# BEFORE THE PUBLIC UTILITIES COMMISSION OF THE STATE OF CALIFORNIA FILED 01/21/20

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

Rulemaking 12-12-011 (Filed December 20, 2012)

### OPENING COMMENTS OF LYFT, INC. ON THE ASSIGNED COMMISSIONER'S RULING SEEKING COMMENTS ON AUTONOMOUS VEHICLES

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In accordance with Rule 6.2 of the California Public Utilities Commission's (the "Commission") Rules of Practice and Procedure, Lyft submits the following Opening Comments in response to the questions and issues raised regarding autonomous vehicles, as identified in the December 19, 2019 Administrative Law Judge's Ruling Ordering Parties To Comment On Questions Regarding The Commission's Regulation Of Autonomous Vehicles ("AV Ruling").

#### I. COMMENTS ON QUESTIONS

Lyft provides opening comments below on the questions identified in Section 1. "Next Steps for Regulatory Framework." For convenience, Lyft's comments are organized in the same order as the questions were posed in the AV Ruling.

#### 1. Next Steps for Regulatory Framework

# 1.1 What changes, if any, should the Commission make to the requirements governing Autonomous Vehicle (AV) testing established by Decision (D.)18-05-043?

#### 1.1.1. In justifying those changes, explain whether and how those changes would:

- Maintain or exceed the safety performance of AVs in passenger service;
- Enable the Commission to understand further the operations and impacts of AVs in passenger service, such as by collecting more or different data;
- Change the environmental impacts of AV passenger service, if at all;
- Address the accessibility needs of persons with disabilities;
- Provide customer protections;
- Address workforce impacts; and
- Address equity of service.

In Decision (D.) 18-05-043, the Commission took a first step toward regulating passenger transportation in autonomous vehicles by authorizing two pilot programs: a Drivered AV Passenger Service pilot and a Driverless AV Passenger Service pilot. Lyft applauds the Commission for its effort to lead on this issue and supports the safe deployment of self-driving technology in partnership with the Commission. Certain aspects of the initially approved pilot programs, however, have proven both unnecessary and unduly burdensome. When combined with the comprehensive and overlapping regulations imposed by the California Department of Motor Vehicles, certain requirements in the AV Pilot Programs have had the unintended effect of impeding the testing of AVs in California, and therefore risk delaying the eventual adoption of AV passenger transportation in California. This would deprive Californians of the numerous expected benefits of autonomous vehicle technology, including enormous benefits to public safety.<sup>2</sup> More than 35,000 people lose their lives in vehicle accidents every year in the United States.<sup>3</sup> Ninetvfour percent of fatal vehicle accidents are attributable to human error, including distracted driving.<sup>4</sup> Thus, the deployment of AV technology can be expected to have an enormous impact on vehicle safety and save thousands of lives every year. In developing a permanent framework for the testing and deployment of AV technology for passenger transportation in California, the Commission should impose only those requirements necessary to achieve the Commission's safety and consumer protection goals and avoid regulations that will delay the introduction of AV technology into California.

# A. The Commission Should Eliminate the Ban on Collecting Fares in the AV Pilot Programs

As Lyft explained in its Petition for Modification and comments on the proposed decision, Lyft is adopting an open approach to AV passenger transportation, under which it intends to make both its own Lyft AVs and partner company AVs available on the Lyft platform (e.g., Waymo, Aptiv). However, the regulatory landscape in California as compared to other states has made California a less attractive market for our pilot programs, which are specifically focused on

<sup>&</sup>lt;sup>1</sup> D.18-05-043, Ordering Paragraphs 1-15.

<sup>&</sup>lt;sup>2</sup> https://www.nhtsa.gov/technology-innovation/automated-vehicles-safety ("Automated vehicles' potential to save lives and reduce injuries is rooted in one critical and tragic fact: 94% of serious crashes are due to human error. Automated vehicles have the potential to remove human error from the crash equation, which will help protect drivers and passengers, as well as bicyclists and pedestrians.").

