

**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 May 31, 2012)

**SAN FRANCISCO COMMENTS ON THE DRAFT RESOLUTION APPROVING AUTHORIZATION FOR  
WAYMO AUTONOMOUS VEHICLE PASSENGER SERVICE PHASE 1 DRIVELESS DEPLOYMENT  
PROGRAM**

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## I. INTRODUCTION AND EXECUTIVE SUMMARY

The California Public Utilities Commission's Draft Resolution TL-19144 (Waymo Draft Resolution) would approve the Waymo LLC Advice Letter seeking approval to offer commercial Autonomous Vehicle (AV) Passenger Service throughout San Francisco, 24 hours a day, 7 days a week and with a fleet of unlimited size on "freeways, highways, city streets, rural roads, and other roadways . . . including roadways with posted speed limits up to 65 miles per hour." Waymo LLC's (Waymo) request encompasses more than 95% of the city's road miles, including the dense downtown core, as well as peak travel hours for San Francisco residents and travelers (7-9 AM and 4-7 PM). Waymo seeks blanket approval that would put all expansion decisions within San Francisco at the company's sole discretion. If the Draft Waymo Resolution is approved as requested, increases in service area, hours of operation and fleet size would be made without subsequent input from Commission staff or members, without judgment from San Francisco, and without input from the public. These comments on the Draft Waymo Resolution are submitted on behalf of The San Francisco Municipal Transportation Agency (SFMTA), the San Francisco County Transportation Authority (SFCTA) and the San Francisco Planning Department (Planning) (collectively San Francisco).

San Francisco shares the California Public Utilities Commission's (the "Commission" or "CPUC") hope that automated driving may at some point improve street safety and offer other benefits to San Francisco travelers. As of January 25, 2023, when San Francisco filed its protest of the Waymo Advice Letter, the record of incidents reported to the City by members of the public, city employees, media and social media *about Waymo operations* was quite limited; the large majority of Reported Incidents involved Cruise vehicles. Unfortunately, that picture has

changed. In 2023, monthly Reported Incidents involving Waymo driverless operations have increased six-fold. This includes Reported Incidents reflecting Waymo driverless AV interference with City emergency response workers and other street-based workers.

The Draft Waymo Resolution shows that the Consumer Protection and Enforcement Division (CPED) shares some of San Francisco’s concerns about impacts of driverless AV operations on first responder safety and performance, transit safety and performance, road safety and travel delay, the effects of these driverless readiness performance problems as driverless operations scale up, and the failure of existing reporting requirements to adequately assess and address these concerns.<sup>1</sup> Specifically, the Draft Resolution states:

- “Unplanned stops in unsafe locations create hazards for passengers and other road users, block the flow of traffic, and interfere with public transit . . . . These types of incidents are particularly concerning if they occur in proximity to . . . San Francisco’s 400+ passive at-grade light rail crossings.”<sup>2</sup>
- “We also express our continued concerns about the safety of AV passenger pickup and drop-off operations as discussed previously in TL-19137.” Pickup and drop-off more than 18 inches from the curb creates hazards for passengers and surrounding road users, blocks the flow of traffic, and creates accessibility challenges for passengers who may need or want direct access to the curb.<sup>3</sup>
- “We share stakeholders’ concerns that the current AV Deployment reporting requirements may not give us sufficient information to evaluate potential passenger safety issues . . . .”<sup>4</sup>

The Draft Waymo Resolution omits mention of concerns related to first responder operations. Unfortunately, based on driverless Waymo AV incidents in 2023, this omission is no longer warranted.

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<sup>1</sup> See San Francisco Protest of Cruise LLC Tier 2 Advice Letter 0002, filed January 25, 2023. See also San Francisco Comments on Cruise Application for Driverless Deployment Permit – Tier 3 Advice Letter, filed November 29, 2021, for reference to comments on initial advice letter.

<sup>2</sup> Draft Resolution at p. 12.

<sup>3</sup> *Ibid.*

<sup>4</sup> *Id.* at p.13

There are undoubtedly differences in the circumstances in which Cruise and Waymo driverless operations are generating hazards and Reported Incidents on San Francisco streets and in the strengths and weaknesses of Cruise and Waymo automated driving systems. But these differences are not as significant as the common way the Commission’s Cruise and Waymo Draft Resolutions propose to address those challenges. Like the Cruise Draft Resolution, the Draft Waymo Resolution approves the Waymo Advice Letter with no changes or limitations. In the time since San Francisco filed its January 25, 2023 Protest of the Waymo Advice Letter, new hazards from driverless AV operations in San Francisco have been reported, and general public complaints about driverless AV operations have increased significantly. Nevertheless, the Draft Waymo Resolution rejects the San Francisco Protest *and adopts no conditions of approval that would address any of the concerns that San Francisco and the CPUC share.*

The Draft Waymo Resolution proposes approval of the Waymo Advice Letter based on the fact that Waymo has submitted a Passenger Safety Plan that is complete and seems reasonable to the CPUC under the existing Deployment Decision—a decision that the Commission adopted long before there were any driverless AV operations on San Francisco streets and before the driverless readiness problems the City has documented were apparent.<sup>5</sup> Since that time, Waymo driverless AVs have committed numerous violations that would preclude any teenager from getting a California Driver’s License.<sup>6</sup>

Pointing to DMV approvals, the Draft Resolution suggests that the Commission lacks power to address the hazards that arise from the current driverless performance level and

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<sup>5</sup> *Id.* at p. 9.

