

Decision 18-05-043 May 31, 2018

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

Order Instituting Rulemaking on  
Regulations Relating to Passenger Carriers,  
Ridesharing, and New Online-Enabled  
Transportation Services.

Rulemaking 12-12-011

**DECISION AUTHORIZING A PILOT TEST PROGRAM FOR AUTONOMOUS  
VEHICLE PASSENGER SERVICE WITH DRIVERS AND ADDRESSING IN  
PART ISSUES RAISED IN THE PETITIONS FOR MODIFICATION  
OF GENERAL MOTORS, LLC/GM CRUISE, LLC, LYFT, INC., AND  
RASIER-CA, LLC/UATC, LLC FOR PURPOSES OF A PILOT TEST  
PROGRAM FOR DRIVERLESS AUTONOMOUS VEHICLE PASSENGER  
SERVICE**

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**DECISION AUTHORIZING A PILOT TEST PROGRAM FOR AUTONOMOUS VEHICLE PASSENGER SERVICE WITH DRIVERS AND ADDRESSING IN PART ISSUES RAISED IN THE PETITIONS FOR MODIFICATION OF GENERAL MOTORS, LLC/GM CRUISE, LLC, LYFT, INC., AND RASIER-CA, LLC/UATC, LLC FOR PURPOSES OF A PILOT TEST PROGRAM FOR DRIVERLESS AUTONOMOUS VEHICLE PASSENGER SERVICE**

**Summary**

This Decision sets out a framework and two pilot programs for the California Public Utilities Commission's regulation of passenger service to the public in California provided by entities using Autonomous Vehicles (AVs). The first pilot program allows permitted entities to provide passenger service using AVs with a driver in the vehicle. The second pilot program, allows permitted entities to provide passenger service using AVs without a driver in the vehicle, and in compliance with all applicable remote operator requirements pursuant to California Department of Motor Vehicles (DMV) regulations.

These proposals allow the introduction of AVs into passenger service to the public on a pilot basis, while providing for the safety and consumer protection of the passengers, consistent with the Commission's regulation of private passenger-carrying transportation entities subject to its jurisdiction. The proposals in this decision are designed to work in tandem with the DMV's jurisdiction over regulations addressing the safe operation of AVs themselves by providing for the safety and consumer protections of passengers of commercial operators within the Commission's jurisdiction.

For the first pilot program, this Decision authorizes Transportation Charter-Party Carrier (TCP) permit-holders to add test autonomous vehicles (Test AVs) to their passenger carrier equipment statement, where the TCP permit-holder also holds an Autonomous Vehicle Tester Program

Manufacturer's Testing Permit (AV Testing Permit) issued by the DMV, including where the service is provided free to the passenger. The Test AVs must have been in permitted drivered AV operation for a minimum of 30 days. This service is defined here as "Drivered AV Passenger Service."

For the second pilot program, this Decision authorizes TCP permit-holders that hold a DMV Manufacturer's Testing Permit - Driverless Vehicles (DMV AV Testing Permit - Driverless Vehicle) to operate AVs in passenger service in driverless mode (Driverless AV Passenger Service) with a remote operator, subject to certain restrictions. The pilot program shall be available only to TCP permit-holders with permitted driverless AVs that have been in permitted driverless AV operation for a minimum of 30 days, as well as restrictions which we impose herein.

In authorizing these pilots, this Decision addresses, in part, issues raised in the Petitions for Modification (PFM) filed by General Motors, LLC/GM Cruise, LLC, Lyft, Inc., and Rasier-CA, LLC/UATC LLC), and the responses by parties to those Petitions.

This Decision does not rule on the proposals contained in the PFMs for Commission regulation of entities seeking to provide passenger service using AVs approved by the DMV for full deployment. Those proposals will be addressed in this proceeding following a workshop that includes reports by companies participating in these pilot programs, and an opportunity for comment and reply. In a similar vein, while these pilots will be implemented using the Commission's presently effective TCP permit, the workshop and further examination in this proceeding may identify the need for a new permit with terms and conditions specific to AV service.

**1. Background**

**A. Procedural Activity to Date Regarding Autonomous Vehicles (AV) Issues Before the Commission**

In an Amended Scoping Memo filed in Rulemaking (R.) 12-12-011 on June 12, 2017, the assigned Commissioner and assigned Administrative Law Judge (ALJ) identified a series of phases and tracks to be considered in the instant proceeding. Track 8 of the Amended Phase III.B Scoping Memo concerns the regulation of AVs providing passenger transportation service.

Specifically, the Revised Scoping Memo asks:

1. If a person or entity partners with, or enters into an agreement with, a Transportation Network Company (TNC) to supply autonomous vehicles for passenger transportation service,
  - a. Should the person or partnering entity be required to obtain authority from the Commission to operate as a TNC, [Charter-Party Carrier] TCP, or should the Commission designate an alternate regulatory category?
  - b. Should the TNC that is a party to the partnership or agreement be required to obtain authority from the Commission to operate as a TNC, or should the Commission designate an alternate regulatory category?
2. Should any interested party be permitted to file a petition to modify any of the existing Commission decisions rules, or general orders in order for autonomous vehicles to lawfully provide passenger transportation service? If so, identify all such decisions, rules, and general orders and explain how they should be modified.<sup>1</sup>
3. What other proposals and/or procedural avenues should the Commission consider in determining the most comprehensive,

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<sup>1</sup> R.12-12-011 Amended Phase III B Scoping Memo at 9 (6/12/17).

forward thinking, and safest manner in which to regulate autonomous vehicles?<sup>2</sup>

Rasier-CA, LLC (Rasier)/UATC LLC (UATC), Lyft, Inc. (Lyft), and GM Cruise, LLC (GM/Cruise) each filed Petitions for Modification (PFMs) on September 11, 2017. Multiple Parties, including the San Francisco International Airport (SFO)/San Francisco Municipal Transit Agency (SFMTA), the Los Angeles Department of Transportation (LADOT), the San Francisco Taxi Workers Alliance (SFTWA), and each of the three original Petitioners, filed Responses to the PFMs on October 25, 2017.

It should be noted that the PFMs and Responses were all filed before the Department of Motor Vehicles (DMV) submitted its proposed final AV regulations to the Office of Administrative Law (OAL) on January 11, 2018, which include a new permit type for fully driverless AV operations as discussed in greater detail below. Because they predated the DMV's final AV submittal, the PFMs filed with the California Public Utilities Commission (Commission) primarily (although not exclusively) addressed a regulatory framework in which a driver would be present in the vehicle.

**1. Commission AV Permitting Activity to Date**

No company has received Commission authority to date to transport members of the public in an AV.

**B. Regulatory Framework Encompassing Commission and DMV Rules**

The California DMV regulates the safe operation of AVs. The Commission regulates passenger service provided by all common carriers (see *infra*). Where

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<sup>2</sup> R.12-12-011, Phase III B Scoping Memo at 4-5 (4/7/17).

passenger service will be provided by carriers using AVs, the regulatory framework will necessarily include rules set out by both the DMV and the Commission.

The following sections detail DMV's authority and AV regulatory framework, followed by the Commission's authority related to passenger service.

**1. DMV Authority Regarding Autonomous Vehicles**

Division 16.6, Section 38750 of the California Vehicle (Veh.) Code, requires the DMV to develop regulations for the testing and public use of autonomous vehicles. Veh. Code Section 38750(c) states in relevant part:

Except as provided in subdivision (b), an autonomous vehicle shall not be operated on public roads until the manufacturer submits an application to the department, and that application is approved by the department pursuant to regulations adopted pursuant to subdivision (d).

Veh. Code Section 38750(d) states in relevant part:

- (1) As soon as practicable, but no later than January 1, 2015, the department shall adopt regulations setting forth requirements for the submission of evidence of insurance, surety bond, or self-insurance required by subdivision (b), and the submission and approval of an application to operate an autonomous vehicle pursuant to subdivision (c).
- (2) The regulations shall include any testing, equipment and performance standards, in addition to those established for subdivision (b), that the department concludes are necessary to ensure the safe operation on public roads, with or without the presence of a driver inside the vehicle.
- (3) The department may establish additional requirements by the adoption of regulations, which it determines...are necessary...regarding the aggregate number of autonomous vehicles on public roads, special rules for the registration of autonomous vehicles, new license requirements for



operators of autonomous vehicles, and rules for revocation, suspension, or denial of any license or approval issued pursuant to this division.

Veh. Code Section 38750(a)(2)(A) states that an “‘autonomous vehicle’ means any vehicle equipped with autonomous technology that has been integrated into that vehicle.”

**a. AV Regulatory Activities at the DMV**

The DMV divided the development of AV regulations into two phases: (1) testing; followed by (2) public use, which the DMV categorizes as “deployment.” The DMV adopted regulations for an Autonomous Vehicle Tester Program to allow testing with a test driver behind the wheel on May 19, 2014, which became effective September 16, 2014.

Under those regulations, AV manufacturers must receive a DMV AV Testing Permit before operating Test AVs on public roads and testing must be conducted by the manufacturer. Manufacturers must comply with multiple financial, insurance, operator, safety, and reporting requirements.

In order to continue developing regulations to address driverless AV operations, the DMV issued new draft regulations in December 2015 and held public workshops in early 2016. The DMV noticed the formal rulemaking in March 2017, followed by amended text in October 2017 and November 2017. The most recent DMV comment period ended on December 15, 2017. The DMV submitted the proposed final regulations to the OAL for final approval on January 11, 2018, and OAL approved the regulations on February 26, 2018. Pursuant to Government (Gov.) Code Section 11343.4, these regulations become effective April 1, 2018.

**b. The new DMV regulations**

1. ***Adopt a Common Classification System for AV Technologies.*** In 2016, the National Highway Traffic Safety Administration adopted automation levels developed by the Society of Automotive Engineers, now SAE International (SAE), an engineering organization that promotes automated technologies. SAE specifies six distinct levels of automation, but only Levels 3, 4, and 5 meet the “autonomous” standard. Level 3 automation technology still requires a human driver to intervene when necessary, but Levels 4 and 5 are capable of driverless operation. The SAE classification system is now a common standard across the automotive industry, and the DMV’s regulations incorporate SAE Levels 3-5 as the levels that meet the standard for “autonomous” under CA state law.<sup>3</sup>
2. ***Refine the Definition of an Autonomous Test Vehicle.*** The regulations define an autonomous test vehicle as one equipped with technology that can perform the dynamic driving task but requires either a human test driver or remote operator (in the case of driverless AVs) to continuously supervise the vehicle’s performance. The presence of a natural person who is an employee, contractor or designee of the manufacturer in the vehicle to monitor its autonomous performance does not affect whether a vehicle meets the definition of an autonomous test vehicle.<sup>4</sup>
3. ***Adopt a New Permit Type for Test AVs Capable of Operating Without a Driver.*** Manufacturers of test vehicles equipped with Levels 4 or 5 technology may apply for and receive a Manufacturer’s Testing Permit for Driverless Vehicles if the manufacturer certifies compliance with certain additional requirements, primarily to:
  - a. Notify local authorities within the jurisdiction(s) where test operations will occur of the date, time, public roads,

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<sup>3</sup> Cal. Code Regs., tit. 13, §§ 227.02(b) and 227.38(c).