<sup>&</sup>lt;sup>3</sup> https://www.transportation.gov/connections/autonomous-vehicles-driving-us-toward-zero-death-future

Id.

deploying self-driving technology within a real-world marketplace. As a result, Lyft, a company founded and headquartered in San Francisco, has chosen to launch its first public pilot programs with partners in Nevada and Arizona, states that have adopted much more flexible regulatory regimes for AV testing.<sup>5</sup> This includes a pilot program in partnership with the National Federation of the Blind to provide self-driving rides to blind and low-vision riders as part of a demonstration program in Las Vegas.<sup>6</sup> Significantly, many other AV companies (e.g., Uber, Argo/Ford, Aptiv, Waymo, May Mobility) have also chosen to focus public pilots in other states.<sup>7</sup>

As a result, California, once on the vanguard of adopting new transportation technologies—as evidenced by the Commission's groundbreaking 2013 decision regulating Transportation Network Companies<sup>8</sup>—may now fall behind in this rapidly evolving area. As the Commission is undoubtedly aware, perhaps the most critical aspect of AV testing is the collection of data relevant to the Operational Design Domain ("ODD") of the AV system. ODD has been described as the overlapping conditions, use cases, restrictions and scenarios that an AV might encounter in completing the dynamic driving task and includes such things as time of day, weather, terrain and road features, as well as more esoteric and site-specific factors such as toll booths, overhanging vegetation, downed power lines, and local social norms.<sup>9</sup> By making testing on California roads more burdensome, California's regulatory regime impedes this indispensable data collection work and may therefore delay the adoption of AV passenger transportation in California. Lyft is hopeful that the Commission can do its part to remedy these issues without any detrimental impact on safety or consumer protection.

In Lyft's view, one of the main regulatory hurdles to more extensive testing of AV passenger transportation in California is the prohibition on collection of a fare during the AV Pilot Programs. In D.18-05-043, the Commission included as a requirement for participants in either

<sup>&</sup>lt;sup>5</sup> See, e.g.,; <a href="https://www.govtech.com/fs/transportation/Autonomous-Ride-Share-Fleet-to-Hit-Las-Vegas-Streets.html">https://www.govtech.com/fs/transportation/Autonomous-Ride-Share-Fleet-to-Hit-Las-Vegas-Streets.html</a>; <a href="https://techcrunch.com/2019/05/07/waymo-and-lyft-partner-to-scale-self-driving-robotaxi-service-in-phoenix/">https://techcrunch.com/2019/05/07/waymo-and-lyft-partner-to-scale-self-driving-robotaxi-service-in-phoenix/</a>

<sup>6</sup> https://www.smartcitiesdive.com/news/lyft-provides-autonomous-rides-to-visually-impaired-passengers/558308/
7 The decision to conduct testing outside of California also has a significant economic impact on California. For example, the Arizona Chamber Foundation recently released a study entitled "Economic Impacts of Advancing Arizona's Competitive Position in the Autonomous Vehicle Industry," (Jan 2020) which estimates that by 2026, companies would invest \$6.1 billion in statewide Research & Development in AV technology in Arizona, resulting in 39,000 direct jobs and \$4.3 billion in economic output, as well as an additional 35,000 jobs and \$4.9 billion in economic output in direct and induced effects. See <a href="https://www.azchamberfoundation.org/wp-content/uploads/2020/01/January-2020-Foundation-AV-Impact-Study.pdf">https://www.azchamberfoundation.org/wp-content/uploads/2020/01/January-2020-Foundation-AV-Impact-Study.pdf</a>, at p. i.

<sup>&</sup>lt;sup>8</sup> Decision (D.) 13-09-045.