<sup>6</sup> Waymo describes its automated driving system as the most experienced driver based on the argument that each vehicle has the driving experience of all vehicles. If this is true for its driving strengths, it may also be true for its driving weaknesses. Thus, each driving error and CVC violation (whether cited or not) could be thought of as, for example, 200 errors or violations if other Waymo vehicles have the same skills and understanding and would commit the same error. In other words, all violations committed by a Waymo vehicle could be attributed to one single driver.

instead notes the need for further rulemaking.<sup>7</sup> San Francisco agrees that prompt additional rulemaking by both the California DMV and the CPUC is essential and that the Commission needs a policy making process that is more responsive to actual driverless performance that creates hazards to the public. Since the release of the Draft Resolution, the Assigned Commissioner released a Ruling on Development of New Data Reporting Requirements for Autonomous Vehicles Driverless Deployment Program (New Data Reporting Rulemaking).<sup>8</sup>

San Francisco applauds this action; however, given the demonstrated Waymo driverless AV performance problems that are becoming increasingly well documented, *it is unreasonable for the Commission to approve Cruise and/or Waymo Advice Letters before adopting expanded reporting requirements and minimum performance standards.* This approach is backwards and is inconsistent with the Commission's power and duty to protect not only passenger safety but the safety of the general public.<sup>9</sup>

San Francisco is concerned about the significant increase in both Waymo Reported Incidents and the cumulative effect of Cruise and Waymo Reported Incidents. We cannot effectively compare the companies' overall performance; however, in order to preserve fair competition in the market, San Francisco recommends that the Draft Waymo Resolution be considered only with limitations consistent with the San Francisco Waymo Protest.

San Francisco urges the Commission to either defer consideration of the Waymo Advice Letter until after adopting new rules in the New Data Reporting Rulemaking or develop a factual record to properly assess the benefits and risks of unlimited expansion given current

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<sup>7</sup> Decision Authorizing Deployment of Phase I Drivered and Driverless Autonomous Vehicle Passenger Service (Deployment Decision) at p. 30; Draft Resolution at pp. 12-13, Finding Paragraph 13 at p. 17.

<sup>8</sup> See New Data Reporting Rulemaking filed May 25, 2023. San Francisco notes that the scope of the New Data Reporting Rulemaking is narrower than appeared to be contemplated in the Deployment Decision as amended (p. 75) and in the Initial Approval to Cruise approved by Resolution TL -19137 (p. 14). San Francisco urges the Commission to move forward with rulemaking on additional questions such as whether to revise program goals and establish targets and whether there is need for other changes to the AV pilot and Phase 1 Deployment programs.

<sup>9</sup> See PUC §§ 5351, 5352(a) et seq.

performance levels following and subject to environmental review of its New Data Rulemaking decision under the California Environmental Quality Act (Public Resources Code Section 21,000 et seq, “CEQA”), as required by law.<sup>10</sup>

Alternatively, the Commission should modify the Draft Resolution: 1) to approve only limited service with limits that reflect service hours, geographic service area, and fleet size as recommended in the San Francisco Protest; 2) to require Waymo, through permit terms, to submit additional data to facilitate evaluation of transit impacts, emergency response impacts, roadway hazards, network efficiency, and crashes as recommended in the San Francisco Protest until the Commission completes the New Data Reporting Rulemaking; and 3) to provide for gradual release of expansion limitations, once environmental review under CEQA is complete, where data submitted either under permit conditions or under future rulemaking decisions demonstrates improved performance in relation to the impacts identified above, as recommended in the San Francisco Protest.

**II. APPROVING THE DRAFT RESOLUTION AS WRITTEN WOULD FAIL TO ADDRESS THE SAFETY HAZARDS DOCUMENTED IN DEMONSTRATED DRIVERLESS AV PERFORMANCE IN SAN FRANCISCO AND WOULD BE INCONSISTENT WITH THE COMMISSION’S DUTY TO PROTECT PUBLIC SAFETY AND WOULD FIRST REQUIRE REVIEW OF THE POTENTIAL ENVIRONMENTAL IMPACTS.**

The Draft Resolution “encourage[s] Waymo to be thoughtful in how it chooses to operate and proactive in its engagement with local stakeholders.”<sup>11</sup> It further states that the Commission will monitor Waymo operations and has authority to modify any permit it issues.<sup>12</sup>

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<sup>10</sup> The San Francisco Protest of the Waymo Advice Letter did not oppose Commission authorization to provide some commercial service. Rather, it objected to the sweeping scope of the Waymo Advice Letter and called for limits on service hours, service area and fleet size to protect the downtown core and the City’s peak travel hours and to provide for Commission, City and public participation in service expansions. It also called for new data collection as a permit condition and transparent disclosure of that new data to support incremental approvals after demonstrated success in avoiding negative impacts.

<sup>11</sup> Draft Resolution at p. 14.

<sup>12</sup> *Ibid.* (citing PUC § 5381).

The Commission does not fulfill its obligation to protect public safety by simply encouraging its permittees. Rather, where material factual issues related to public safety are raised, an advice letter should not be approved until those issues are addressed.<sup>13</sup>

The Draft Resolution states that Commission staff has evaluated the content of Waymo's Passenger Safety Plan for its completeness relative to the minimum requirements set forth in the Deployment Decision as well the reasonableness of the strategies described in protecting passenger safety in the context of the proposed service. But even if this is the standard of review contemplated in the Deployment Decision,<sup>14</sup> it is unreasonable to apply this standard of review to approve the Waymo Advice Letter, exactly as submitted, under the circumstances of the hazards San Francisco has documented from driverless performance of the Waymo AV in San Francisco. This action ignores the mandates of the Charter Party Carriers' Act and constitutes an abuse of the Commission's discretion because it ignores the Act's mandate that the Commission consider public safety. As it stands, the current record is inadequate and presents material issues that the Commission must address before approving the Advice Letter.

The Commission has recognized the importance of developing a proper record that addresses material issues related to the Advice Letter. In D.11-11-019, the Commission vacated Resolution E-4243, authorizing an electric utility to construct a sub transmission line in Ventura County. The Commission determined that rehearing was warranted in part because several material issues were not discussed in the ultimate resolution, including fire hazard risks.<sup>15</sup> The Commission recognized that it was necessary to develop a proper record before reaching

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<sup>13</sup> GO 96-B, 7.5.1 (If the Industry Division, after considering the additional information, determines that material factual issues remain, the Industry Division will reject the advice letter without prejudice.)