<sup>4</sup> Cal. Code Regs., tit. 13, § 227.02(b).

operational design domain, number and types of vehicles and manufacturer's contact information.<sup>5</sup>

- b. Maintain a communication link between the vehicle and the remote operator to obtain information on the vehicle's location and allow two-way communication. The manufacturer must continuously monitor the status of the vehicle and the two-way communication link.<sup>6</sup>
- c. Institute a process to display or communicate vehicle owner or operator information in the event of a collision.<sup>7</sup>
- d. Comply with all required Federal Motor Vehicle Safety Standards, Title 49 Code of Federal Regulations, Part 571 and the California Vehicle Code, Division 12 (Equipment of Vehicles) or provide evidence of an exemption that has been approved by the National Highway Traffic Safety Administration.<sup>8</sup>
- e. Certify that the vehicle is capable of operation without the presence of a driver in the vehicle and that it meets the definition of an SAE level 4 or 5 automated driving system.<sup>9</sup>
- f. Provide a law enforcement interaction plan to local law enforcement agencies and first responders within the testing area.<sup>10</sup>
- g. Maintain a training and certification program for its remote operators.<sup>11</sup>

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<sup>5</sup> Cal. Code Regs., tit. 13, § 227.38(a).

<sup>6</sup> Cal. Code Regs., tit. 13, § 227.38(b).

<sup>7</sup> *Id.*

<sup>8</sup> *Id.*

<sup>9</sup> *Id.* at (c).

<sup>10</sup> *Id.*

<sup>11</sup> *Id.* at (f).

4. ***Authorize Transport for Members of the Public in Test Vehicles.*** California Code of Regulations, title 13, section 227.02(k) allows a passenger to summon a vehicle or input a destination. A member of the public may ride as a passenger in an autonomous test vehicle if there are no fees charged to the passenger or compensation received by the manufacturer. Similarly, California Code of Regulations, title 13, section 227.26, subdivision (f) prohibits AV manufacturers from charging passengers a fee for riding in Test AVs, or to receive compensation for a test ride.
5. ***Impose New Disclosure Requirements to Passengers in Driverless Test Vehicles.*** California Code of Regulations, title 13, section 227.38, subdivision (h) requires a manufacturer that transports passengers other than an employee, contractor or designee of the manufacturer under the DMV AV Testing Permit - Driverless Vehicles to disclose whether it collects any personal information from the passenger(s) and how the manufacturer will use that information. If a manufacturer fails to disclose such collection and use of personal information, the DMV may suspend or revoke the testing permit.<sup>12</sup>
6. ***Expand the Term and Renewal Interval of DMV AV Testing Permit.*** The regulations extend the term of a DMV AV Testing Permit from one to two years. Manufacturers must timely renew the DMV AV Testing Permit prior to the expiration date.<sup>13</sup>
7. ***Extend Pre-Road Test Conditions to Driverless Test Vehicles.*** The regulations extend pre-road test requirements to driverless test vehicles, such that the manufacturer must first Test AVs in a controlled test environment that simulates each Operational Design Domain for operation on public roads and must determine that the vehicle is safe to operate on public roads.<sup>14</sup>

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<sup>12</sup> Cal. Code Regs., tit. 13, § 227.42(b)(4).

<sup>13</sup> Cal. Code Regs., tit. 13, §§ 227.22(a) & (b).

<sup>14</sup> Cal. Code Regs., tit. 13, § 227.18(b).

8. ***Expand Grounds for Suspension of Permits.*** The regulations expand the grounds on which the DMV may suspend or revoke an AV Testing Permit, including but not limited to: operating a driverless test vehicle outside its Operational Design Domain, failure to maintain the required financial responsibility, and violation of Vehicle Code § 38750 or any action or omission by the manufacturer causing an unreasonable risk to the public.<sup>15</sup> The regulations also clarify the suspension or revocation process, and added the ability for DMV to immediately suspend the permit where required for the safety of persons on a public road.
9. ***Retains Several 2014 Provisions.***
  - a. A Certified Autonomous Vehicle Tester (AVT) Driver Behind the Wheel. Where the DMV-permitted entity holds a DMV AV Testing Permit, the vehicle may only operate in autonomous mode (Levels 3, 4 and 5) on a public road with a driver certified to drive an autonomous vehicle (AVT Certified Driver).<sup>16</sup> An AVT driver must be an employee, contractor or designee certified by the manufacturer, and possess an AV Testing Program Test Operator Permit issued by the DMV.<sup>17</sup> (.) A manufacturer testing AVs on public roads shall maintain a training program for its AVT drivers and shall provide the DMV with a course outline and description of the AVT driver training program.<sup>18</sup>
  - b. Five million dollars of financial coverage. A manufacturer must demonstrate the ability to pay a judgment of \$5 million for personal injury, death or property damage through an insurance policy or surety bond, or be

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<sup>15</sup> Cal. Code Regs., tit. 13, § 227.42.

<sup>16</sup> Cal. Code Regs., tit. 13, § 227.32(a).

<sup>17</sup> Cal. Code Regs., tit. 13, §§ 227.34 & 227.36.

<sup>18</sup> Cal. Code Regs., tit. 13, § 227.36.

self-insured.<sup>19</sup> A manufacturer shall maintain copies of the insurance policy or surety bond in all autonomous test vehicles.<sup>20</sup>

- c. **Manufacturer Must Identify Test Vehicles and Technologies.** First, the manufacturer's application must identify each AV intended for test operation, and provide the year, make, model, vehicle identification number, license plate number and state of issuance.<sup>21</sup> Similarly, the manufacturer must provide a written description of autonomous technology and how the AV integrates that technology.<sup>22</sup> Finally, the manufacturer must obtain DMV registration that identifies the vehicle as an AV test vehicle, as well as the vehicle owner-manufacturer.<sup>23</sup>
- d. Allows up to 10 Test AVs and 20 AVT drivers. The manufacturer may add more than 10 vehicles and more than 20 drivers.<sup>24</sup>
- e. Enrollment in DMV Employee Pull Notice (EPN) Program.<sup>25</sup>
- f. Report AV Collisions to the DMV. Report all AV collisions involving property damage, bodily injury or death.<sup>26</sup>
- g. Submit annual disengagement reports to the DMV. Reports must detail AV operations, disengagements

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<sup>19</sup> Cal. Code Regs., tit. 13, § 227.04(c).

<sup>20</sup> Cal. Code Regs., tit. 13, § 227.14.

<sup>21</sup> Cal. Code Regs., tit. 13, § 227.16(a).

<sup>22</sup> Cal. Code Regs., tit. 13, § 227.52(b)(2).

<sup>23</sup> Cal. Code Regs., tit. 13, § 227.52(b)(1) & (d).

<sup>24</sup> Cal. Code Regs., tit. 13, § 227.30(a).

<sup>25</sup> Cal. Code Regs., tit. 13, § 227.24.

<sup>26</sup> Cal. Code Regs., tit. 13, § 227.48.

(deactivation of autonomous mode) and total miles travelled in autonomous mode.<sup>27</sup>

- h. Excludes Certain Vehicles from Testing and Deployment. Trailers, motorcycles, and vehicles with a gross weight of over 10,001 pounds, interstate operating authority, or described in Veh. Code Sections 31309 and 34500 may not participate in the AV Test Program and are also excluded from deployment.<sup>28</sup>

**c. DMV Authorization of Deployed AVs**

The DMV regulations also provide a path to transition AVs from manufacturer testing mode to full deployment, available for operation by members of the public who are not an employee, contractor or designee of a manufacturer, sale or lease to persons other than the manufacturer, transportation service for a fee, or otherwise making available outside a testing program. This Decision only addresses AVs with certain testing permits as identified here and does not apply to vehicles permitted by DMV to fully deploy. That topic will be addressed by the Commission as part of its consideration of a broader AV and passenger service framework.

**2. Commission Authority to Regulate Drivered or Driverless Passenger Service Provided by Transportation Charter-Party Carriers**

California has long recognized that the provision of passenger service<sup>29</sup> on public roads in the State is affected with a public interest, particularly in the

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<sup>27</sup> Cal. Code Regs., tit. 13, § 227.50.

<sup>28</sup> Cal. Code Regs., tit. 13, § 227.28(a).

<sup>29</sup> See Passenger Charter-party Carriers Act, Pub. Util. Code § 5351 *et seq.* CPUC regulation relates to the provision of passenger service and does not apply to other contractual agreements for the use of an AV, such as rental car or leased car arrangements as defined in the California Vehicle Code.

areas of passenger safety, driver safety, consumer protection, and the fitness of the companies providing this service to the public. The Commission licenses TCPs to offer such service, develops rules and regulations for TCP permit-holders, and enforces the rules and regulations.

The introduction of both drivered AVs and driverless AVs providing passenger service in California is a new stage in the development of passenger service. Offering AV service to the public raises both familiar and new passenger safety and consumer protection issues. The Commission has jurisdiction to address these issues, and properly must do so before companies offer this service. This decision undertakes that task contemporaneously with the effectiveness of the new DMV regulations, as set out in this section.

The Commission's longstanding statutory authority to regulate passenger carriers derives from Article XII of the California Constitution and Public Utilities Code.

Public Utilities Section 425 states:

The employees, representatives, and inspectors of the commission may, under its order or direction, inspect and examine any books, accounts, records, memoranda, documents, papers, and correspondence kept or required to be kept by any carrier or related business referred to in this article. This section shall, to the extent deemed necessary by the commission, apply to persons who have direct or indirect control over, or who are affiliated with, any transportation agency.

Public Utilities Code Section 5381 states in relevant part:

The commission may supervise and regulate every charter-party carrier of passengers in the State and may do all things...necessary and convenient in the exercise of such power and jurisdiction.

Public Utilities Code Section 5360 states in relevant part:



Subject to the exclusions of Section 5353,<sup>30</sup> “charter-party carrier of passengers” means every person engaged in the transportation of persons by motor vehicle for compensation, whether in common or contract carriage, over any public highway in this state.

To implement State statutes and Commission decisions applicable to passenger carriers, the Commission adopted General Order (GO) 157-D, which places additional requirements on TCP permit-holders. Standard conditions applied to all TCP permit-holders include:

- Provide a preventive maintenance program for all permitted vehicles;
- Enroll in the DMV’s EPN Program;
- Maintain a safety education and training program for all drivers and subcarriers;
- File with the Commission a certificate of workers’ compensation insurance;
- Enroll in a mandatory controlled substance and alcohol testing program;
- Maintain an adequate level of liability and property damage insurance;
- Maintain a passenger carrier equipment list with the Commission of all vehicles in use that includes the manufacturer, model, year, vehicle identification number, seating capacity, whether the vehicle is leased or owned, handicap accessible status, and license plate number, and
- Comply with the Vehicle Code.

The Commission requires TCP permit-holders to provide proof of compliance with all requirements and maintains carrier information in a transportation database. The Commission enforces its TCP rules and regulations

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<sup>30</sup> Section 5353 exempts 14 modes of transportation from Commission jurisdiction.

by, for example, disconnecting the telephone service to carriers operating without authority, issuing administrative citations and associated fines, and/or filing civil or criminal charges. The Commission may also initiate an investigation for any violation of a State law or Commission rule, and impose penalties if a TCP permit-holder is found to have committed any such violation.

## **2. Petitions for Modification of Decision (D.) 13-09-045**

This section addresses the PFMs of D.13-09-045, as some parties used those pleadings to raise on the record of this proceeding the question of how companies can provide Driverless AV Passenger Service while holding a DMV Test Permit. The Petitioners also took up the question of Commission regulation of fully deployed AVs providing passenger service. Because that topic will be addressed later in this proceeding, our review of the Petitions and responses to the Petitions does not address the question of full deployment and does not constitute a grant or denial of any aspect of such deployment. Moreover, elements of the Petitions are discussed here because they are relevant to the design of the pilot program. D.13-09-045 is not modified in any way by this proposal.