<sup>&</sup>lt;sup>9</sup> See https://www.sae.org/news/2019/11/odds-for-av-testing

pilot program that they not charge monetary compensation for provided rides. D.18-05-043, Ordering Paras. 4, 7. The Commission explained the rationale for the prohibition by stating that "[b]y 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." *Id.* at 21. The Commission further posited that 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 experience and provide critical feedback to the Commission and the permit-holders." *Id.* Finally, the Commission offered that "the purpose of the Commission's prohibition on fares during the pilot program is to differentiate it from the final program..." *Id.* at 22.

Although the foregoing are reasonable goals, it has become clear in the time since D.18-05-043 was issued that any limited benefit provided by the ban is far outweighed by the unintended consequences of the restriction. The inability to charge a fare for rides within either Commission pilot program has created significant disincentives — both operationally and financially — to conduct testing in California, as compared to other nearby jurisdictions, such as Nevada<sup>10</sup> and Arizona, 11 which do not regulate the collection of fares during AV testing. One of the driving factors for companies choosing to launch pilot programs with Lyft is the ability to integrate their AV technology into a mature, real-world marketplace. Companies interested in developing an AV passenger transportation service choose to partner with Lyft so that they can better understand dynamics such as consumer preferences for self-driving versus other modes of transportation in the app, price sensitivity, and similar passenger-focused factors relevant to the eventual deployment and market acceptance of AV technology. Prohibiting the charging of fares unnaturally distorts the marketplace and prevents the collection of meaningful data and consumer feedback critical to understanding passenger preferences and behaviors. Take the example of a ride that takes longer than expected because the AV system is programmed to adopt a particularly cautious approach to traffic signals, crosswalks, routes, etc. Piloting a vehicle within the bounds of the law allows for a range of possible driving styles — from extremely cautious to styles which more closely mimic typical driving behavior — and AV companies will have to decide where they wish to fall within that range. This is a complex decision involving a potentially infinite array of

10 https://www.leg.state.nv.us/NRS/NRS-482A.html

See Executive Order 2018-04 at <a href="https://apps.azdot.gov/files/sitefinity-files/Executive-Order-2018-04.pdf">https://apps.azdot.gov/files/sitefinity-files/Executive-Order-2018-04.pdf</a>; Law Enforcement Protocol at <a href="https://azdot.gov/sites/default/files/2019/07/law-enforcement-protocol.pdf">https://azdot.gov/sites/default/files/2019/07/law-enforcement-protocol.pdf</a>.

variables. Consumer feedback will be critical in making such decisions. Passengers who have paid a fare for a ride that takes longer than expected due to what the passenger perceives as an overly cautious approach might express frustration, whereas a passenger getting a free ride might be more forgiving and stay silent. By artificially altering the terms of exchange, the ban on fares prevents companies engaged in testing of passenger transportation from effectively utilizing consumer feedback to optimize the technology and service offering to best address consumer needs and preferences. If AV transportation is to achieve broad acceptance by the public, optimizing the experience for users of the service will be of critical importance. The inability to test these consumer-focused aspects of AV passenger transportation creates a significant competitive disadvantage to testing in California.

Significantly, the inability to collect a fare also prevents companies conducting testing from defraying a portion of the cost of that testing. Although the significance of this issue will vary among participants, the impact of this cost differential will disproportionately impact companies that lack the deep pockets of the largest players in the industry; effectively tilting the playing field in California in favor of those with the greatest war chests, rather than the best technology or solutions. Thus, although well-intentioned, the prohibition on collecting a fare has the effect of undermining several of the Commission's key stated objectives for the pilot programs – to "maintain a level playing field" and the "desire not to stifle innovation or artificially change the way technology develops." D.18-05-043, p. 20.

