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	R.12-12-011

OPENING COMMENTS OF SAN FRANCISCO INTERNATIONAL AIRPORT, THE SAN FRANCISCO MUNICIPAL TRANSPORTATION AGENCY, AND THE SAN FRANCISCO COUNTY TRANSPORTATION AUTHORITY TO PROPOSED DECISION AUTHORIZING PILOT TEST PROGRAM FOR AUTONOMOUS VEHICLE PASSENGER SERVICE

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These Comments are submitted jointly by the San Francisco Municipal Transportation Agency ("SFMTA"), the San Francisco International Airport ("Airport" or "SFO") and the San Francisco County Transportation Authority ("Transportation Authority")[1], collectively "SF" or "the City."

INTRODUCTION

The City welcomes the thoughtful Proposed Decision ("PD") outlining two pilot programs for the provision of autonomous vehicles ("AVs") for TCP passenger service: one for AVs with drivers and the other for AVs without drivers. Our comments are intended to offer reasonable adjustments to the proposed regulations in a manner that makes sense on urban streets already teeming with conventional automobiles, mass public and private bus services, bicycles and now, electric scooters and skateboards.[2]

COMMENTS

A. The Commission Should Qualify the 90-Day Operational Experience Requirement

The PD requires that Transportation Charter-Party ("TCP") AV test permit applicants possess a California Department of Motor Vehicles ("DMV") test permit for at least 90 days before being eligible for a TCP-AV test permit. It also sets out six specific types of data TCP-AV applicants must attest to regarding that 90-day period: (1) DMV-AV test permit start date, (2) location of testing, (3) times and hours per day in operation, (4) type of environment, (5) number of disengagements, and (6) number of collisions.[3] But the PD does not describe how the Commission will use this data in determining whether to issue a TCP-AV permit, which suggests that any applicant who has had a DMV-AV test permit for 90 days and makes the six attestations automatically qualifies for a TCP-AV

[1] The Transportation Authority Board consists of the eleven members of the San Francisco Board of Supervisors, who act as Transportation Authority Commissioners.

[2] *See* the City's proposed modifications to the Order attached as Appendix A hereto.

[3] *See* PD, at 32 and 34.

test permit. The City believes mileage and testing environment experience are critical factors for the Commission to consider before issuing TCP-AV test permits, and that the Commission should set a cap on the number of AVs that any TCP may introduce into an urban environment as part of this pilot program.

1. Set A Mileage Minimum

According to DMV's website, that agency has issued 52 AV permits since 2014.[4] DMV regulations require AV permit holders to report a variety of data on an annual basis, including miles driven and the number of disengagements per vehicle.[5] The latest reporting period covers December 2016-November 2017. Only 20 of the 52 firms holding DMV-AV permits filed an annual disengagement report in December 2017. Of these, eight reported their AVs *drove zero miles*; eight reported driving between 1 and 4999 miles; two reported driving 5000-9999 miles; one (GM Cruise) reported driving 131,675 miles;[6] and one (Waymo) reported driving 352,545 miles.[7]

We do not believe that an unqualified requirement that a TCP-AV permit applicant has held a DMV permit for 90 days is sufficient to protect public safety. Instead, the Commission should require that TCP-AV permit applicants demonstrate consistent, active testing of AVs for at least 90 days before the Commission considers allowing them to carry members of the public. We urge the Commission to: (1) require applicants to demonstrate the AVs in their fleet have driven a minimum of 10,000 miles each month of the 90 days (i.e., 30,000 miles in 90 days *minimum*) immediately preceding the TCP-AV application; and (2) require applicants to provide data on the disengagement ratio for each vehicle by mile and hour of AV operations for each specific environment.