In its PFM, GM/Cruise urges the Commission to focus on fully deployed driverless operations, and not the DMV testing phase.<sup>31</sup> GM/Cruise argues that the Commission's jurisdiction does not extend to AV operations during the DMV testing phase, because extending our jurisdiction would duplicate the DMV's safety regulations, because passenger service is not available during testing, because providing the rides for compensation is not permitted under the DMV

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<sup>31</sup> GM/Cruise Petition at 7.

regulations, and because test vehicles cannot be dedicated to public use.<sup>32</sup>

GM/Cruise goes on to note that driverless AV service fits within the Commission's existing TCP permit, because neither statute nor the language of GO 157-C requires a human driver to provide passenger service to the public.<sup>33</sup>

GM/Cruise proposes that an entity proposing to offer driverless AV service be required to complete the same application permit application as a TNC, except eliminating the driver-related portions; provide proof of a valid DMV AV Testing Permit - Driverless Vehicle; and pay the \$1,000 application fee and \$100 annual renewal fee.<sup>34</sup> GM/Cruise also requests that companies submitting these permit applications receive confidential treatment of information such as financial statements and terminal addresses, which the Commission provides to TCP applicants generally.<sup>35</sup>

Last, GM/Cruise requests discretion in financial reporting, arguing that companies that provide driverless service will need time for the market to develop before submitting financial statements to the Commission.<sup>36</sup>

In its PFM, Rasier/UATC believes the two existing frameworks adequately accommodate driverless operations: a TCP permit for entities that own AVs as part of their fleets, and a TNC permit for entities in which individuals owning their own AVs provide the vehicle for passenger service.<sup>37</sup> On that basis,

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<sup>32</sup> GM/Cruise Petition at 7-8.

<sup>33</sup> GM/Cruise Petition at 15.

<sup>34</sup> GM/Cruise Petition at 18.

<sup>35</sup> GM/Cruise Petition at 18.

<sup>36</sup> GM/Cruise Petition at 19.

<sup>37</sup> Rasier/UATC Petition at 3-4.

Rasier/UATC requests only minor modifications to the TCP permit to eliminate driver-related requirements for TCPs, and for TNCs, “interpretive guidance” of D.13-09-045 to allow self-driving cars on a TNC’s network.<sup>38</sup> Rasier/UATC does not draw a distinction in its Petition between driverless operations during testing phase or full deployment, but in its attachment requests a modification of D.13-09-045 to conclude that a driverless vehicle permitted for either testing or deployment by the DMV be permitted under either the TCP or TNC model.<sup>39</sup>

In its PFM, Lyft announces that it is planning to introduce driverless vehicles into its TNC service platform, and argues that drivered AV operations during testing and deployment phases can be integrated into the TNC regulatory model.<sup>40</sup> Lyft further states that requiring entities deploying drivered AVs to fit only within the TCP model may inhibit innovation and become a barrier to entry for smaller market participants.<sup>41</sup> Lyft instead proposes that the Commission interpret broadly the language of Pub. Util. Code § 5431 and our own D.16-12-037, allowing a third entity to confer authorization on a TNC driver to drive an AV on a TNC platform as their “personal vehicle.”<sup>42</sup>

Lyft suggests that regardless of the regulatory framework chosen, the Commission allow AV manufacturers or licensed AV inspection facilities to conduct inspections and maintenance of AVs.<sup>43</sup>

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<sup>38</sup> Rasier/UATC Petition at 3.

<sup>39</sup> Rasier/UATC Petition Attachment A.

<sup>40</sup> Lyft Petition at 3.

<sup>41</sup> Lyft Petition at 4.

<sup>42</sup> Lyft Petition at 10-11.

<sup>43</sup> Lyft Petition at 11-12.

**A. Comments on the Petitions for Modification**

Several parties respond to the Petitions by commenting that the Commission's regulation of AVs is premature, in part because of the DMV regulations' bar on passenger service for "compensation" during the testing phase.<sup>44</sup> Parties urge the Commission to establish regulations only for AVs in full deployment.<sup>45</sup> SFTWA argues that California law addressing Charter-Party Carriers presently presupposes a human driver in the vehicle, that federal and state laws addressing AVs have yet to be harmonized, and that on those bases, the requests set out in the PFMs are beyond the Commission's authority to approve.<sup>46</sup>

With respect to the type of entity that may begin to allow AVs, several parties, including the SFMTA, San Francisco International Airport (SFO) and the Los Angeles Department of Transportation (LADOT), disagree with Lyft that the present TNC business model can accommodate the introduction of AVs.

Finally, a number of parties urge the Commission to apply certain requirements to TNCs and to entities placing AVs into passenger service, including data reporting on trip length, dwell time, vehicle occupancy apart from the driver, accessible rides fulfilled and declined, and vehicle miles traveled with and without passengers.<sup>47</sup>

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<sup>44</sup> See Response of LADOT at 2, Response of SFO/SFMTA at 4.

<sup>45</sup> Response of GM/Cruise at 7.

<sup>46</sup> Response of SFTWA at 7-9.

<sup>47</sup> LADOT at 4-5, SFMTA/SFO at 10.

### **3. Regulatory Framework and Pilot Programs**

The pilot programs we present here are an appropriate and reasonable exercise of the Commission's regulatory authority as we seek to balance important public policy concerns, including the development of DMV regulations that allow driverless AVs to become part of California's vehicle fleet and traffic systems; the desire not to stifle innovation or artificially change the way technology develops; the need to maintain a level playing field; and the critical need to provide protections for the members of the public who choose to accept a ride. Any entity seeking to offer AV passenger service to any member of the public, including journalists and potential investors, shall apply for a TCP permit consistent with this decision.

The elements of an entity's application for a TCP permit to provide Drivered AV Passenger Service and/or Driverless AV Passenger Service are set out below. An entity must fully and accurately meet these elements in order to be granted a permit. Any entity that carries passengers in AVs for compensation, even if no fare is paid, will be in violation of this decision and subject to penalties levied by this Commission.

In its comments to the Proposed Decision (PD) Waymo requests that the Commission immediately authorize any carrier holding a DMV AV Deployment Permit to operate as a charter-party carrier with AV equipment for compensation.<sup>48</sup> In the alternative, Waymo requests that the Commission initiate a deployment pilot or an interim testing pilot in which monetary compensation is allowed.<sup>49</sup> In their comments to the PD the Silicon Valley Leadership Group

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<sup>48</sup> Opening Comments of Waymo at 2.

<sup>49</sup> Opening Comments of Waymo at 5-7.

et al. similarly urge the Commission to immediately initiate a deployment pilot and/or allow participants to charge fares in these pilots.<sup>50</sup> In its comments to the PD UATC requests that entities that hold a DMV deployment permit for driverless vehicles be permitted to participate in these pilot programs.<sup>51</sup>

In this decision we are not yet initiating a full deployment program for AV passenger service, and thus limit this discussion to the question of compensation. As pointed out above, the DMV regulations do not permit entities holding AV test permits to charge a fee for members of the public to ride as a passenger.<sup>52</sup> In the same spirit, the Commission has often chosen to use pilot programs to introduce the public to new technology, gauge interest and glean data and feedback before issuing more permanent decisions.

The Commission also frequently imposes restrictions when it establishes pilot programs. By prohibiting fares during the pilot period, the public will have an opportunity to avail themselves of AVs on a pilot basis but will not pay fares as they would in a permanent program. This is an element that differentiates the pilot from any final program we accept. The free rides will identify the pilot program as different from ordinary transportation and, therefore, will encourage the public to be more mindful of their experiences and provide critical feedback to the Commission and the permit-holders

Commenters further request that the prohibition on fares not apply to those permittees which have received DMV Deployment Permits, since the DMV

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<sup>50</sup> Joint Opening Comments of Silicon Valley Leadership Group et al. at 5.

<sup>51</sup> Opening Comments of UATC at 7.

<sup>52</sup> Cal. Code of Regs Tit. 13, section 227.26(f).

does not prohibit fares for those permits.<sup>53</sup> The carriage of passengers for compensation is the exclusive jurisdiction of the Commission and therefore the Commission has the right to regulate the field to ensure safety and access to transportation.<sup>54</sup> As discussed above, the purpose of the Commission's prohibition on fares during the pilot program is to differentiate it from the final program and to obtain valuable feedback and data from all members of the public. This information will better inform the Commission's forthcoming decisions regarding AVs. As such, the Commission declines to permit fares during the pilot program, regardless of the DMV permit obtained.

**A. Pilot Program Authorizing Drivered AV Passenger Service**

We authorize a pilot program for TCP permit-holders to add Test AVs to their passenger carrier equipment statement, where the TCP permit-holder also holds a DMV AV Testing Permit and wishes to offer Drivered AV Passenger Service in California. A TCP permit-holder seeking to add Test AVs to its passenger carrier equipment statement shall comply with all TCP permit rules, as well as the additional terms and conditions set out here.

This pilot is available to TCP permit-holders that offer Drivered AV Passenger Service free of charge. The new DMV regulations do not allow TCP permit-holders to accept monetary compensation for rides in Test AVs.<sup>55</sup>

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<sup>53</sup> Opening Comments of Waymo at 4; Joint Comments of Silicon Valley Leadership Group at 5.

<sup>54</sup> California Constitution, Article XII and the Charter-party Carriers' Act (PUC § 5351 et seq.).

<sup>55</sup> Recently approved California Code of Regulations, title 13, § 227.02, subd. (k) allows a passenger to "summon a vehicle or input a destination, (and) a member of the public (to) ride as a passenger in an autonomous test vehicle if there are no fees charged to the passenger or compensation received by the manufacturer." "Compensation" is not defined elsewhere in the DMV regulations.



Historically, the Commission has not limited the term “for compensation” to fees for service, but rather interpreted it expansively, considering whether a carrier receives an economic benefit from transporting passengers. For example, in a recent discussion of voluntary donations for TNC rides, the Commission reiterated its interpretation that “even if the transportation was free, transportation furnished by business enterprises without charge is also ‘for compensation’ if the organization sponsoring the trip receives a business benefit.”<sup>56</sup> Similarly here, TCP permit-holders offering Drivered AV Passenger Service for free may receive other economic benefits in the form of rider feedback or public brand recognition, and thus it is appropriate to apply this decision to those entities.<sup>57</sup>

We summarize here the party comments on specific elements of the Drivered AV Passenger Service Pilot, and have made corresponding changes to those elements of the decision where appropriate.

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<sup>56</sup> D.13-09-045 at 19, quoting Pioneer Skate Arena (1964) [D.69231] 64 Cal.P.U.C. 405 at 409.

<sup>57</sup> The question of charging monetary fares is linked to the question of “ride-sharing” or “shared rides” (when two or more parties charter a vehicle at the same time) as part of the AV test pilot programs, which many parties have requested. Footnote 3 of D.16-04-041 states, “The Ruling used the term “ride-sharing” to denote this activity; we find that fare-splitting is a more accurate representation of the service and use it here.” D.16-04-041 further states in Conclusion of Law #16 that “All TCPs, including TNCs, may engage in fare-splitting operations consistent with Pub. Util. Code § 5401, i.e., that the fares are based on either vehicle mileage or time of use, or a combination thereof.” The Commission did not anticipate at that time that it would be implementing a pilot program that prohibited fares, thus rendering the term “fare-splitting” confusing in this context. “Fare-splitting” (when two parties charter a vehicle at the same time) is authorized for the Drivered AV Passenger Service pilot because a driver is present in the vehicle. “Fare-splitting” is prohibited in the Driverless AV Passenger Service pilot.