<sup>14</sup> Deployment Decision Ordering Paragraphs at pp. 122-143.

<sup>15</sup> D.11-11-019 at pp. 9-12.

conclusions as to the potential impacts of the line.<sup>16</sup> The Commission further acknowledged that the informal methods of gathering information used in the advice letter process proceeding interfered with the proper development of the record.<sup>17</sup> Under this precedent, approval of the Draft Resolution would be improper.

**A. The Commission has both jurisdiction and a duty to Address the Hazards Raised by San Francisco**

Pointing to the DMV permitting process for authorizing automated driving on public roads, the Draft Resolution attempts to deflect the Commission's duty to protect public safety.<sup>18</sup> The Passenger Charter-Party Carriers' Act expressly vests the CPUC with concurrent jurisdiction over public safety.<sup>19</sup> The Commission itself has acknowledged this responsibility and its broad mandate to protect public safety.<sup>20</sup> The Commission should not rely on DMV acquiescence as a basis for inaction. Specifically, the Commission cannot rely on the DMV approval of Waymo LLC's operational design domain (ODD) to justify foregoing limits on Waymo deployment. The Commission may narrow the Waymo ODD when Waymo LLC seeks to operate as a charter-party carrier. The DMV approval of the Waymo ODD sets a ceiling on potential Waymo driverless commercial deployment; it does not set a floor.

The Draft Resolution also errs in its conclusion that the Expansion Advice Letter satisfies Deployment Decision requirements. General Order 157-E Part 1.06 requires Waymo to comply with the California Vehicle Code (CVC). The Draft Waymo Resolution encourages local authorities to report safety incidents to CPED and the DMV, and it counts CPUC authority to suspend or revoke an AV permit at any time.<sup>21</sup> Yet the Draft Resolution takes no account of

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<sup>16</sup> *Id.* at p. 13.

<sup>17</sup> *Id.* at p. 2.

<sup>18</sup> Deployment Decision at p. 30; Draft Resolution at p. 12.

<sup>19</sup> Draft Resolution at pp. 8-9

<sup>20</sup> *Id.* at pp. 1, 8-9, 11, 12, 15.

<sup>21</sup> *Id.* at p. 13.

these reports. San Francisco has informed CPED and DMV staff of incidents involving Waymo driverless operations, and these comments advise the Commission of still others. Yet the Draft Resolution proposes to approve virtually unlimited expansion. The Declaration of Shawn McCormick, Director of Parking Enforcement and Traffic at the SFMTA, attached to these comments as Exhibit A, identifies both moving violations and parking violations that are reflected in incidents reported in the San Francisco Protest, in these comments, and in discussions with Commission staff.

These violations, show that Waymo AVs are currently a developmental technology that is not yet ready for unconstrained commercial deployment. California law *provides no mechanism for state or local law enforcement officials to issue citations for moving violations to automated vehicles*. Moving violations that would prevent a human applicant from obtaining a license to drive have no apparent consequence for Waymo LLC. And state law provides no mechanism for moving violations committed by AVs to offer a path toward revocation of the privilege to drive on public roads. Under these circumstances, the Draft Resolution's unlimited approval of the Expansion Advice Letter abrogates Commission responsibility to protect public safety.

**B. The Hazards Documented in the San Francisco Protests Have Continued and Increased Since December, 2022; Additional Factfinding is Thus Necessary Before Approval of the Waymo Advice Letter**

As of January 25, 2022, Waymo driverless operations were limited in San Francisco. The San Francisco Protest of the Waymo Advice Letter noted that starting in late May 2022, managers in the City's Department of Emergency Management began to notice a number of calls to 9-1-1 from people who witnessed or were affected by driverless AVs obstructing travel lanes. As documented in the San Francisco protest filed January 25, 2023, these miles included dozens—perhaps hundreds or thousands—of incidents in which driverless AVs were reported to:

- drive erratically,

- make planned & unplanned stops in travel lanes that block traffic and interfere with transit service, and
- interfere with emergency response operations and posed grave hazards to first responders.

The continuation and increased frequency of incidents affecting the San Francisco Fire Department emergency response operations is of grave concern. Exhibit C provides a summary of 18 incidents in which written reports submitted by San Francisco Fire Department staff document driverless AVs that have interfered with SFFD emergency response operations and put firefighters and members of the public at unnecessary and greater risk than they already faced because of underlying emergencies.<sup>22</sup> Some of these incidents arose from Waymo driverless operations. Waymo vehicles are among those interfering with fundamental City operations like emergency response, utility operations, and transit. Waymo Reported Incidents reflect failure to navigate routine occurrences on urban roadways, such as emergency or construction lane closures and to respond appropriately to workers directing traffic in those situations.<sup>23</sup> For example, on April 25th, 2023, a Waymo driverless car blocked a fire truck's path in the Glen Park neighborhood of San Francisco. See Exhibit C for additional incidents affecting SF Fire Department operations.

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<sup>22</sup> Leaders of the San Francisco Fire Department report that these incidents reflect a subset of such incidents.

<sup>23</sup> The CPUC acknowledged that concerns around AV's ability to interpret hand signals was serious. See Deployment Decision at P. 23.



Since filing the San Francisco Protest, new kinds of Reported Incidents and hazards have emerged, including:

- intrusions into marked construction zones in which City employees are working in and under city streets;
- intrusions into crime scenes and scenes with downed power lines and other hazards marked with caution tape;
- crashes between other vehicles that were affected by driverless AV operations;
- obstructions caused by driverless AV challenges with interpreting and responding to direction given by human traffic control officers;
- minimal risk condition failures in travel lanes that trap drivers of other vehicles parked at the curb and prevent them from leaving the curb;

For example, on January 13th, 2023, a Waymo driverless car drove into the middle of a construction site and stopped right before rolling into an open trench where San Francisco city employees were working.