[4] https://www.dmv.ca.gov/portal/dmv/detail/vr/autonomous/permit
[5] 13 CCR §224.50
[6] https://www.dmv.ca.gov/portal/wcm/connect/d94d9334-9955-4f97-aae1-5a2c9f10673b/GM_Cruise.pdf?MOD=AJPERES
[7] https://www.dmv.ca.gov/portal/wcm/connect/42aff875-7ab1-4115-a72a-97f6f24b23cc/Waymofull.pdf?MOD=AJPERES

2. Require the Environment of 90-Day Operational Experience to Match Environment TCP-AV Applicants Will Operate in During the Pilot Programs

It is unclear how many miles AV companies have actually logged in condensed urban settings such as San Francisco. Waymo, for example, has tested AVs at the test site "Castle" located in Atwater, California. This is a "carefully constructed" AV testing facility two hours east of San Francisco.[8] The facility has a few trees, along with piles of dirt and rock, but certainly does not mimic the hilly, densely populated, congested urban landscape of cities such as San Francisco. Situated in Merced County, Atwater has an estimated population of 29,270, spread out over 6.1 square miles, or 4,785 people per square mile.[9] In contrast, with a population of 884,363 people residing in 46.89 square miles, the City of San Francisco is packed with 18,860 residents per square mile.[10] We are concerned that 90 days of operational experience in Atwater or a similar environment, which does not reflect the topography, congestion, or street design where these vehicles will actually be deployed, is simply not sufficient to ensure that the public will be adequately protected.

A specific environment requirement is especially important in cities like San Francisco, with unique roadway characteristics, physical infrastructure limitations and constant construction projects that often erase or change pavement markings, making for a challenging driving experience. Further, condensed urban settings must accommodate multiple road users including public and private mass transit operators, pedestrians and cyclists. For AVs to be a successful addition to the transportation mix, they must support and not undermine the transit improvements carefully planned by cities such as San Francisco.

[8] https://www.wired.com/story/google-waymo-self-driving-car-castle-testing/

[9] https://en.wikipedia.org/wiki/Atwater,_California

[10] https://en.wikipedia.org/wiki/San_Francisco

For these reasons, we urge the Commission to require that for TCP-AV test permit applicants to operate in San Francisco, all of the miles driven in the 90-days preceding the application must have been in San Francisco. To the extent some of the trips involve driving in San Francisco and other Bay Area cities, the Commission should require applicants to demonstrate that each trip either started or ended in San Francisco. A similar requirement should be imposed on TCP-AV permit applicants wishing to operate in other densely populated cities such as Oakland, the cities of Los Angeles and San Diego, Sacramento, and Fresno.

Finally, the Commission should cap the number of AVs that each permittee may operate in densely populated urban centers and require TCP-AV permittees to provide a 10-day notice to jurisdictions in which permittees intend to operate prior to initiating passenger service.

B. Enhance the Public Data Reporting Requirement[11]

The Proposed Order requires TCP-AV permittees to report eight sets of data on a monthly basis, which data will then be posted on the Commission's website: (1) monthly miles traveled, (2) miles traveled by engine type (electric, hybrid, internal combustion), (3) miles traveled from starting point to pick-up point, (4) time between trips, (5) number of passengers per trip, (6) number of rides requested by disabled passengers that are fulfilled, (7) number of rides requested by disabled passengers that are not fulfilled, and (8) the number of ride requests by disabled passengers that are declined by the driver.[12]

[11] We note that the Commission yet to issue a Decision regarding the disclosure of TNC data, which the parties fully briefed in July 2017. As the SFMTA and SFO noted at that time, TNC data is critical to management of the City's congested streets because without all relevant data, traffic engineers, environmental agencies, city planners and other can only guess how to design effective solutions to increasing urban density and the resulting congestion. *See* SFMTA/SFO's Opening Comments, Phase III.B, Track 3 – TNC Data, page 2. Making such data available to SFMTA and the TA would vastly improve the TNC experience for drivers and their passengers, and will give planners the tools needed to mitigate congestion and make our streets safer.

[12] PD at 33 and 36. Where the AV is driverless, the number of ride requests by disabled passengers that are declined by the TCP-AV entity.