**1. TCP Permit Requirements and Status of Test Drivers**

Lyft requests removal of all requirements applicable to TCP drivers under GO 157-D Part 5 for the Drivered AV Passenger Service pilot program.<sup>58</sup> That section of GO 157-D requires any TCP permit-holder to enroll in the DMV Pull Notice Program, and bans alcohol or drug use while on duty. Lyft further points out that while GO 157-D requires any driver to be an employee of a permit-holder, the DMV regulations allow a test driver to be an employee, contractor, or designee of the manufacturer.<sup>59</sup>

We acknowledge the broader definition of test driver by the DMV. However, given that Lyft states that it primarily aims to use a carrier/sub-carrier model, the circumstance in which it may have its own vehicles for the Drivered AV Passenger Service Pilot and require a less restrictive definition of test driver appears likely to be limited, and we do not modify our GO on that basis for this pilot. As to the drug and alcohol standards, we note that the requirements in GO 157-D apply to the driver while on duty, and to the permit-holder, which must submit a drug and alcohol testing program with numerous elements as set out by federal law. The DMV's regulations address pre-employment screening for drug and alcohol convictions. Our GO provides a more comprehensive passenger safety framework, and its requirements shall apply to the drivers (whether employees, contractors, or designees) of all permit-holding entities participating in these pilot programs.

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<sup>58</sup> Opening Comments of Lyft, Appendix B at 19.

<sup>59</sup> Opening Comments of Lyft at 6-7.

## **2. DMV Required Reports to be Transmitted to the Commission**

GM/Cruise objects to submitting collision reports to this Commission, because they are posted on DMV's website.<sup>60</sup> Lyft objects to submitting all of the reports, asserting that they are unrelated to passenger service.<sup>61</sup>

Not all DMV permit-holders will also hold a Commission TCP permit. Having the collision reports specific to TCP permit-holders on the Commission's website will provide clear and directly accessible information to the public. Contrary to Lyft's argument, these reports are directly relevant to Drivered AV Passenger Service and we make no changes to the requirements.

Entities seeking to participate in the Drivered AV Passenger Service pilot program must at all times:

- Hold and comply with all standard terms and conditions of the Commission's TCP permit; including compliance with all terms and conditions applicable to drivers;
- Hold a DMV AV Testing Permit and certify that the entity is in compliance with all DMV regulations;
- Maintain insurance for the AVs offered for Drivered AV Passenger Service in compliance with DMV's regulations;
- Conduct vehicle inspections and maintenance consistent with the requirements of the TCP permit;
- Enroll all drivers in the DMV's Employer Pull Notice Program;
- Show proof of compliance with DMV's regulations addressing AV driver training and certification;
- Not charge monetary compensation for rides provided as Drivered AV Passenger Service;

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<sup>60</sup> Opening Comments of GM/Cruise at 17.

<sup>61</sup> Opening Comments of Lyft at 11-12.

- Attest to the Drivered AV operations of one of the entity's vehicles that represents the vehicle and technology characterizing the fleet to be offered for the service for a minimum of 30 days on roads in California following the entity's receipt of the DMV AV Testing Permit, and include in the attestation:
  - The start date of actual operations on California roads,
  - The geographic location of the operations in California,
  - The times of day and number of hours per day in operation during the 30-day period,
  - A statement and map of the Operational Design Domain as stated on the entity's DMV test permit,
- Transmit simultaneously to the Commission all collision reports required by the DMV regulations;<sup>62</sup>
- File with the Commission a plan for how the TCP permit-holder will provide notice to the passenger that they are being offered Drivered AV Passenger Service, and how the passenger will affirmatively consent to or decline the service;
- Transmit to the Commission public versions of the annual AV operations reports required by DMV regulations;
- Submit to the Commission quarterly reports of anonymized data about the operation of their vehicles providing Drivered AV Passenger Service. The reports shall be public and Consumer Protection and Enforcement Division staff will post them on the Commission's website. The data to be reported shall include the following, disaggregated to provide data about each AV in operation and providing Drivered AV Passenger Service:
  - Total quarterly vehicle miles traveled during passenger service by all vehicles in the entity's list of AV equipment, provided per-vehicle,

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<sup>62</sup> Cal. Code Regs., tit. 13, § 227.48; see collision reports to date at [https://www.dmv.ca.gov/portal/dmv/detail/vr/autonomous/autonomousveh\\_ol316+](https://www.dmv.ca.gov/portal/dmv/detail/vr/autonomous/autonomousveh_ol316+).

- Total quarterly vehicle miles traveled during passenger service that are served by electric vehicles or other vehicles not using an internal combustion engine, provided per-vehicle,
  - Total quarterly vehicle miles traveled during passenger service, from the vehicle's starting location when it first accepted a trip request to the pickup point for each requested trip, expressed in miles and provided per-vehicle,
  - Amount of time each vehicle waits between ending one passenger trip and initiating the next passenger trip, expressed as both a daily average and a monthly total in hours or fraction of hours for each vehicle (idling or dwell time),
  - Vehicle occupancy (total number of passengers) in each vehicle for each trip,
  - Total number of accessible rides requested per quarter that are fulfilled,
  - Total number of accessible rides requested per quarter that are unfulfilled because of a lack of accessible vehicles,
  - Total number of accessible rides requested per quarter that are declined by the driver.
- Comply with all other applicable State and Federal regulations.

**B. Pilot Program Authorizing Driverless AV Passenger Service**

This pilot is available to TCP permit-holders that offer Driverless AV Passenger Service free of charge.<sup>63</sup> DMV regulations permitting the introduction of driverless AVs on California roads in a testing phase are now effective. As

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<sup>63</sup> The pilot program discussed here is applicable only to entities providing passenger service in a manner consistent with the Passenger Charter-party Carriers Act. Pilot projects involving autonomous vehicles approved by the Legislature are not subject to the Commission's pilot program, such as the Contra Costa Transportation Authority pilot in San Ramon (Veh. Code Section 38755, pursuant to Assembly Bill (AB) 1592 (Bonilla, 2016), and the Livermore Amador Transit Authority pilot in Dublin (Veh. Code Section 38756, pursuant to AB 1444 (Baker, 2017)).

discussed above, the Commission has an interest in the safety and consumer protection provided to passengers who receive passenger service in an AV, just as we do in all vehicles available for charter.

Entities seeking to participate in the Driverless AV Passenger Service pilot program must:

- Hold and comply with all standard terms and conditions of the Commission's TCP permit, including ensuring that remote operators capable of performing the dynamic driving task comply with all terms and conditions applicable to drivers;
- Hold a DMV Testing Permit – Driverless Vehicles and certify that it is in compliance with all DMV regulations;
- Enroll all remote operators that are capable of performing the dynamic driving task in the DMV's Employer Pull Notice Program;
- Maintain insurance for the AVs offered for Driverless AV Passenger Service in compliance with DMV's regulations;
- Conduct vehicle inspections and maintenance consistent with the requirements of the TCP permit;
- Not charge monetary compensation for rides provided as Driverless AV Passenger Service;
- Attest to the driverless AV operations of the specific vehicle to be offered for the service for a minimum of 30 days on roads in California following the entity's receipt of the DMV Testing Permit – Driverless Vehicles, and include in the attestation:
  - The start date of actual operations on California roads,
  - The geographic location of the operations in California,
  - Times of day and number of hours per day in operation during the 30-day period,
  - A statement and map of the Operational Design Domain as stated on the entity's DMV test permit.

- Provide to the Commission a link to the entity's website where a map of the Operational Design Domain is provided and inform the Commission within 1 business day of an update to the Operational Design Domain map that is approved by the DMV;
- File with the Commission a plan for how the entity will provide notice to the passenger that they are being offered Driverless AV Passenger Service, and demonstrate a means by which the passenger explicitly consents by electronic or written confirmation to receive driverless service. Entities should provide to the passenger a photo of the vehicle that will provide the service during the offer/consent exchange. The entity must provide to the Commission a description of the notification and confirmation process before beginning service;
- File with the Commission a plan for how the entity will prevent its vehicles from providing Driverless AV Passenger Service to, from or within airports;
- File with the Commission a plan for how the entity will limit the use of the vehicle to one chartering party at any given time (fare-splitting is not permitted);
- File with the Commission a plan to ensure that the service is available only to be chartered by adults 18 years and older, and provide proof of such assurance to the Commission with their TCP permit application and upon request at any time thereafter;
- Record all communications from the passenger in the vehicle with the remote operator while Driverless AV Passenger Service was being provided, and retain the recording for one year from the date of the recording. Any and all such recordings must be provided to the Commission upon request. The claimed confidentiality of the recording or recordings shall be governed by GO 66-D;
- Transmit simultaneously to the Commission all reports required by the DMV regulations, including the process in the event of a

collision, law enforcement interaction plan,<sup>64</sup> collision reporting,<sup>65</sup> disclosure to the passenger regarding collection and use of personal information,<sup>66</sup> and annual AV operations reports;<sup>67</sup>

- Submit to the Commission quarterly reports of anonymized data about the operation of their vehicles providing Driverless AV Passenger Service. The reports shall be public and Consumer Protection and Enforcement Division staff will post them on the Commission's website. The data to be reported shall include the following, disaggregated to provide data about each AV in operation and providing Driverless AV Passenger Service:
  - Total quarterly vehicle miles traveled during passenger service by all vehicles in the entity's list of AV equipment, provided per-vehicle,
  - Total quarterly vehicle miles traveled during passenger service that are served by electric vehicles or other vehicles not using an internal combustion engine, provided per-vehicle,
  - Total quarterly vehicle miles traveled during passenger service, from the vehicle's starting location when it first accepted a trip request to the pickup point for each requested trip and provided per-vehicle, expressed in miles,
  - Amount of time each vehicle waits between ending one passenger trip and initiating the next passenger trip, expressed as both a daily average and a monthly total in hours or fraction of hours for each vehicle (idling or dwell time),
  - Vehicle occupancy (total number of passengers) for each trip,

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<sup>64</sup> Cal. Code Regs., tit. 13, § 227.38(e).

<sup>65</sup> Cal. Code Regs., tit. 13, § 227.48; see collision reports to date at [https://www.dmv.ca.gov/portal/dmv/detail/vr/autonomous/autonomousveh\\_ol316+](https://www.dmv.ca.gov/portal/dmv/detail/vr/autonomous/autonomousveh_ol316+).

<sup>66</sup> Cal. Code Regs., tit. 13, § 227.38(h).

<sup>67</sup> Cal. Code Regs., tit. 13, § 227.50. See submitted annual reports to date at <https://www.dmv.ca.gov/portal/dmv/detail/vr/autonomous/testing>. Reports are due to the DMV on January 1 each year and are made public on January 31 of the same year.



- Total number of accessible rides requested that are fulfilled,
- Total number of accessible rides requested that are unfulfilled because of a lack of accessible vehicles, and
- Total number of accessible rides requested that are declined by the entity.
- Comply with all other applicable State and Federal regulations.

Following is a discussion of certain elements of the pilot programs, including elements drawn from proposals in the Petitions for Modification and responses to those Petitions (referenced supra), as well as opening and reply comments on this decision.