In addition, on May 9th, 2023, an SFMTA enforcement employee observed a Waymo driverless Waymo vehicle driving north on Mission Street at 20th Street in a Transit Only Lane. The vehicle ignored the sign showing that all vehicles except Muni, taxis, emergency service vehicles must turn right onto 20th Street. The Waymo kept driving north towards 19th Street.



In addition, on April 18th, 2023, a Waymo driverless car was observed obstructing traffic while loading a passenger on 431 Castro St. Multiple vehicles were forced to cross the double yellow lines to go around the stopped Waymo vehicle and the driver of a car stopped against the curb was unable to exit.

As of December 2022, most reported incidents involved Cruise AVs. In 2023, Waymo ramped up driverless operations, and Waymo vehicles have also been involved in numerous Reported Incidents. Table 1 identifies the number of Reported Incidents on a monthly basis in 2023 arising from driverless operations of both Cruise and Waymo. We present them together because the Commission’s actions on Draft Resolution TL-19144 (Cruise LLC) and Draft Resolution TL-19144 (Waymo) must account for the cumulative effect of the safety hazards generated by the driverless operations in San Francisco from both companies.<sup>24</sup> Table 1 also includes driverless AV Reported Incidents that could not be attributed to one company or the other. On a month-to-month basis, driverless AV Reported Incidents have been rapidly increasing.

**Table 1: Cruise and Waymo Driverless AV Incidents Reported in 2023**

Month	Cruise	Waymo	Reported Incidents
Jan	19	5	24
Feb	19	10	29
Mar	59	34	93
Apr	57	30	87
May*	7	3	10

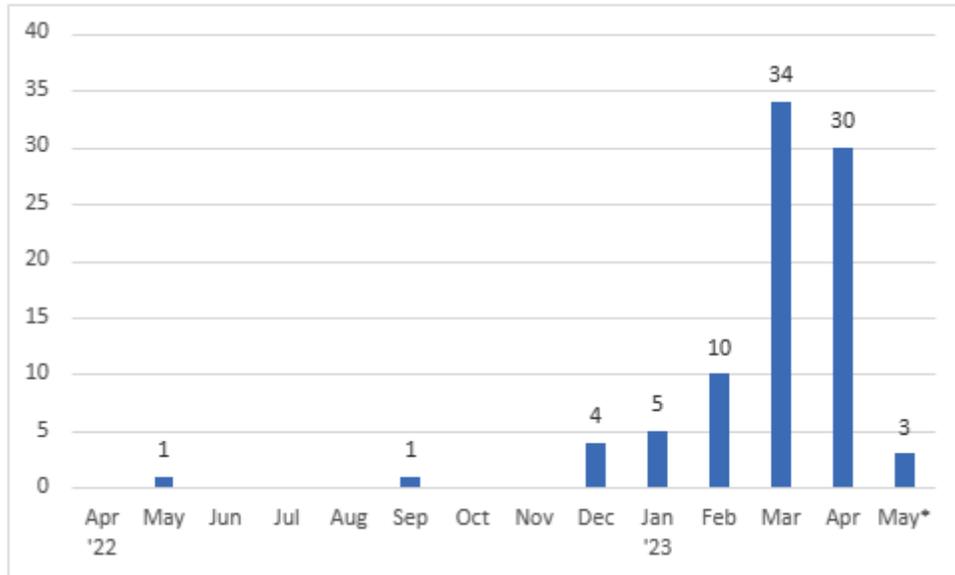
\* May represents an incomplete record

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<sup>24</sup> Also see Exhibit B

When we look at only those Reported Incidents that involve driverless Waymo AVs, in December 2022 and January 2023, Reported Incidents for Waymo were 5 or less per month. More recently in March and April 2023, Reported Incidents for Waymo have increased substantially to over 30 per month, or about one per day (see Table 2).

**Table 2: Waymo Incident Reports**



\* May represents an incomplete record

As discussed in the San Francisco Protest, the number of Reported Incidents is almost certainly a small minority of the total universe of incidents actually occurring because most affected individuals are unlikely to report these incidents. Under these circumstances, the Draft Resolution’s unlimited approval of the Waymo Advice Letter abrogates Commission responsibility to protect public safety.

**C. The Draft Resolution’s Conclusion that Waymo Has a Good Safety Record Lacks Foundation**

The Draft Resolution states “driverless Waymo vehicles operating in California have not been involved in any collisions resulting in injuries,” and cites to the National Highway Transportation Safety Administration ADS Incident Report Data through March 15, 2023. In

fact, Waymo has reported to the National Highway Traffic Safety Administration<sup>25</sup> at least four (4) collisions when operating with its Automated Driving System engaged which resulted in injuries.<sup>26</sup>

In the absence of any safety analysis supporting the conclusions reached in the Draft Resolution, the SFCTA has conducted a preliminary analysis of Waymo AV crashes based solely on the limited information currently available to the public from industry public reporting to the California Department of Motor Vehicles,<sup>27</sup> the Commission, and the National Highway Traffic Safety Administration.<sup>28</sup> San Francisco notes that the NHTSA data reveals that since June 2022, Waymo has been involved in a total of twenty-five (25) collisions when the automated driving system is engaged, and approximately sixty (60) collisions since July 2021. While some Waymo collisions may occur when operating under DMV permits and some Waymo collisions may occur when operating under CPUC permits, it is notable that for the period of June 2022 through November 2022 (the most recent month for which DMV permit data is available) approximately 60% of Waymo's total vehicle miles traveled (VMT) are reported under CPUC permits but only 19% of Waymo's collisions are reported under CPUC permits.