In addition to the data reporting required in the PD, the City requests the Commission require AV permittees to report the following data, which is invaluable to transportation planners and policy makers: (1) GPS location of every passenger pick-up and drop-off with a time stamp to the minute and linked to a specific trip and vehicle identifier, (2) geographical information regarding the location of trips traveled within a specific census block or zip code for each day and month, (3) data indicating all instances when AVs fail to comply with the Vehicle Code and local laws regarding speed limits, curb access and official traffic control devices, (4) the number of vehicles operating within a specific jurisdiction (i.e. the City and County of San Francisco) each day, and (5) vehicle occupancy at all times that AV services are engaged, which data should include the number of passengers who get in and out the vehicle for each trip and vehicle identifier. [13]

With access to this data, in conjunction with TNC data requested previously, the City would be positioned to design targeted remedies to relieve congestion. Specifically, the City would use this data to:

- Enhance basic traffic engineering efforts, including adjusting signal timing, lane assignments and curb regulations, such as white zones
- Enforce curb regulations to reduce double parking
- Develop traffic impact studies, environmental analysis, and other tools by which the City can review public and private development
- Identify locations where signs and markings are unclear
- Proactively make traffic safety changes
- Facilitate traffic and pedestrian safety campaigns
- Evaluate how to provide AV services to all members of the public
- Reduce congestion and single occupancy vehicle trips on existing transit corridors to improve service reliability

[13] Ideally, this data would also be collected from taxis, TNCs and private bus services offered to employees by Google, Yahoo, Genentech and other private companies.

- Redesign streets to optimize public transit options and reduce congestion
- Develop transportation forecasting models

Public safety and alleviating traffic congestion are key quality-of-life issues for all San Franciscans, and we suspect the same is true of other densely populated urban centers in California. Without access to the additional data outlined above, it would be nearly impossible to understand how these two pilot programs impact the streets of San Francisco. Because San Francisco has been ground zero for the testing and deployment of AVs, our City could be a model for how other urban areas merge new transportation modes with traditional modes in a manner that serves all urban dwellers.

Further, the permit should require AV permittees to provide clear opt-in protocols for passengers regarding what personal data will be shared with the pilot program. Finally, we request that these data reporting requirements be included in the future AV Passenger Service Permit, and that all data reported to the Commission by TCP-AV permittees and posted on the Commission website be in a searchable, sortable format.

C. Qualify the Remote "Driver" Location

All remote operators participating in the Driverless AV Passenger Service pilot program should be located in California in the interest of ensuring public safety and consumer protection. In situations involving a collision, excessive speeding, red light running, or other violations of law, remote operators should be immediately accessible to local law enforcement.

D. Clarify CPUC Permit Type and Vehicle Identification

The PD specifies that AVs in both pilot programs must fall under a TCP permit. Because TNCs are a subset of TCPs, the City seeks a clarifying statement that no TNC may operate under either AV pilot program; i.e., no AV in either pilot program may be a "personal vehicle." Further, so that members of the public understand that AVs are part of a pilot program regulated by the Commission, the City requests that each AV in both pilot programs display prominent signage on left and right front

door panels reading "Autonomous Vehicle Pilot Program – [company name] & California Public Utilities Commission," with a phone number to the Commission working group overseeing the pilot programs. This will allow members of the public to contact the Commission directly with comments and/or questions.

E. Permit Fee and Pilot Program Evaluation

According to the Commission's website, the "Enforcement Section of the Transportation Enforcement Branch responds to and investigates complaints of unsafe, unlicensed and uninsured passenger carriers and movers, and responds to complaints against licensed carriers concerning carrier fitness, overcharging, discriminating in service, failing to provide service or failing to respond to customer complaints."[14] The City is concerned that the Enforcement Section may lack resources to adequately monitor the thousands of charter-party carriers and TNCs currently operating in California and that adding AVs to the mix will further burden enforcement staff. The $1000 permit entry fee for AV companies seems inadequate to cover the cost of monitoring this new, highly technical transportation mode. For that reason, the City requests that the Commission impose permit fees sufficient to cover administrative costs for either Commission staff or a third-party contractor to perform all duties related to oversight of the two pilot programs.