### **1. TCP Permit**

At present, the Commission's TCP Permit process can accommodate the entities wishing to participate in the pilot program. Terms and conditions of the TCP Permit related to the driver, such as driver training and enrollment in the DMV Employer Pull Notice program will be applicable for the drivers providing Drivered AV Passenger Service. The same driver-related terms and conditions of the TCP Permit will be applicable to the remote operator capable of performing the dynamic driving task during the provision of Driverless AV Passenger Service. If remote operator services that include performing the dynamic driving task are provided by an entity other than the entity that holds the DMV AV Testing Permit - Driverless Vehicle, then the entity providing remote operator services must hold a TCP Permit as well, in the interest of passenger safety. We note that in addition, DMV regulations require training and certification of the remote operator. All entities participating in this pilot shall show proof of compliance with DMV's regulations.

Lyft has argued that a variety of arrangements may emerge as entities explore providing Driverless AV Passenger Service; we will consider such

possibilities in the broader AV framework to be addressed later this year. As noted above, this will include consideration of the need for a new permit with terms and conditions specific to AV service.

In its comments Lyft requests clarification of the permitting requirements for an entity that wishes to participate in the pilot programs using a prime carrier/sub-carrier model.<sup>68</sup> Lyft seeks to offer passenger service through its platform for a range of options, from human-driven vehicles to fully driverless, in which the vehicles are operated by Lyft in some instances and by partner entities in others.<sup>69</sup> In such a model, both Lyft and any partner entity would hold a TCP permit and the appropriate DMV permit, and each entity would list only the AV vehicles that it has permitted pursuant to its DMV permit. This comports with GO 157 section 3.04 addressing sub-carriers, and we clarify that in any prime carrier/sub-carrier arrangement, both entities must hold both the appropriate DMV permit and a TCP permit. Each entity's TCP permit must list the AV equipment being used by that entity in the pilot.

As to the question of whether a remote operator must hold a TCP permit, various objections are raised in comments by AV service providers GM/Cruise, Lyft, UATC, Waymo, and Zoox; the Alliance of Automobile Manufacturers; and the coalition of Silicon Valley Leadership Group, the Technology Network, the California Manufacturers and Technology Association, and the Self-Driving Coalition for Safer Streets. These parties request, variously, that the requirements of GO 157-D section 5 not be applied to remote operators;<sup>70</sup> that all

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<sup>68</sup> Lyft opening comments at 2.

<sup>69</sup> *Id.* at 2-3.

<sup>70</sup> Opening Comments of Lyft at 6-7.

driver-related requirements be removed from all entities participating in the driverless AV pilot program;<sup>71</sup> or that the TCP permit holding requirement be limited only to those remote operators with capability of performing the dynamic driving task.<sup>72</sup>

Separately, in their comments, San Francisco International Airport, the San Francisco Municipal Transportation Agency, and the San Francisco County Transportation Authority (“Joint SF Parties”) seek to add a requirement that all remote operators participating in the Driverless AV Passenger Service pilot program be located in California.<sup>73</sup>

DMV’s AV testing regulations define “remote operator” is defined as “...a natural person who: possesses the proper class of license for the type of test vehicle being operated; is not seated in the driver’s seat of the vehicle; engages and monitors the autonomous vehicle; is able to communicate with occupants in the vehicle through a communication link. A remote operator may also have the ability to perform the dynamic driving task for the vehicle or cause the vehicle to achieve a minimal risk condition.”<sup>74</sup> While the DMV framework includes a range of functions, we find it appropriate to apply the TCP permit requirements only to those remote operators that can perform the dynamic driving task.

As to the locational requirement sought by the Joint SF Parties, we note that pursuant to Public Utilities Code section 5381, the Commission supervises all charter-party carriers authorized in California. In turn, the TCP permit

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<sup>71</sup> Opening Comments of GM/Cruise at 17.

<sup>72</sup> Opening Comments of Waymo at 8; Opening Comments of Zoox at 5.

<sup>73</sup> Opening Comments of Joint SF Parties at 6.

<sup>74</sup> CCR Title 13 § 227.02(n).

requires TCP permit-holders to comply with all Commission orders, decisions, rules, directions, and requirements, including General Orders Series 115 and 157. Thus, as long as the vehicle participating in these pilot programs is in California, in the event that it does harm in California even if controlled out of state, the vehicle would be subject to Commission jurisdiction and liable under California law. We find no need to establish a locational requirement for remote operators.

## **2. Suspension or Revocation of TCP Permit**

Any TCP Permit granted to an entity to participate in either of these pilot programs is subject to immediate suspension or revocation of the TCP Permit if the entity's relevant DMV permit is suspended or revoked. Reinstatement of the TCP Permit shall not occur until DMV has reinstated the entity's relevant permit.

Commission staff may also suspend or revoke a TCP Permit for an entity participating in either of these pilot programs where an entity fails to comply with any of the TCP Permit's terms and conditions.

## **3. Passenger-Remote Operator Communications**

In their comments to the PD, numerous parties<sup>75</sup> object to the reporting of communications between the passenger and the remote operator, on the grounds that such communications should be considered private and should not be posted on public websites. We agree that privacy must be balanced against the possibility that such communications can support a Commission investigation in the event of an incident. We require the entities participating in the pilot to provide Driverless AV Passenger Service to record all communications between

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<sup>75</sup> Objections are raised by GM/Cruise; Lyft; UATC; Waymo; Zoox; Alliance of Automobile Manufacturers; and Silicon Valley Leadership Group et al.

passengers and remote operators while each vehicle is providing passenger service, and retain the recording for one year from the date of the communication. The recordings shall be provided to the Commission upon request. The claimed confidentiality of the recordings shall be governed by GO 66-D.

#### **4. 30 Days Operational Experience**

An entity participating in either pilot program must submit an attestation with its TCP permit application that a representative vehicle of the fleet it plans to use to offer Drivered AV Passenger Service or Driverless AV Passenger Service has been in actual permitted operation on roads in California for a minimum of 30 days following the granting of the relevant DMV permit. We include this minimum requirement in order to ensure that the fleet that will carry passengers obtain on-road experience in California before beginning such service. The attestation shall include the start date of operations, a description of the nature of the AV's drivered or driverless operations, including the geographical area; the time(s) of day and number of hours per day in operation during the 30-day period; and a statement and map of the Operational Design Domain as stated on the entity's DMV test permit

In their comments to the PD the majority of the manufacturers and entities that are potential providers of AV passenger service challenged this requirement, requesting that the number of days be lowered or eliminated, and that the requirement be set for the entity's fleet rather than on individual vehicles. The Joint SF Parties requested a time- and mileage-based requirement with a

requirement that the testing environment match the environment where passenger service will be provided.<sup>76</sup>

We agree that reducing the number of days of operations is reasonable, because the entities applying to participate in this pilot will already have obtained a DMV test permit, and will have launched testing in the Operational Design Domain as set out in that permit. The terms of the DMV's permit only allow the vehicles to operate in the Operational Design Domain, and that limitation will therefore apply to participation in these pilots as well. Because the DMV test permit is fleet-based, we further modify this requirement so that an entity must show on-road operations for 30 days for one of its representative vehicles in its application for a TCP permit. Any entity that modifies its Operational Design Domain such that it triggers a modification of its DMV Test Permit - Driverless Vehicles must provide notification of the modifications and a copy of the revised or updated DMV Test Permit - Driverless Vehicles to the Commission within three days of the granting of the permit by the DMV.

**5. No Driverless AV Passenger Service To, From or Within Airports Unless Expressly Authorized by the Airport**

This prohibition is applicable only to the entities providing Driverless AV Passenger Service. Airports manage numerous transportation options in a concentrated space. Introducing driverless transportation to an airport will raise numerous consumer protection issues, such as ensuring that the correct vehicle picks up the correct passenger, determining permissible idling time, and plans in the event of a collision. In addition, the Commission has longstanding

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<sup>76</sup> Opening Comments of Joint SF Parties at 2-4.

enforcement relationships with airport security and works collaboratively to set passenger service rules and conduct enforcement. For those reasons, airport service is not permitted in the pilot program and will be addressed as part of the larger AV framework.

In response to the proposed prohibition on service to, from, or within airports for entities providing Driverless AV Passenger Service, AV service providers GM Cruise, Lyft, UATC, Waymo, and Zoox raise various objections, in their comments to the PD.

Lyft, UATC, and Zoox generally acknowledge the authority of airports to allow or restrict AV operations on their properties and argue in favor of allowing airports to exercise their own discretion to control access. Lyft cites Public Utilities Code § 5371.4, which provides that “...the governing board of any airport may require a charter-party carrier operating limousines to obtain an airport permit for operating authority at the airport”. Lyft further cites to D.13-09-045, in which TNCs are prohibited from conducting operations on airport properties “...unless such operations are authorized by the airport authority involved.” GM/Cruise and Waymo ask for the prohibition to be lifted and any airport service to be subject to individual arrangements between companies and specific airports.

The Joint SF Parties' comments request a clarification that entities providing either drivered or driverless AV passenger service are “expressly prohibited from operating at any municipal airport in California in the absence of written authorization from the airport’s governing body.”<sup>77</sup>

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<sup>77</sup> Opening Comments of Joint SF Parties at 10.

We agree that airports are in charge of permitting all types of passenger service on their property. GO 157-D § 3.02 bars passenger service operations at airports without the express authorization of both this Commission and the airport authority. It is reasonable to apply the same rule here, and ban airport operations for entities participating in these pilots unless the airport involved has granted the entity express authority.

**6. No Fare-Splitting for Driverless AV Passenger Service**

This prohibition is similarly applicable only to Driverless AV Passenger Service. In order to ensure public safety during the pilot program, fare-splitting is not allowed. The driverless AV must be chartered and used by a single party (although that party may have more than one person riding in the vehicle). This is to prevent two parties unknown to each other from sharing the chartered vehicle without a driver present until the Commission and law enforcement can address how to ensure safety for all passengers in such a situation. For purposes of this pilot program, chartering a vehicle includes chartering a vehicle without payment of monetary compensation.

Lyft, GM Cruise, and Silicon Valley Leadership Group et al. requested elimination of this element of the pilot programs.<sup>78</sup> We find that passenger safety is best served during these pilots by not allowing more than a single party to charter a vehicle, and we maintain this requirement.

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<sup>78</sup> Opening Comments of Lyft at 10-11; Opening Comments of GM Cruise at 18; Opening Comments of Silicon Valley Leadership Group at 7.



## **7. Vehicle Inspections and Maintenance**

We agree with GM/Cruise and Lyft that the AV manufacturer may be the appropriate entity to inspect and maintain the AV vehicle. For the pilot program, the existing Rule 4.02 of GO 157-D is sufficient; it requires that each carrier inspect its vehicles and maintain proof of such inspection. Other inspection and maintenance rules may be considered later this year as part of the broader AV framework.

## **8. Data Reporting for Entities Participating in the Drivered and Driverless AV Passenger Service Pilots**

We agree with the SFMTA/SFO and with LADOT that operational data will be important to consider as AVs introduce passenger service in California. The data categories identified above are relevant to AV operations, will provide an initial snapshot of the vehicles' integration into the places where permit-holders seek to offer passenger service, and an initial indication of the public's use of the service. We note that the trip data reporting while the vehicles are in passenger service is a subset of the service reports submitted by entities to the DMV, which include monthly per-vehicle miles on public roads.<sup>79</sup> As a result, such data will be of value to the public and we include mandatory public reporting as set out above. In addition, entities participating in the pilot programs are encouraged to initiate discussions with the cities and counties in which their vehicles will be operating, to discuss additional data sharing arrangements.