The Commission describes Waymo as having a "good safety record" without defining any method for distinguishing a good safety record from a poor one. NHTSA reports motor

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<sup>25</sup> [www.nhtsa.gov/laws-regulations/standing-general-order-crash-reporting](http://www.nhtsa.gov/laws-regulations/standing-general-order-crash-reporting)

<sup>26</sup> <http://www.nhtsa.gov/laws-regulations/standing-general-order-crash-reporting>. See Report IDs 30270-3628, 30270-3655, 30412-5101, and 30270-1410.

<sup>27</sup> [www.dmv.ca.gov/portal/vehicle-industry-services/autonomous-vehicles/disengagement-reports/](http://www.dmv.ca.gov/portal/vehicle-industry-services/autonomous-vehicles/disengagement-reports/)

<sup>28</sup> [www.nhtsa.gov/laws-regulations/standing-general-order-crash-reporting](http://www.nhtsa.gov/laws-regulations/standing-general-order-crash-reporting)

vehicle injury rates in its “Overview of Motor Vehicle Traffic Crashes in 2021” report.<sup>29</sup> One of the key metrics in this report is the “Injury Rate per 100 million VMT”, and it is reasonable to compare the Waymo AV injury collision rate to the national average for human drivers. In 2021, NHTSA reports the average national injury rate was 80 injuries per 100 million VMT.

Table 4 shows Waymo’s collision injury rate in San Francisco for the reporting period June 2022-November 2022 (the most recent month for which DMV permit data is available) based on the 1) VMT reported to the DMV and to the Commission by Waymo under its various permits, and 2) the collisions and collisions with injuries reported to the NHTSA. This represents a ceiling estimate, as some VMT may be duplicatively reported to both agencies. Reductions in total VMT due to double counting would result in a higher injury rate. Injury crashes are derived from the aforementioned NHTSA ADS reporting data, which has been cleaned to remove all duplicate records, as well as to only include actual vehicle crashes and to eliminate events such as vehicles getting flat tires or “undercarriage made contact with the pavement” on steep slopes. This represents a floor estimate of collision injuries, as in many cases there are more than one injury associated with a collision. Higher numbers of injuries per collision would result in a higher injury rate. Finally, please note that 100% of Waymo collisions in California that were reported to NHTSA occurred in San Francisco. Waymo’s injury rate is estimated to be 104 injuries per 100 million VMT, approximately 1.3 times the national average.

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<sup>29</sup> <https://crashstats.nhtsa.dot.gov/Api/Public/ViewPublication/813435>

Table 4. Waymo Collision and Injury Collision Rates (per VMT)

Period	June 2022 – Nov 2022
Total VMT reported under DMV permits	798,461
Total VMT reported under CPUC permits	1,124,364
Total VMT	1,922,825
Total Collisions in autonomous mode	16
Total Collisions with Injuries	2
VMT per collision	120,177
VMT per injury	961,412
Injuries per 100 million VMT (Waymo)	104
Injuries per 100 million VMT (National Average)	80
<b>Waymo Injury Rate / National Injury Rate</b>	<b>1.3</b>

Notes: VMT from Waymo’s California DMV Drivered Test Permit data, Waymo’s California DMV Driverless Test Permit Data, Waymo’s CPUC Pilot Permit data and Waymo’s CPUC Deployment permit data. Injury crashes derived from NHTSA ADS Incident Report Data. All data is for the period June 2022-November 2022

While San Francisco hopes that automated driving will at some point be safer than human driving, at a minimum, based on collision records available to the public, within the complex driving environment of San Francisco city streets, we must conclude that the technology is still under development and has not reached this goal. It is possible that more recent Waymo AV driving would show better performance in terms of injury collisions per 100 million miles of VMT. Unlimited approval of the Waymo Advice Letter abrogates Commission responsibility to protect public safety. If the Commission is to make any reliance on the Waymo AV injury collision information, we urge the Commission to seek expert assistance to expand on the SFCTA’s preliminary findings. A more thorough analysis should benefit from all the data available to the Commission and should be made available to the public.

**D. Approval of the Draft Resolution is a Discretionary Action with reasonably foreseeable environmental impacts and is thus Improper Under the California Environmental Quality Act.**

Commission approval of the Draft Waymo Resolution would be a reflection of Commission judgment and deliberation; it is a discretionary action under CEQA. (Publ. Resources Code § 21065.) Here, because the Commission would be taking a discretionary action capable of causing reasonably foreseeable environmental impacts, the Commission must conduct an environmental review of Waymo’s proposed deployment. The following is a non-exhaustive discussion of the potential physical environmental impacts that must be analyzed pursuant to CEQA prior to the Commission making this discretionary decision.

CEQA recognizes that “vehicle miles traveled is the most appropriate measure of transportation impacts.” (CEQA Guidelines § 15064.3.) While San Francisco appreciates that the proposed Waymo AVs are zero emission vehicles, its sole VMT impact would have an adverse impact on the State’s Climate Change and Equity goals as stated in the California Air Resources Board’s 2022 Scoping Plan for Achieving Carbon Neutrality (Scoping Plan)<sup>30</sup>. The Scoping Plan recognizes the need for stringent VMT reductions to meet the state’s climate action goals (i.e., reducing VMT by 25% below 2019 levels by 2030 and 30% below 2019 levels by 2045). Further, the Scoping Plan’s Sustainable and Equitable Communities policy framework<sup>31</sup> calls for the prevention of “uncontrolled growth of autonomous vehicle VMT,” as it is projected to be one the primary sources of VMT growth in California in the next 25 years.

AVs that operate as ride-hailing fleets, such as the Cruise AV, are likely to have similar impacts on VMT as the ride-hailing transportation network companies (TNCs). Research indicates TNC services can induce vehicle trips by 43 percent to 61 percent as they shift people

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<sup>30</sup> California Air Resources Board. *2022 Scoping Plan for Achieving Carbon Neutrality*. December 2022. Available at <https://ww2.arb.ca.gov/sites/default/files/2023-04/2022-sp.pdf>, accessed May 2023.