Further, the Commission should indicate the metrics it will use for evaluating the two pilot programs. Some of the evaluation metrics the City suggests are:

- Level of collaboration between the TCP permit holder, local governments, and the public
- Roadway and operational safety including passenger safety
- Impact on traffic congestion and public transit
- Resulting greenhouse gas emission levels

[14] http://www.cpuc.ca.gov/General.aspx?id=5820

- Equitable access to AVs for all members of the public
- Accountability of TCP permit holders to the public through compliance with data sharing requirements
- Accessibility of AVs for persons with disabilities
- Financial impact on local governments for infrastructure improvements necessary to support full deployment of AVs
- Feedback from the public regarding both pilot programs

Finally, the City urges the Commission to consider having the pilot program results reviewed and commented on by peer organizations, such as the Institutes of Transportation Studies at U. C. Berkley and U. C. Davis, the SFMTA and the Transportation Authority, prior to any decision to move forward with final deployment programs and to post the evaluation results on its website within 30 days of the receipt of comments from peer organizations. The release of the evaluation should not be a substitute for publicly releasing data referred to in the PD, augmented by the data described in these comments.

F. All AV Operations Should be Prohibited at Airports and at Mass Gatherings

1. Operations at Airports Prohibited

The PD Order states as follows regarding airport operations:

> 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 (sic) for how the Transportation Carter-Party Carrier permit-holder will prevent its vehicles from providing *Driverless* Autonomous Vehicle Passenger Service to, from or within airports.[15]

By qualifying the phrase "Autonomous Vehicle Passenger Service" with the word "Driverless," the PD implies that the Commission will allow "drivered" AVs to operate at

[15] PD at 41, emphasis added.

airports. But it is municipal airports, not the Commission, that have the sole authority for determining what businesses may operate on their premises.

State and federal courts in California have long recognized that the City exercises proprietary powers over its airport. *See Air Cal, Inc. v. City & County of San Francisco*, 865 F.2d 1112, 1117 (9th Cir. 1989); *see also City and County of San Francisco v. Western Air Lines, Inc.*, 204 Cal. App. 2d 105, 132 (1962). This authority is also recognized by statute. *See* Government Code § 50474(f), establishing the right of airports to regulate the use of their facilities and other property; and Pub. Util. Code §§ 21690.5-21690.10, establishing that the operation of such airports is a governmental function to be discharged in the furtherance of the policy of securing the benefits of tourism and commerce for the state and its people; that such airports may grant, deny and/or limit concessions for services to the public; and that in managing its operations, publicly owned airports shall promote the development of commerce and tourism by: (1) securing a diversity of airport services, (2) avoiding wasteful duplication, (3) securing to the users of airports safe, courteous, and quality service, (4) limiting or prohibiting business competition which is destructive of the ends of promoting commerce and tourism in the state, (5) allocating limited airport resources to promote such ends, and (6) fostering California's image as a commercial and tourist center.

Consistent with these authorities, the California Supreme Court and the Commission itself have specifically recognized that the roadways in municipal airports are private and that it is the governing body of airports – not the courts or the Commission – that have the authority to determine which transportation firms may operate on their private roadways. *See City of Oakland v. Burns*, 46 Cal.2nd 402 (1956), and Commission decisions D 86-01-046, D 89-10-028 and D 96-09-091. Finally, Commission General Order 157-D, § 3.03 provides that "[n]o carrier shall conduct any operations on

the property of or into any airport unless such operations are authorized by both this Commission and the airport authority involved."

For all of these reasons, the City requests that the Commission clarify that AVs in both the drivered and driverless AV pilot programs are expressly prohibited from operating at any municipal airport in California in the absence of written authorization from the airport's governing body.

2. Operations at Mass Gatherings Prohibited

For the term of each pilot program, no AV should be allowed to operate to, from, or within a two-block radius of professional sports stadiums and arenas, concert venues and other locations where typical attendance exceeds 15,000 people. These sorts of events already present significant traffic control challenges to local governments. Adding test AVs will only aggravate these challenges.

G. Passenger and Customer Disclosures

It is unclear from the PD how passengers (and ultimately, paying customers) will learn about TCP-AV protocols. Presumably, TCP-AV permittees will provide basic information through their apps and on websites, as TNCs currently do. What remains unclear is what options passengers have once they enter a TCP-AV.