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<sup>79</sup> See

[https://www.dmv.ca.gov/portal/dmv/detail/vr/autonomous/disengagement\\_report\\_2017](https://www.dmv.ca.gov/portal/dmv/detail/vr/autonomous/disengagement_report_2017).

We summarize here the parties' comments on the data reporting requirements, and where appropriate, we have made corresponding changes. Many of the potential AV passenger service providers argue against the data collection and reporting requirements of both pilots on several grounds: that the data will not be representative of AV passenger service when it is fully deployed, and that disclosing such data will put the pilot program participants at a disadvantage with respect to other AV entities.

In their comments to the PD the Joint SF Parties request more granular and time-based data, including GPS locations and time-stamps for each pick-up and drop-off, the location of trips by ZIP code or census block, data about local traffic violations, the number of vehicles operating within specific jurisdictions, and vehicle occupancy at all times.<sup>80</sup>

Our purpose in setting these data reporting requirements is to understand how much this new form of passenger service is being used, and the extent to which it is being made available to persons requiring accessible transportation. To that end, we agree that some modifications to the data reporting requirements are reasonable. We revise the frequency from monthly to quarterly, and we clarify that the data is to be collected and reported only when the vehicle is in AV passenger service, as opposed to being used for other testing purposes.

Passenger service is defined as the period of time during which the entity is providing passenger service consistent with the terms and conditions of its TCP permit allowing it to participate in these pilot programs, including when the app is on and the vehicle is available for passengers to reserve using the app. Testing

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<sup>80</sup> Opening Comments of Joint SF Parties at 4-6.

the vehicle without passengers is not included in the definition of passenger service.

Last, it is not clear what other AV entities may gain a competitive advantage from not reporting similar data, as Lyft and other parties claim, for any entity offering AV passenger service in California must apply to participate in these pilot programs.

As to the enhanced data requested by the Joint SF Parties we note that those requests are relevant to transportation planning and congestion management activities.<sup>81</sup> The Joint SF Parties have not made a persuasive case that planning and congestion management will be aided by imposing the time- and location-based granularity on the participants in these pilots alone.<sup>82</sup> As to a higher level of locational data, such as trips by ZIP code or census block, we do not set this requirement at this time, although we will consider adding further data reporting when we consider a broader deployment framework for AVs, and when we consider data reporting requirements more broadly, for all TNCs and TCPs.<sup>83</sup>

As to the request for reporting about the number of vehicles operating within specific jurisdictions, we note that the DMV regulations already require every entity with a DMV Test Permit - Driverless Vehicle to notify local

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<sup>81</sup> *See, e.g.,* City of San Francisco Opening Comments at 5-6.

<sup>82</sup> The City of San Francisco states as much in footnote 13: “Ideally, this data would also be collected from taxis, TNCs, and private bus services[.]”

<sup>83</sup> *Phase III. C. Scoping Memo and Ruling of Assigned Commissioner* at 6.

authorities of the number and type of vehicles and dates of testing, among other data.<sup>84</sup> Thus, we decline to add that to the reporting requirements.

Our decision already requires data reporting about the number of occupants and we clarify that it is required on a per-vehicle and per-trip basis.

Finally, data collection about local traffic violations will be a matter handled by local and state police.

To implement the data reporting requirements, each TCP permit-holder participating in one or both of these AV pilot programs shall submit to the Consumer Protection and Enforcement Division, on a quarterly basis, a verified report containing disaggregated anonymized data to provide information regarding each AV operating in the pilot programs as set out above. The disaggregated anonymized data shall be provided in electronic Excel or other searchable and sortable spreadsheet format and shall be provided in tables with separately labeled columns that identify the data reported in each column as ordered herein. The dates of submission of the reports and the reporting periods and associated submission dates are listed in the table below:

<b>Reporting Period</b>	<b>Report Submission Date</b>
November 1 - January 31	March 1
February 1 - April 30	June 1
May 1 - July 31	September 1
August 1 - October 31	December 1

Each verified report will clearly indicate the period of time (by dates) covered in each report. The reporting period begins when the entity receives

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<sup>84</sup> Cal. Code of Regs Tit. 13, sec. 227.38(a).

confirmation from the Consumer Protection and Enforcement Division that an AV has been successfully added to the carrier's passenger equipment list on file with the CPUC. Each TCP permit-holder participating in the pilots shall respond thoroughly and promptly to requests from Commission staff to verify and ensure the accuracy and completeness of all data reports. Commission staff will post these reports on its website as soon as they are complete, and will note on its website any delayed report, including the cause of the delay.

**9. Workshop on Initial Carrier and Passenger Experiences with Drivered AV Passenger Service, the Driverless AV Pilot Program, and a Broader AV Regulatory Framework**

The Commission's Consumer Protection and Enforcement Division will hold a workshop on passenger service provided by AVs as soon as is reasonable following the issuance of this decision. The workshop participants will benefit from understanding how the permitting process has unfolded for Commission staff and for entities to participate in either of these pilot programs, and from allowing a sufficient time for the pilot programs to operate and passenger experiences to be gathered. California DMV will be invited to participate as a co-host of the workshop. The issues to be addressed in the workshop will include, but are not limited to: quantitative and qualitative data from companies offering both Drivered AV Passenger Service and Driverless AV Passenger Service; opportunity for members of the public to ask questions about AV operations and safety; regulatory approaches such as a new category of passenger carrier; accessibility and vehicle type of AVs offered for passenger service; reporting requirements to the Commission; and other issues.

Entities that are granted TCP permits pursuant to this decision are to immediately make their best efforts to reach out to and work with individuals

and groups that are knowledgeable about and advocates for accessible transportation. We expect the entities participating in these pilots and those that are preparing to participate in full deployment to make progress in incorporating accessibility into the design and operation of AV passenger services before the workshop to be held later this year. In addition, in preparation for the workshop, Consumer Protection and Enforcement Division staff will launch a working group to begin discussing accessibility and AV passenger service in order to set out a scope of issues to be addressed at the workshop and on an ongoing basis.

#### **10. Consideration of AV Framework**

As noted above, this Decision authorizes two pilot programs only and does not represent the Commission's final determination on the broader question of our AV regulatory framework for fully deployed driverless vehicles offering passenger service. What we learn from these pilots will support our consideration of that framework later this year.

Following is the approximate schedule for how manufacturers can obtain appropriate permits from both the DMV and the Commission:

Regulatory Action or Permit type	Agency Lead	Availability
Autonomous Vehicle Tester Program Manufacturer's Testing Permit	DMV	Presently available
TCP Permit - Drivered AV Passenger Service	CPUC	Upon approval of this decision (initially scheduled for vote May 10, 2018)
Manufacturer's Testing Permit - Driverless Vehicles	DMV	As of April 2, 2018
TCP Permit - Driverless AV Passenger Service	CPUC	Upon approval of this decision and following 90 days of driverless operation in California
Permit to Deploy Autonomous Vehicles on Public Streets	DMV	As of April 2, 2018
CPUC-DMV workshop addressing AV passenger service in California; comment and reply opportunity	CPUC, DMV	TBD
Proposed decision setting terms and conditions for AV Passenger Service Permit for fully deployed vehicles (specific title to be determined)	CPUC	Q1 2019 (anticipated)

#### 4. Categorization and Need for Hearing

This decision confirms that this proceeding is categorized as quasi-legislative and that hearings are not required.

**5. Comments on Proposed Decision**

The proposed decision of Commissioner Randolph in this matter was mailed to the parties in accordance with Section 311 of the Public Utilities Code and comments were allowed under Rule 14.3 of the Commission's Rules of Practice and Procedure. Opening comments were served on April 26, 2018, and reply comments were served on May 4, 2018.

**6. Assignment of Proceeding**

Liane Randolph is the assigned Commissioner and Robert M. Mason III and W. Anthony Colbert are the assigned ALJs in this proceeding.

**Findings of Fact**

1. Track 8 of the Amended Phase III.B Scoping Memo concerns the regulation of autonomous vehicles providing passenger transportation service.
2. The California DMV regulates the safe operation of AVs and the Commission regulates certain for-hire transportation to provide for safety and consumer protection.
3. Division 16.6, Sections 38750-38756 of the California Vehicle Code, requires the DMV to develop regulations for the testing and public use of autonomous vehicles.
4. The DMV has divided the development of AV regulations into two phases: (1) testing, followed by (2) public use, which the DMV characterizes as deployment.
5. AV manufacturers must receive a DMV AV Testing Permit before operating Test AVs on public roads and testing must be conducted by the manufacturer.
6. AV manufacturers must comply with multiple financial, insurance, operator, safety, and reporting requirements.



7. The DMV issued new draft regulations in December 2015 and held public workshops in early 2016 to continue developing regulations to address driverless AV operations.

8. The DMV noticed the formal rulemaking in March 2017, followed by amended text in October 2017 and November 2017. The most recent DMV comment period ended on December 15, 2017.

9. The DMV submitted the proposed final regulations to the OAL for final approval on January 11, 2018, and OAL approved the regulations on February 26, 2018.

10. Pursuant to Government Code Section 11343.4, the driverless AV operations regulations became effective April 1, 2018.

11. The National Highway Traffic Safety Administration has adopted automation levels developed by SAE.

12. SAE specifies six distinct levels of automation; Levels 3, 4 and 5 meet the “autonomous” standard.

13. Level 3 automation technology requires a human driver to intervene when necessary; Levels 4 and 5 are capable of driverless operation.

14. The DMV regulations define an autonomous test vehicle as one equipped with technology that can perform the dynamic driving task but requires either a human test driver or remote operator (in the case of driverless AVs) to continuously supervise the vehicle’s performance.

15. Manufacturers of test vehicles equipped with Levels 4 or 5 technologies may apply for and receive a Manufacturer’s Testing Permit for Driverless Vehicles if the manufacturer certifies compliance with certain additional requirements.

16. The new DMV regulations allow the Department to suspend or revoke the Manufacturer's Testing Permit of any manufacturer for any act or omission of the manufacturer or one of its agents, employees, contractors or designees which the DMV finds makes the conduct of autonomous vehicle testing on public roads by the manufacturer an unreasonable risk to the public.

17. The new DMV regulations do not allow permit-holders to accept monetary compensation for rides in Test AVs.

18. The Commission regulates passenger service provided by all common carriers.

19. The Commission licenses TCPs to offer such service, develops rules and regulations for TCP permit-holders, and enforces the rules and regulations.

20. The Commission has an interest in the safety and consumer protection provided to passengers who receive passenger service in an AV, just as in all vehicles available for charter.

21. The Commission has not limited the term "for compensation" to fees for service, but rather interpreted it expansively, considering whether a carrier receives an economic benefit from transporting passengers.

22. TCP permit holders offering Drivered AV Passenger Service for free may receive other economic benefits in the form of rider feedback or public brand recognition.

23. The Commission's TCP Permit process can accommodate the entities wishing to participate in the pilot programs at present.

24. Data about the operation of Drivered AV Passenger Service will be important to consider as AVs begin operation in California.

25. Data about the operation of Driverless AV Passenger Service will be important to consider as AVs begin operation in California.