<sup>31</sup> Appendix E of the 2022 Scoping Plan for Achieving Carbon Neutrality.

from transit, bicycling, or walking, or by taking a trip they would otherwise not make at all.<sup>32</sup> This increases VMT and greenhouse gases even if the vehicles themselves are zero emission.<sup>33</sup> A recent analysis of an electric charging project for an AV ride-hailing fleet in San Francisco found that the project could generate approximately 8.4 million to 9.8 million new VMT due to induced trips from its AVs.<sup>34</sup>

The VMT thresholds in the Scoping Plan are tied to greenhouse gas emission goals. However, the scoping plan acknowledges that:

“Transforming the transportation sector goes beyond phasing out combustion technology and producing cleaner fuels. Managing total demand for transportation energy by reducing the miles people need to drive on a daily basis is also critical as the state aims for a sustainable transportation sector in a carbon neutral economy. Though GHG emissions are declining due to cleaner vehicles and fuels, rising VMT can offset the effective benefits of adopted regulations.”

Again, although Waymo has committed to using zero emission vehicles for its AV passenger service, the VMT generated by approval of the Draft Resolution could also result in potential environmental impacts related to air quality. Vehicles generate particulate matter from brake wear, tire wear, clutch wear, and road dust resuspension, which is not regulated. These sources of pollution are becoming increasingly important as exhaust emissions decrease over time through increasingly stringent exhaust regulations and vehicle turnover. These

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<sup>32</sup> SFCTA. *TNCs & Congestion, Final Report*. October 2018, Available at [https://www.sfcta.org/sites/default/files/2019-05/TNCs\\_Congestion\\_Report\\_181015\\_Finals.pdf](https://www.sfcta.org/sites/default/files/2019-05/TNCs_Congestion_Report_181015_Finals.pdf), accessed October 2022.

<sup>33</sup> San Francisco Planning Department. *TNCs and Land Use Planning*. June 2022. Available at [https://sfplanning.org/sites/default/files/documents/citywide/TNCs-land-use/TNC\\_Land\\_Use\\_Study\\_2022.pdf](https://sfplanning.org/sites/default/files/documents/citywide/TNCs-land-use/TNC_Land_Use_Study_2022.pdf), accessed May 2023.

<sup>34</sup> San Francisco Planning Department. *640-800 Cesar Chavez Street Project Transportation Coordination Memo*. January 28, 2022. Available at <https://citypln-m-extnl.sfgov.org/External/link.ashx?Action=Download&ObjectVersion=-1&vault={A4A7DACD-B0DC-4322-BD29-F6F07103C6E0}&objectGUID={79CACAE5-61D3-4513-BC3B-A4FBDC9FB863}&fileGUID={9D108BBB-025C-492A-BE56-8949985D89B7}>, accessed May 2023.

unregulated emissions would also result in inequitable impacts, as the average number of vehicles on roadways located within environmental justice communities<sup>35</sup> tends to be higher compared to communities with a low environmental justice burden.<sup>36</sup> In addition, it is unclear if other vehicles used in the service of Waymo's operation of AV passenger service (e.g., cars used for mapping or to pick up stranded AVs) are also zero emission vehicles. Information on the operations of these other types of vehicles and whether they are zero emission or combustion engine vehicles is essential to understanding the full scope of the VMT associated with Waymo's operations and related impacts.

Approval of the Draft Resolution could also lead to potential environmental impacts related to transit delay. As stated above, AVs that operate as ride hailing fleets would induce new vehicle trips, which could then lead to increased congestion and delays for transit. The Draft Resolution states: "The operational issues raised by San Francisco are concerning to the Commission given the wide range of potential impacts to passengers and the public. Unplanned stops in unsafe locations create hazards for passengers and other road users, block the flow of traffic, and interfere with public transit until the vehicle(s) can be remotely moved or manually retrieved." In addition, finding 15 in the Draft Resolution states that Waymo vehicles can "create hazards for passengers and the public". This finding, along with the additional evidence provided in these comments and raised in the San Francisco Protest, indicate that approval of

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<sup>35</sup> Environmental justice communities are areas of San Francisco that have higher pollution and are predominately low-income.

<sup>36</sup> San Francisco Planning Department. Environmental Justice Informational Analysis for the Housing Element 2022 Update. December 7, 2022.

the Draft Resolution could lead to potentially hazardous conditions and public transit delays – issues addressed under CEQA in Checklist Question XVIII(a).<sup>37</sup>

The Commission must conduct CEQA review prior to taking a discretionary action capable of causing physical environmental effects, such as approval of the Draft Waymo Resolution. A CEQA analysis at this stage and at this level is also good government. CEQA analysis would allow for a comprehensive assessment of the physical environmental impacts of the Deployment Programs statewide, consistent with the Commission’s decision that statewide deployment is appropriate. It may also identify potential options for mitigating impacts through program rules or subsequent permit conditions that align with the four goals established in D.20-11-046 (as modified by D.21-05-017). Mitigation options could include:

- Disincentives for zero occupancy VMT and incentives for shared rides;
- Maintaining regulations on the geography, time period, amount, and fleet size of autonomous vehicle passenger transportation service deployment based on data collected as a result of D. 20-11-046; and
- Zero emission vehicle requirements for all vehicles uses in the operations and support of Waymo’s AV passenger service.