For example, it is not uncommon for taxi and TNC passengers to find themselves sitting in traffic close to a final destination and opt to walk the rest of the way, or for a passenger to request a different destination once the trip is underway. The Commission should require that TCP-AV permittee and Commission websites explain, at a minimum: (1) how to alter a trip destination after entering an AV, (2) how to exit an AV before arriving at a final destination in the event of an emergency, or for any other reason, and (3) what to do in the event a driverless AV is involved in an accident, or a passenger has a medical emergency. All passenger and customer disclosures should be filed with the Commission for review and approval, and made available to the public.

H. Ensure Compliance with State and Local Law

Like many other Cities, San Francisco has a myriad of local parking, standing and stopping laws and regulations. In addition to the standard red, yellow, green and white painted curbs, most residential areas in the City have parking restrictions limiting the time a vehicle without a residential parking decal may be parked in a residential zone. Bike lanes run throughout the City and in some locations, lanes are restricted to buses and taxis. It is unclear how an AV will "know" that it cannot stop in a bike lane, for example, or that the vacant curb space it pulls into is in fact a yellow truck-loading zone.

To address this uncertainty, and before any TCP-AV permits are issued under either pilot program, the Commission should require TCP-AV permit applicants to submit a detailed report explaining how its vehicles will comply with the Vehicle Code and local regulations. While there is no need to disclose proprietary information, public entities and members of the public must be informed regarding how AVs will comply with the rules of the road that human drivers are required to follow.

I. Permitted AVs Should Be Accessible

The PD requires monthly reports be filed with the Commission indicating the total number of rides requested by disabled passengers that are fulfilled – but nothing more. As indicated in the SFO/SFMTA's earlier comments, the Commission has not yet convened a workshop on accessibility.[16] We hope that the Commission does so in the near future. In the meantime, we urge the Commission to adopt a regulation that requires deployment of AVs that provide universal accessibility including wheelchair accessibility. Because AVs are the cutting edge of transportation innovation, this is an opportune time to require wheelchair accessible models in order to ensure that all members of the public are able to access these vehicles.

[16] *See* SFO/SFMTA's Response Comments Phase III.B, page 9.

J. The Goal of First Quarter of 2019 for a Final Decision is Overly Ambitious

The PD provides that a final decision setting the terms and conditions for AV passenger service permits for full deployment will occur during the first quarter of 2019. The City urges the Commission to reconsider this date because it does not provide a sufficient time to collect and analyze data for these two pilot programs.

Further, data collected from these pilot programs should be used first to guide the proposed CPUC-DMV workshop prior to any decision to allow full deployment of driverless AVs for commercial passenger transportation. We suggest that a CPUC-DMV workshop should be convened after at least six months of data has been made available for public review with sufficient time to assess all such data. The proposed date for a final decision regarding driverless AV permits should be defined as "To Be Determined" and should only be scheduled after each TCP-AV permittee has achieved a specific number of hours, miles, and ratio of disengagements to hours and miles in environments similar to the specific location or jurisdiction where these vehicles will actually be deployed. This will allow for collection of a sufficient amount of data to make truly informed decisions.

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CONCLUSION

The introduction of commercial AVs onto our roadways is an exciting prospect. With proper data collection and oversight by the Commission, California could become a model for the nation. We look forward to further development of sensible regulations that balance the drive for implementing new transportation technologies with the challenge of smart transportation planning and public safety.

Dated: April 26, 2018

Respectfully submitted,

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APPENDIX A

OPENING COMMENTS OF SAN FRANCISCO INTERNATIONAL AIRPORT, THE SAN FRANCISCO MUNICIPAL TRANSPORTATION AGENCY, AND THE SAN FRANCISCO COUNTY TRANSPORTATION AUTHORITY TO PROPOSED DECISION AUTHORIZING PILOT TEST PROGRAM FOR AUTONOMOUS VEHICLE 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 90 days. Transportation Network Companies are not eligible to participate in either the Drivered or Driverless pilot program.