26. Rasier-CA/UATC; Lyft.; and GM Cruise/General Motors each filed Petitions for Modification on September 11, 2017.

27. Multiple Parties, including SFO/SFMTA/LADOT, the San Francisco Taxi Workers Alliance, and each of the three original Petitioners, filed Responses to the PFMs on October 25, 2017.

28. PFMs and Responses were all filed before the DMV submitted its proposed final AV regulations to the OAL on January 11, 2018.

29. To date, two companies have obtained a DMV AV Testing Permit, UATC, LLC and Lyft, Inc.

30. UATC, LLC and Lyft, Inc. have also received TCP permits from the Commission and have listed AVs as part of their fleet equipment.

31. UATC, LLC and Lyft, Inc. have not received Commission authority to transport members of the public in an AV.

### **Conclusions of Law**

1. Where passenger service will be provided by carriers using AVs, the regulatory framework will necessarily include rules set out by both the DMV and the Commission.

2. The Commission's longstanding authority to regulate passenger carriers derives from Article XII of the California Constitution and the Public Utilities Code.

3. It is reasonable to allow a pilot program for TCP permit-holders to add Test AVs to their passenger carrier equipment statement, where the TCP permit-holder also holds a DMV AV Testing Permit and wishes to offer Drivered AV Passenger Service in California where the Drivered AV has been permitted operation on roads in California for a minimum of 30 days.

4. A TCP permit-holder seeking to add Test AVs to its passenger carrier equipment statement should comply with all TCP permit rules, terms, and conditions.

5. It is reasonable that entities seeking to participate in the Drivered AV Passenger Service pilot program should:

- Hold and comply with all standard terms and conditions of the Commission's TCP permit; including compliance with all terms and conditions applicable to drivers;
- Hold a DMV AV Testing Permit and certify that the entity is in compliance with all DMV regulations;
- Maintain insurance for the AVs offered for Drivered AV Passenger Service in compliance with DMV's regulations;
- Conduct vehicle inspections and maintenance consistent with the requirements of the TCP permit;
- Enroll all drivers in the DMV's Employer Pull Notice Program;
- Show proof of compliance with DMV's regulations addressing AV driver training and certification;
- No monetary compensation may be charged for rides provided as Drivered AV Passenger Service;
- Attest to the drivered AV operations of one of the entity's vehicles that represents the vehicle and technology characterizing the fleet to be offered for the service for a minimum of 30 days on roads in California following the entity's receipt of the DMV AV Testing Permit, and include in the attestation:
  - The start date of actual operations on California roads,
  - The geographic location of the operations in California,
  - The times of day and number of hours per day in operation during the 30-day period,
  - The type of environment in which the vehicle has operated, such as urban, suburban, or rural,

- A statement and map of the Operational Design Domain as stated on the entity's DMV test permit.
- Transmit simultaneously to the Commission all collision reports required by the DMV regulations;
- File with the Commission a plan for how the TCP permit-holder will provide notice to the passenger that they are being offered Drivered AV Passenger Service through a pilot program, and how the passenger will affirmatively consent to or decline the service;
- Transmit to the Commission public versions of the annual AV disengagement reports required by DMV regulations; and
- Submit to the Commission quarterly reports of anonymized data about the operation of their vehicles providing Drivered AV Passenger Service. The reports shall be public and Consumer Protection and Enforcement Division staff will post them on the Commission's website. The data to be reported shall include the following, disaggregated to provide data about each AV in operation and providing Drivered AV Passenger Service:
  - Total quarterly vehicle miles traveled during passenger service by all vehicles in the entity's list of AV equipment, provided per-vehicle,
  - Total quarterly vehicle miles traveled during passenger service that are served by electric vehicles or other vehicles not using an internal combustion engine, provided per-vehicle,
  - Total quarterly vehicle miles traveled during passenger service that are served by electric vehicles or other vehicles not using an internal combustion engine, provided per-vehicle,
  - Amount of time each vehicle waits between ending one passenger trip and initiating the next passenger trip, expressed as both a daily average and a monthly total in hours or fraction of hours for each vehicle (idling or dwell time),
  - Vehicle occupancy (total number of passengers) in each vehicle for each trip,

- Total number of accessible rides requested per quarter that are fulfilled,
- Total number of accessible rides requested per quarter that are unfulfilled because of a lack of accessible vehicles, and
- Total number of accessible rides requested per quarter that are declined by the driver.
- Comply with all other applicable State and Federal regulations.

6. It is reasonable that TCP permit-holders offering Drivered AV Passenger Service shall be suspended immediately from the pilot program upon suspension or revocation of their testing permit by the DMV and not reinstated until the DMV has reinstated the testing permit and the Commission has determined that it is safe for the TCP permit holders to resume participation in the pilot.

7. The Commission should authorize a pilot program for Driverless AV Passenger Service.

8. It is reasonable that Entities seeking to participate in the Driverless AV Passenger Service pilot program should:

- Hold and comply with all standard terms and conditions of the Commission's TCP permit; including ensuring that remote operators capable of performing the dynamic driving tasks comply with all terms and conditions applicable to drivers;
- Hold a DMV Testing Permit - Driverless Vehicles and certify that it is in compliance with all DMV regulations;
- Enroll all remote operators that are capable of performing the dynamic driving task in the DMV's Employer Pull Notice Program;
- Maintain insurance for the AVs offered for Driverless AV Passenger Service in compliance with DMV's regulations;
- Conduct vehicle inspections and maintenance consistent with the requirements of the TCP permit;

- Not charge monetary compensation for rides provided as Driverless AV Passenger Service;
- Attest to the driverless AV operations of the specific vehicle to be offered for the service for a minimum of 30 days on roads in California following the entity's receipt of the DMV Testing Permit - Driverless Vehicles, and include in the attestation:
  - The start date of actual operations on California roads,
  - The geographic location of the operations in California,
  - The times of day and number of hours per day in operation during the 30-day period,
  - A statement and map of the Operational Design Domain as stated on the entity's DMV test permit.
- Provide to the Commission a link to the entity's website where a map of the Operational Design Domain is provided and inform the Commission within 1 business day of an update to the Operational Design Domain map that is approved by the DMV;
- File with the Commission a plan for how the entity will provide notice to the passenger that they are being offered Driverless AV Passenger Service, and demonstrate a means by which the passenger explicitly consents by electronic or written confirmation to receive driverless service. Entities should provide to the passenger a photo of the vehicle that will provide the service during the offer/consent exchange. The entity must provide to the Commission a description of the notification and confirmation process before beginning service;
- File with the Commission a plan for how the entity will prevent its vehicles from providing Driverless AV Passenger Service to, from or within airports;
- File with the Commission a plan for how the entity will limit the use of the vehicle to one chartering party at any given time (fare-splitting is not permitted);
- File with the Commission a plan to ensure that the service is available only to be chartered by adults 18 years and older,

and provide proof of such assurance to the Commission with their TCP permit application and upon request any time thereafter;

- Record all communications from the passenger in the vehicle with the remote operator while Driverless AV Passenger Service was being provided, and retain the recording for one year from the date of the recording. Any and all such recordings must be provided to the Commission upon request. The claimed confidentiality of the recording or recordings shall be governed by GO 66;
- Transmit simultaneously to the Commission all reports required by the DMV regulations, including the process in the event of a collision, law enforcement interaction plan, collision reporting, disclosure to the passenger regarding collection and use of personal information, and annual AV operations reports;
- Submit to the Commission quarterly reports of anonymized data about the operation of their vehicles providing Driverless AV Passenger Service. The reports shall be public and Consumer Protection and Enforcement Division staff will post them on the Commission's website. The data to be reported shall include the following, disaggregated to provide data about each AV in operation and providing Driverless AV Passenger Service;
  - Total quarterly vehicle miles traveled during passenger service by all vehicles in the entity's list of AV equipment, provided per-vehicle,
  - Total quarterly vehicle miles traveled during passenger service that are served by electric vehicles or other vehicles not using an internal combustion engine, provided per-vehicle,
  - Total quarterly vehicle miles traveled during passenger service, from the vehicle's starting location when it first accepted a trip request to the pickup point for each requested trip and provided per-vehicle, expressed in miles,



- Amount of time each vehicle waits between ending one trip passenger trip and initiating the next passenger trip, expressed as both a daily average and a monthly total in hours or fraction of hours for each vehicle (idling or dwell time),
- Vehicle occupancy (total number of passengers) for each trip,
- Total number of accessible rides requested that are fulfilled,
- Total number of accessible rides requested by disabled passengers that are unfulfilled because of a lack of accessible vehicles, and
- Total number of accessible rides requested that are declined by the entity.
- Comply with all other applicable State and Federal regulations.

9. It is reasonable to require that any vehicle that is physically located in California participating in these pilot programs, in the event that it does harm in California even if controlled out of state, that that vehicle would be subject to Commission jurisdiction and liable under California law.

10. GO 157-D § 3.02 bars passenger service operations at airports without the express authorization of both this Commission and the relevant airport authority.

11. It is reasonable to apply the same rule and ban airport operations for entities participating in these pilots unless the airport involved has granted the entity express authority.

12. It is reasonable to require an entity participating in the pilot program to submit an attestation with its TCP permit application that the vehicle(s) it plans to use to offer Driverless AV Passenger Service has (or have) been in actual operation without a driver present in the vehicle on roads in California for a

minimum of 30 days following the granting of a DMV Manufacturer's Testing Permit - Driverless Vehicles.

13. It is reasonable that TCP permit holders offering Driverless AV Passenger Service shall be suspended immediately from the pilot program upon suspension or revocation of their testing permit by the DMV and not reinstated until the DMV has reinstated the testing permit and the Commission has determined that it is safe for the TCP permit holders to resume participation in the pilot.

14. It is reasonable that entities that are granted TCP permits pursuant to this immediately make their best efforts to reach out to and work with individuals and groups that are knowledgeable about and advocates for accessible transportation.

15. It is reasonable that the Commission's Consumer Protection and Enforcement Division staff will launch a working group to begin discussing accessibility and AV passenger service in order to set out a scope of issues to be addressed at the workshop and on an ongoing basis.

16. The Commission's Transportation Enforcement Branch should hold a workshop on passenger service provided by AVs as soon as is reasonable following the issuance of this decision.

17. The Driverless AV Passenger Service pilot should not represent the Commission's final determination on the broader question of the AV regulatory framework for fully deployed driverless vehicles offering passenger service.

**O R D E R**

**IT IS ORDERED** that:

1. Transportation Charter-Party Carrier permit-holders may add Test Autonomous Vehicles to their passenger carrier equipment statement, where the Transportation Charter-Party Carrier permit-holder also holds a Department of Motor Vehicles Autonomous Vehicle Tester Program Manufacturer's Testing Permit and wishes to offer a pilot program for Drivered Autonomous Vehicles Passenger Service where the Drivered Autonomous Vehicles have been in permitted operation for a minimum of 30 days.

2. A Transportation Charter-Party Carrier permit-holder seeking to participate in the pilot program for Test Autonomous Vehicles to its passenger carrier equipment statement shall comply with all Transportation Charter-Party Carrier permit rules, as well as the additional terms and conditions set forth herein.

3. A Transportation Charter-Party Carrier permit-holder participate in the pilot program for Drivered Autonomous Vehicle Passenger Service may not accept monetary compensation for rides in Test Autonomous Vehicles.

