission to assess AV performance relative to the Commission's stated goals.

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Respectfully submitted,

DAVID CHIU
City Attorney
MISHA TSUKERMAN
Deputy City Attorney
(415) 554-4230
Misha.Tsukerman@sfcityatty.org

By: /s/Misha Tsukerman
MISHA TSUKERMAN

On behalf of: THE, SAN FRANCISCO MUNICIPAL
TRANSPORTATION AUTHORITY AND SAN
FRANCISCO COUNTY TRANSPORTATION
AUTHORITY