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. A Transportation Charter-Party Carrier with an Autonomous Vehicle pilot program permit for either Drivered or Driveless service shall provide 10-days prior written notice to the public transportation authority of every city in which it intends to introduce Autonomous Vehicle service or, if such city does not have a public transportation authority, then to the public transportation authority of the county in which the city is situated. All such 10-day notice shall be submitted before any Autonomous Vehicle services may commence.

~~3.~~5. Each Autonomous Vehicle in the fleet of Transportation Charter-Party Carriers with an Autonomous Vehicle pilot program permit for either Drivered or Driveless service shall display signage on left and right front door panels reading "Autonomous Vehicle Pilot Program – [company name] & California Public Utilities Commission," with the following phone number: 1-800-894-9444, the phone number for the Transportation Enforcement Section of the California

Public Utilities Commission. All such signage shall be sufficiently large and color contrasted as to be readable, during daylight hours, at a distance of 20 feet.

~~4.~~6. The requirements applicable to Transportation Charter-Party Carrier permit-holders participatione~~e~~ in the pilot program for Drivered Autonomous Vehicle Passenger Service shall include but are not limited to:

- No Transportation Charter-Party Carrier Autonomous Vehicle permit holder may release more than 10 Autonomous Vehicles to operate in the following cities for the duration of the pilot program: Fresno, Los Angeles, Oakland, Sacramento, San Diego, San Jose, or San Francisco.

- For each month in the 90-day period immediately preceding a Transportation Charter-Party Carrier's application for participation in the pilot program, the fleets deployed to Fresno, Los Angeles, Oakland, Sacramento, San Diego, San Jose, and San Francisco must have a minimum of 10,000 miles of driving collectively, e.g., the fleet of not-to-exceed 10 Autonomous Vehicles deployed to San Diego by Company "A" must have a collective minimum of 10,000 miles driven in each of the three months preceding the Transportation Charter-Party Carrier Autonomous Vehicle permit application.

- 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 AV Passenger Service;

- Attest to the drivered AV operations of the specific vehicle to be offered for the service for a minimum of 90 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 90-day period,

- The times of day and number of hours per day in operation during the 90-day period,
- The type of environment in which the vehicle has operated, such as urban, suburban, or rural,

- Disengagements that occurred during the 90 days of operation on roads in California, and a brief statement of the reason for each disengagement,

- Collisions that occurred during the 90 days of operation on roads in California with a description of each collision.

- 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;

- File with the Commission a plan for how the Transportation Charter-Party Carrier permit-holder will provide notice to the passengers regarding (1) how to alter a trip destination after entering an AV, and (2) how to exit an AV during a trip in the event of an emergency or for any other reason;

- 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 monthly reports of anonymized data about the operation of their vehicles providing Drivered AV Passenger Service. The reports shall be in a searchable, sortable format and ~~public and~~ Transportation Enforcement Branch staff shall make all such reports public by ~~will~~ posting 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 monthly vehicle miles traveled,
  - Total monthly vehicle miles traveled that are served by electric vehicles or other vehicles not using an internal combustion engine,
  - Total monthly vehicle miles traveled from the vehicle's starting location to the pickup point for each requested trip, expressed in miles (deadhead miles),
  - Amount of time each vehicle waits between ending one trip and initiating the next, expressed as both a daily average and a monthly total in hours for each vehicle (idling or dwell time),

- GPS location of every passenger pick-up and drop-off with a time stamp to the minute and linked to a specific trip and vehicle identifier,
- Geographical information regarding the location or trips traveled within a specific census block or zip code for each day and month,
- Data indicating all instances when each AV failed to comply with the Vehicle Code and local laws regarding speed limits, curb access and official traffic control devices,
- The number of vehicles operating within a specific jurisdiction each day,
- Vehicle occupancy at all times that each AV in a fleet are engaged, including the number of passengers who get in and out of the vehicle for each trip,
- Vehicle occupancy (total number of passengers) for each trip,
- Total number of rides requested by disabled passengers that are fulfilled,
- Total number of rides requested by disabled passengers that are unfulfilled because of a lack of accessible vehicles, and
- Total number of rides requested by disabled passengers that are declined by the driver.