4. The requirements applicable to Transportation Charter-Party Carrier permit-holders participate in the pilot program for Drivered Autonomous Vehicle Passenger Service shall include but are not limited to:

- Hold and comply with all standard terms and conditions of the California Public Utilities Commission's (Commission) Transportation Charter-Party Carrier permit; including ensuring that remote operators comply with all terms and conditions applicable to drivers;
- Hold a California Department Motor Vehicles Autonomous Vehicle Testing Permit and certify that the entity is in compliance with all Department Motor Vehicles regulations;

- Maintain insurance for the Autonomous Vehicle offered for Drivered Autonomous Vehicle Passenger Service in compliance with Department of Motor Vehicles regulations;
- Conduct vehicle inspections and maintenance consistent with the requirements of the Transportation Charter-Party Carrier permit;
- Enroll all drivers in the Department of Motor Vehicles Employer Pull Notice Program;
- Show proof of compliance with Department of Motor Vehicles regulations addressing Autonomous Vehicle driver training and certification;
- Not charge monetary compensation for rides provided as Drivered Autonomous Vehicle Passenger Service;
- Attest to the Drivered Autonomous Vehicle operations of one of the entity's vehicles that represents the vehicle and technology characterizing the fleet to be offered for the service for a minimum of 30 days on roads in California following the entity's receipt of the Department of Motor Vehicles Autonomous Vehicle Testing Permit, and include in the attestation:
  - The start date of actual operations on California roads,
  - The geographic location of the operations in California,
  - The times of day and number of hours per day in operation during the 30-day period,
  - A statement and map of the Operational Design Domain as stated on the entity's Department of Motor Vehicles Autonomous Vehicle test permit.
- Transmit simultaneously to the Commission all collision reports required by Department of Motor Vehicles regulations;
- File with the Commission a plan for how the Transportation Charter-Party Carrier permit-holder will provide notice to the passenger that they are receiving Drivered Autonomous Vehicle Passenger Service through a pilot program, and how the passenger will affirmatively consent to or decline the service;

- Transmit to the Commission public versions of the annual Autonomous Vehicle disengagement reports required by Department of Motor Vehicles regulations; and
- Submit to the Commission quarterly reports of anonymized data about the operation of their vehicles providing Drivered AV Passenger Service. The reports shall be public and Consumer Protection and Enforcement Division staff will post them on the Commission's website. The data to be reported shall include the following, disaggregated to provide data about each AV in operation and providing Drivered AV Passenger Service:
  - Total quarterly vehicle miles traveled during passenger service by all vehicles in the entity's list of Autonomous Vehicle equipment, provided per-vehicle,
  - Total quarterly vehicle miles traveled during passenger service that are served by electric vehicles or other vehicles not using an internal combustion engine, provided per-vehicle,
  - Total quarterly vehicle miles traveled during passenger service, from the vehicle's starting location when it first accepted a trip request to the pickup point for each requested trip, expressed in miles and provided per-vehicle,
  - Amount of time each vehicle waits between ending one passenger trip and initiating the next passenger trip, expressed as both a daily average and a monthly total in hours or fraction of hours for each vehicle (idling or dwell time),
  - Vehicle occupancy (total number of passengers) in each vehicle for each trip,
  - Total number of accessible rides requested per quarter that are,
  - Total number of accessible rides requested per quarter that are unfulfilled because of a lack of accessible,
  - Total number of accessible rides requested per quarter that are declined by the driver.
- Comply with all other applicable State and Federal regulations.

5. A Transportation Charter-Party Carrier permit-holder offering Drivered Autonomous Vehicle Passenger Service shall be suspended immediately from the pilot program upon suspension or revocation of their testing permit by the California Department of Motor Vehicles and not reinstated until the Department of Motor Vehicles has reinstated the testing permit and the Commission has determined that it is safe for the Transportation Charter-Party Carrier permit-holder offering Drivered Autonomous Vehicle Passenger Service to resume participation in the pilot.

6. The Driverless Autonomous Vehicles Passenger Service pilot program is approved as set out herein, and shall be available only to Transportation Charter-Party Carriers with permitted driverless Autonomous Vehicles that have been in permitted driverless Autonomous Vehicle operation on California roads for a minimum of 30 days.

7. A Transportation Charter-Party Carrier permit-holder seeking to offer Driverless Autonomous Vehicles Passenger Service shall comply with the following conditions:

- The Transportation Charter-Party Carrier permit-holder offering Driverless Autonomous Vehicle Passenger Service must hold and comply with all standard terms and conditions of the Commission's Transportation Charter-Party Carrier permit including ensuring that remote operators capable of performing the dynamic driving task comply with all terms and conditions applicable to drivers;
- A Transportation Charter-Party Carrier permit-holder must hold a Department of Motor Vehicles Testing Autonomous Vehicles Permit - Driverless Vehicles and certify that it is in compliance with all Department of Motor Vehicles regulations;
- Maintain insurance for the Autonomous Vehicles offered for Driverless Autonomous Vehicle Passenger Service in compliance with Department of Motor Vehicles regulations;

- Enroll all remote operators that are capable of performing dynamic driving task in the Department of Motor Vehicles' Employer Pull Notice Program;
- Conduct vehicle inspections and maintenance consistent with the requirements of the Transportation Charter-Party Carrier permit;
- Not charge monetary compensation for rides provided as a Driverless Autonomous Vehicle Passenger Service; and
- Attest to the driverless Autonomous Vehicle operations of the specific vehicle to be offered for the service for a minimum of 30 days on roads in California following the entity's receipt of the Department of Motor Vehicles Testing Permit - Driverless Vehicles, and include in the attestation:
  - The start date of actual operations on California roads,
  - The geographic location of the operations in California,
  - Times of day and number of hours per day in operation during the 30-day period,
  - A statement and map of the Operational Design Domain as stated on the entity's Department of Motor Vehicles test permit,
  - Provide to the Commission a link to the entity's website where a map of the Operational Design Domain is provided and inform the Commission within 1 business day of an update to the Operational Design Domain map that is approved by the Department of Motor Vehicles.
- The Transportation Charter-Party Carrier permit-holder offering the service must file with the Commission a plan for how the Transportation Charter-Party Carrier permit-holder will provide notice to the passenger that they are being offered Driverless Autonomous Vehicle Passenger Service and demonstrate a means by which the passenger explicitly consents by electronic or written confirmation to receive driverless service;
- The Transportation Charter-Party Carrier permit-holder offering the service must provide to the passenger a photo of the vehicle that will provide the service during the offer/consent exchange;

- The Transportation Charter-Party Carrier permit-holder offering the service must provide to the Commission a description of the notification and confirmation process before beginning service;
- The Transportation Charter-Party Carrier permit-holder offering the service must hold a Department of Motor Vehicles Manufacturer's Testing Permit - Driverless Vehicles, and the specific vehicle offered for the service must be in driverless Autonomous Vehicle operation of a minimum of 0 days following the entity's receipt of that permit;
- The Transportation Charter-Party Carrier permit-holder may not engage in Driverless Autonomous Vehicle Passenger Service to, from or within airports and must file a plan with the Commission a plan for how the Transportation Charter-Party Carrier permit-holder will prevent its vehicles from providing Driverless Autonomous Vehicle Passenger Service to, from or within airports;
- The Transportation Charter-Party Carrier permit-holder must limit the use of the vehicle to one chartering party at any given time (fare-splitting is not permitted) and file a plan with the Commission for how the Transportation Charter-Party Carrier permit-holder will prevent fare-splitting;
- The Transportation Charter-Party Carrier permit-holder must ensure that the service is available only to be chartered by adults 18 years and older, and provide proof of such assurance to the Commission with their Transportation Charter-Party Carrier permit application and upon request anytime thereafter;
- The Transportation Charter-Party Carrier permit-holder must record all communications from the passenger in the vehicle with the remote operator while Driverless Autonomous Vehicle Passenger Service was being provided and retain the recording for one year from the date of the recording. Any and all such recordings must be provided to the Commission upon request. The claimed confidentiality of the recording or recordings shall be governed by GO 66-D;
- Transportation Charter-Party Carrier permit-holders participating in the program must transmit simultaneously to the



Commission all reports required by Department of Motor Vehicles regulations, including the process in the event of a collision, law enforcement interaction plan, collision reporting, disclosure to the passenger regarding collection and use of personal information, and annual Autonomous Vehicle operations reports;

- Transportation Charter-Party Carrier permit-holders shall submit to the Commission quarterly reports of anonymized data about the operation of their vehicles providing Driverless Autonomous Vehicle Passenger Service. The reports must be public and the Commission's Consumer Protection and Enforcement Division staff shall post them on the Commission's website;
- The data to be reported shall include the following, disaggregated to provide data about each Autonomous Vehicle in operation and providing Driverless Autonomous Vehicle Passenger Service:
  - Total quarterly vehicle miles traveled during passenger service by all vehicles in the entity's list of Autonomous Vehicle equipment, provided per-vehicle,
  - Total quarterly vehicle miles traveled during passenger service that are served by electric vehicles or other vehicles not using an internal combustion engine, provided per-vehicle,
  - Total quarterly vehicle miles traveled during passenger service, from the vehicle's starting location when it first accepted a trip request to the pickup point for each requested trip and provided per-vehicle, expressed in miles),
  - Amount of time each vehicle waits between ending one passenger trip and initiating the next passenger trip, expressed as both a daily average and a monthly total in hours or fraction of hours for each vehicle (idling or dwell time),
  - Vehicle occupancy (total number of passengers) for each trip,
  - Total number of accessible rides requested that are fulfilled,

- Total number of accessible rides requested by disabled passengers that are unfulfilled because of a lack of accessible vehicles, and
- Total number of accessible rides requested that are declined by the entity.

8. Transportation Charter-Party Carrier permit-holders shall comply with all other applicable State and Federal regulations.

9. For a Transportation Charter-Party Carrier permit-holder offering Driverless Autonomous Vehicle Passenger Service as part of the pilot program, elements of the Transportation Charter-Party Carrier permit process related to the driver, such as enrollment in the Employer Pull Notice program and driver training, will be applicable to the remote operator.

10. Each Transportation Charter-Party Carrier must inspect its vehicles and shall maintain proof of such inspection.

11. A Transportation Charter-Party Carrier permit-holder offering Driverless Autonomous Vehicle Passenger Service shall be suspended immediately from the pilot program upon suspension or revocation of their testing permit by the California Department of Motor Vehicles and not reinstated until the Department of Motor Vehicles has reinstated the testing permit and the Commission has determined that it is safe for the Transportation Charter-Party Carrier permit-holder offering Driverless Autonomous Vehicle Passenger Service to resume participation in the pilot.

12. Transportation Charter-Party Carrier permit-holders may not offer or provide passenger service operations at airports without the express authorization of both this Commission and the relevant airport authority.

13. Transportation Charter-Party Carrier permit-holders shall immediately make their best efforts to reach out to and work with individuals and groups that are knowledgeable about and advocates for accessible transportation.

14. The Commission's Consumer Protection and Enforcement Division staff should hold a workshop on passenger service provided by Autonomous Vehicles as soon as is reasonable following the issuance of this decision.

15. The Driverless Autonomous Vehicles Passenger Service pilot program does not represent the Commission's final determination on the broader question of the regulatory framework for fully deployed driverless vehicles offering passenger service.

This order is effective today.

Dated May 31, 2018, at San Francisco, California.

MICHAEL PICKER  
President  
CARLA J. PETERMAN  
LIANE M. RANDOLPH  
MARTHA GUZMAN ACEVES  
CLIFFORD RECHTSCHAFFEN  
Commissioners