Finally, as noted above, the Commission’s modification of Decision 20-11-046 and denial of a rehearing of the decision created a phased approach to the AV Deployment Programs.<sup>38</sup> Authorizing Waymo vehicles to operate in San Francisco without geographic or time limits is tantamount to Phase II of the Deployment Programs. Given the breadth and timing of

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<sup>37</sup> The San Francisco Planning Department's Transportation Impact Analysis Guidelines uses significance criteria to facilitate the transportation analysis and address the Appendix G checklist. To address conflicts with the City's Vision Zero and Transit First policies, the guidelines address if a project would result in potentially hazardous conditions or substantial transit delay.

<sup>38</sup> California Public Utilities Commission. Order Modifying Certain Holdings of Decision 20-11-046 and Denying Rehearing of the Decision, as Modified. May 6, 2021.

Waymo’s proposal, it is unclear when and under what criteria the Commission would initiate Phase II, if not now.<sup>39</sup> Accordingly, the Commission must conduct the required environmental review at this time, or risk improperly piecemealing its own approval of the project. A “project” under CEQA refers to the *entire* activity, even if subject to several discretionary approvals. (CEQA Guidelines § 15378(a), (c).) CEQA prohibits agencies from submerging environmental considerations by chopping a large project into many little ones—each with a minimal potential impact on the environment—which cumulatively may have disastrous consequences. (*Bozung v. Local Agency Formation Com.* (1975) 13 Cal.3d 263, 283–284.) Where, as here, a project will be approved or implemented in phases, a lead agency should prepare a single environmental document for the phased project. (CEQA Guidelines § 15165.)

### **III. CONCLUSION: REQUESTED RELIEF**

Given the demonstrated performance of Waymo AVs on San Francisco streets in the months since the Initial Approval and the hazards they have created for San Francisco travelers, San Francisco urges the Commission to defer consideration of the Draft Resolution and the Waymo Expansion Advice Letter. The Commission should first proceed promptly to adopt new rules under the New Data Reporting Rulemaking and to allow the development of the factual performance record to support future consideration of the Draft Resolution, following and subject to review as required by CEQA. Ignoring Waymo’s true performance is unreasonable, unsupported by the evidence in the record, and constitutes an abuse of discretion.

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<sup>39</sup> From the Deployment Decision, the Commission is also deferring: establishing goals (p. 26), defining accessibility (p. 39), setting uniform equity targets (p. 42), goals related to city operations and planning or congestion, traffic, curb use, and public transit (p. 48), equity targets (p. 51), data related to wheelchair accessible vehicles (p. 65), and revision of current goals (p. 93).

In the alternative, while the New Data Reporting Rulemaking is pending, the Commission should modify the Draft Resolution to approve expansion of commercial service only within service limits recommended in the San Francisco Protest. In addition, the Commission should adopt interim reporting requirements as permit conditions as recommended in the San Francisco Protest. Finally, as recommended in the San Francisco Protest, the Commission should identify a mechanism for gradual lifting of the Service Limitations where justified by Waymo LLC submission of additional Tier 2 Advice Letters demonstrating improved performance in relation to the key performance issues discussed in the San Francisco Protest, subject to a 30-day public comment opportunity and compliance with CEQA.

Dated: May 31, 2023

Respectfully submitted,

DAVID CHIU  
City Attorney  
MISHA TSUKERMAN  
Deputy City Attorney

By:           /s/Misha Tsukerman            
MISHA TSUKERMAN  
Attorneys for: THE SAN FRANCISCO MUNICIPAL  
TRANSPORTATION AUTHORITY, SAN FRANCISCO  
COUNTY TRANSPORTATION AUTHORITY, AND THE  
SAN FRANCISCO PLANNING DEPARTMENT

Exhibit A: Declaration of Shawn McCormick, Director of Parking Enforcement and Traffic, SFMTA

Exhibit B: Map of AV incidents in SF

Exhibit C: Summary of San Francisco Fire Department Unusual Occurrence Reports Involving Driverless AVs

# **EXHIBIT A**

## **Exhibit A: Declaration of Shawn McCormick**

1. I, Shawn McCormick, am the Director of Parking Enforcement and Traffic at the San Francisco Municipal Transportation Agency (SFMTA). I have held this position for six years.
2. My responsibilities include daily enforcement deployment and general operations, budget development and purchasing oversight, personnel management, and serving as the primary spokesperson for the Parking Enforcement Unit among internal and external stakeholders. Additionally, I help plan for, coordinate and execute special events (e.g., parades, street fairs, sporting events) in partnership with other SFMTA Divisions and City Departments.
3. I have worked at the SFMTA for six years and I have spent twenty-four years interpreting and enforcing provisions of the California Vehicle Code and twenty-four interpreting and enforcing provisions of the San Francisco Transportation Code.
4. I am responsible for training Parking Control Officers (PCOs) and spend roughly 15-20 hours in the field per week and am responsible for 326 PCOs.
5. I have personally observed driverless autonomous vehicles (AVs) operating in many areas of the City, and I have personally witnessed many incidents where driverless AVs have encountered driving challenges that they could not promptly overcome. These have included incidents that are easy for human drivers to master, such as navigating a traffic detour due to a street closure.
6. I have reviewed video footage and photographs that show AVs operated by Cruise LLC and Waymo LLC violating the California Vehicle Code. While still photos do not always provide clear indication of what preceded the events portrayed, my interpretation of still photos and videos is informed by my extensive and detailed knowledge of San Francisco streets.
7. These violations include: (1) Section 22500(a), stopping in an intersection; (2) Section 22500(m), stopping in a transit lane; and (4) Section 22521, stopping on a rail track.
8. I have personally issued citations for violations of Vehicle Code 22500(h) for double parking and Transportation Code 7.2.70 for obstructing traffic.
9. PCOs have issued citations for violations of Vehicle Code 22500(a), stopping in an intersection; Vehicle Code 22500 (b), stopping in a crosswalk; 22500(h), double parking; CVC 22500(i), stopping in a bus stop, and other local ordinances including Transportation Code 7.2.70 Obstructing Traffic, Transportation Code 7.2.40/41 No Stopping or No Parking under my supervision.