- Comply with all other applicable State and Federal regulations.

7. No Transportation Charter-Party Carrier permit-holder offering Drivered Autonomous Vehicle Passenger Service shall operate to, on or from any municipal airport in the state, nor shall such permit holders operate to, from, or within a two-block radius of professional sports stadiums and arenas, concert venues and other locations where typical attendance exceeds 15,000 people.

~~5.~~8. 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.~~9. 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 90 days.

~~7.~~10. A Transportation Charter-Party Carrier permit-holder seeking to offer Driverless Autonomous Vehicles Passenger Service shall comply with the following conditions:

- No TCP-AV permit holder may release more than 10 AVs to operate in the following cities for the duration of the pilot program: Fresno, Los Angeles, Oakland, Sacramento, San Diego, San Jose, or San Francisco.
- For each month in the 90-day period immediately preceding a Transportation Charter-Party Carrier's application for participation in the pilot program, the fleets deployed to Fresno, Los Angeles, Oakland, Sacramento, San Diego, San Jose, and San Francisco must have a minimum of 10,000 miles of driving collectively, e.g., the fleet of not-to-exceed 10 Autonomous Vehicles deployed to San Diego by Company "A" must have a collective minimum of 10,000 miles driven in each of the three months preceding the Transportation Charter-Party Carrier Autonomous Vehicle permit application.
- 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;
- 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;
- 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 90 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 90-day period,
- A description of the type of environment in which the vehicle operated (urban, rural, suburban, other),
- Disengagements that occurred during the 90 days of operation on roads in California, and a brief statement of the reason for each disengagement,
- Collisions that occurred during the 90 days of operation on roads in California, and a brief description of each collision.

- 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.
- File with the Commission a plan for how the Transportation Charter-Party Carrier permit-holder will provide notice to the passengers regarding (1) how to alter a trip destination after entering an AV, (2) how to exit an AV during a trip in the event of an emergency or for any other reason, (3) what to do in the event a Driverless Autonomous Vehicle is involved in an accident or a passenger has a medical emergency.
- 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 90 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~~,~~ nor shall such permit holders operate to, from, or within a two-block radius of professional sports stadiums and arenas, concert venues and other locations where typical attendance exceeds 15,000 people.
- 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 report to the Commission within 24 hours all communications from the passenger in the vehicle with the remote operator while Driverless Autonomous Vehicle Passenger Service was being provided in confidential and public versions;

- 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 monthly reports of anonymized data about the operation of their vehicles providing Driverless Autonomous Vehicle Passenger Service. The reports shall be in a searchable, sortable format and the ~~must be public and the~~ Commission's Transportation Enforcement Branch staff shall make all such reports public by posting 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 monthly vehicle miles traveled,

  - Total monthly vehicle miles traveled that are served by electric vehicles or other vehicles not using an internal combustion engine,

  - Total monthly vehicle miles traveled from the vehicle's starting location to the pickup point for each requested trip, expressed in miles (deadhead miles),

  - Amount of time each vehicle waits between ending one trip and initiating the next, expressed as both a daily average and a monthly total in hours for each vehicle (idling or dwell time),

  - Vehicle occupancy (total number of passengers) for each trip,

  - Total number of rides requested by disabled passengers that are fulfilled,

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

  - Total number of rides requested by disabled passengers that are declined by the entity.

~~8.~~11. Transportation Charter-Party Carrier permit-holders shall comply with all other applicable State and Federal regulations.

~~9.~~12. 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, and all such remote operators shall be physically located in California.

~~10.~~13. Each Transportation Charter-Party Carrier must inspect its vehicles and shall maintain proof of such inspection.

~~11.~~14. 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.~~15. The Commission's Transportation Enforcement Branch should hold a workshop on passenger service provided by Autonomous Vehicles as soon as is reasonable following the issuance of this decision.

~~13.~~16. 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 _____, at Fontana, California.