10. I have personally observed AVs owned by Cruise LLC and Waymo LLC obstruction traffic in numerous instances.
11. The PCOs I supervise are civil enforcement staff and are not authorized to issue citations for "moving violations" under the California Vehicle Code except when authorized by provisions of the California Vehicle Code related to red light cameras or other similar programs.
12. General, citations for moving violations may only be issued by sworn peace officers who personally witness the violation.
13. Utilizing my familiarity with the California Vehicle Code, I have observed AVs owned by Cruise and Waymo committing a moving violation under Section 21367, disobeying instructions of a person directing traffic, or failing to comply with traffic control devices provided, for regulation of traffic that would endanger the safety of street construction workers.
14. I have personally witnessed AVs owned by Cruise and Waymo have difficulty with taking direction from officers engaged in traffic control.

*Shawn McCormick*

Shawn McCormick  
SFMTA Director of Parking Enforcement and Traffic  
May 31, 2023

# **EXHIBIT B**

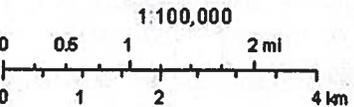
**Exhibit B: Map of AV Incidents in San Francisco**  
 All Observed AV Incidents



6/30/2023

- AV Incidents - Unknown
- ◆ AV Incidents - Cruise
- AV Incidents - Waymo
- ◆ AV Incidents - Zoox

World Hillshade



Esri, NASA, NOAA, USGS, FEMA, California State Parks, Esri, HERE, DeLorme, GeoGraph, GeoTechnology, Inc, METI/NASA, USGS, Bureau of Land Management, EPA, NPS, USDA

# **EXHIBIT C**

**Exhibit C: Summary of San Francisco Fire Department Unusual Occurrence Reports Involving Driverless AVs**

From April 2022 through May 9, 2023, SF fire personnel have submitted 18 Unusual Occurrence Reports that document incidents with driverless AVs. These include numerous incidents where driverless AVs have impeded the emergency response by fire personnel resulting in potential injury or damage to fire personnel and equipment. Incidents like these may undermine the effectiveness of SFFD emergency response efforts to save human lives.

	AV Company Involved	Incident Date	Incident Time Reported	Reported Location	Description
1	Cruise	4/5/2022	4:06 AM	17th St	A driverless Cruise AV stopped in a position which blocked a fire truck responding to an active fire from passing a stopped Recology truck, delaying fire response.
2	Unknown	6/12/2022	11:50 PM	Funston Ave & Anza St	A driverless AV drove over charged hose lines creating a potential hazard for fire personnel and property.
3	Cruise	1/22/2023		1310 Hayes St	A driverless AV drove towards an active fire scene moving towards hoses and did not stop until fire personnel broke the window.
4	Cruise	1/24/2023		Laguna & Hayes Street	A driverless Cruise AV entered active fire scene separating the fire crew from the engine and stopping on a hose line and was unable to move for 5 minutes.
5	Cruise	3/11/2023	10:05 PM	800 Geary St	Two driverless Cruise AVS blocking travel lanes and red painted bus only lane and did not respond to the fire trucks bell or horn.
6	Cruise	3/21/2023	9:56 PM	Clay between Polk and Jones	Two driverless Cruise AVs entangled in Muni wires taken down by storm that were marked by caution tape and caution sandwich boards causing potential physical damage to the wires.
7	Waymo	3/21/2023		706 Missouri	Two driverless Waymo AVs entered area marked by caution tape where fire personnel were clearing a downed tree.
8	Cruise	4/14/2023		Fire Station 14 (551 26th Ave)	A Cruise driverless AV entered a fire training site marked by traffic cones and monitored by safety personnel requiring remote operator assistance to clear the site.
9	Cruise	4/16/2023	11:53 PM	2488 Geary Blvd	A Cruise driverless AV blocked a fire engine responding to a call and creating an obstacle for the water supply line.

	AV Company Involved	Incident Date	Incident Time Reported	Reported Location	Description
10	Cruise	4/18/2023		1597 Howard St	A Cruise driverless AV stopped in an active fire scene for approximately 10 minutes before driving away.
11	Cruise	4/20/2023	3:30 PM	3249 Sacramento St	A Cruise driverless AV entered an active fire scene stopping only when fire personnel placed a chock block in front of its tires. Incident took 8-10 minutes before the remote operator could clear the AV from the scene.
12	Waymo	4/25/2023	10:25 AM	Chenery St & Roanoke St	A Waymo driverless AV stopped on a one way road blocking fire response requiring the fire vehicle to back up and proceed to the call on another street.
13	Cruise	4/25/2023	9:53 PM	Polk St & Geary St	A Cruise driverless AV failed to stop with other traffic as a fire truck with lights and siren active approached the intersection.
14	Cruise	4/26/2023	6:08 PM	2396 Pine Street	A Cruise driverless AV stopped within 6 feet of a fire engine making it difficult for fire personnel to access equipment from the back of the truck and impeding the position of a second fire engine that was behind the AV.
15	Cruise	4/26/2023		1425 Fillmore	A Cruise driverless AV with three passengers attempted to drive between two fire vehicles responding to a building alarm potentially blocking hose leads and access to equipment in the fire trucks.
16	Waymo	5/3/2023	1:29 AM	162 Tioga Rd	Fire personnel response required to awaken a passenger in a Waymo driverless AV stopped in a location that blocked a narrow street.
	Cruise	5/8/2023		1060 Bush	A Cruise driverless AV pulled up directly behind a fire vehicle responding to a building alarm. Stopped for 20 minutes before moving around the vehicle and leaving the scene.
17					
18	Waymo	5/9/2023	11:13 AM	Fire station near Webster (1301 Turk St)	A Waymo driverless AV approached the rear of a fire vehicle with lights operating blocking the fire vehicle from backing into the station.