Importantly, elimination of the ban on collecting a fare will have no detrimental impact on either safety or consumer protection. So long as prospective riders are required to explicitly consent to accept an AV test ride in advance and are provided with an estimate of the cost, there is no compelling regulatory or consumer protection purpose served by continuing to ban the collection of a fare. Eliminating the prohibition on charging a fare would also have no negative environmental impact. And although one could argue that requiring rides in AVs to be free enhances transportation equity, if the ban inhibits or delays the introduction of AV technology in California, or tilts the playing field in favor of fewer, better-capitalized companies, it will make

AV service less accessible and more costly for all Californians. The Commission should eliminate the unnecessary ban on charging for AV test rides subject to the foregoing limitations.<sup>12</sup>

## B. The Commission Should Eliminate the Prohibition on Fare-Splitting in the AV Pilot Programs

The second issue that the Commission should address is the prohibition on testing of shared rides (what the Commission refers to as fare-splitting in its initial AV Pilot Program order). In D.18-05-043, the Commission ordered that for the Driverless AV Passenger Service pilot, fare-splitting is not allowed "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." <sup>13</sup> The Commission did not elaborate on what specific safety concern motivated the ban on shared rides. Lyft firmly believes, however, that any concerns the Commission may have regarding the safety of shared rides are effectively addressed by existing DMV and Commission pilot program requirements without a ban on shared rides.

DMV regulations currently require that for any testing of a driverless autonomous vehicle, the manufacturer must certify that the AV will "allow two-way communication between the remote operator and any passengers" and that the manufacturer will "continuously monitor the status of the vehicle and the two-way communication link while the autonomous test vehicle is being operated without a driver." Cal. Code Regs., tit. 13, § 227.38. The current Driverless AV Service pilot program rules require compliance with these DMV regulations. <sup>14</sup> Because every AV used in the pilot must include a two-way communication link, any company conducting AV testing of shared rides can promptly address any passenger-related complaints, including remotely stopping the vehicle if requested or taking whatever other appropriate measures a human driver could undertake if requested to do so. So long as an AV used in a Driverless AV Service pilot test ride supports instantaneous communication with a remote AV operator, shared rides in an AV are

<sup>&</sup>lt;sup>12</sup> As the Commission noted in D.18-05-043, DMV regulations currently prohibit testing of AVs on public roads "[w]hen members of the public are charged a fee." Cal. Code Regs., tit. 13, § 227.26. However, as the Commission also explained, "[t]he 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." D.18-05-043, p. 22. Given its exclusive jurisdiction, the Commission has the authority to regulate and authorize the collection of fares in AV testing as to for-hire passenger carriage in California.

D.18-05-43, p. 23 (all page references to D.18-05-043 are to the Westlaw version at 2018 WL 2981597).
 The AV Service Pilot Program requirements include an obligation to record communications with any passengers.
 D.18-05-043, Ordering Para. 7.

not materially different from standard shared rides, which have proven to be enormously popular with Lyft users.

As the Commission well knows, TNCs have offered shared ride services, such as Lyft Shared and Uberpool, in the California market for some time. Shared rides have achieved broad market acceptance with TNC users, who have been demonstrated that they are comfortable sharing a ride with others going the same direction, with appropriate safety guidelines in place. There is no reason to believe that the same will not prove to be true for AVs. In this regard, it is important to note that members of the public routinely utilize public transportation and frequently find themselves riding in the same car as one or more unknown individuals without a driver being present; for example, on a Muni bus or train, a BART train, an Amtrak or Caltrain train, VTA transit, rental car shuttles, etc. In fact, many of the real world autonomous deployments have involved shared rides without a driver present. For example, the EasyMile deployment in Contra Costa County at the Bishop Ranch Office Park, 15 the University of Michigan Pilot with Navya, 16 and multiple European deployments (e.g., CityMile2, 17 PostBus 18). Consumers should have the choice to share rides in AVs, just as in other rides.

Importantly, the ban on testing of shared rides in the pilot programs will delay the adoption of AVs for offering shared rides in California, thus undermining the key Commission objective of maximizing the environmental benefits of AV technology. Pursuant to the Clean Miles Standard and Incentive Program, the Commission has been directed, in conjunction with the California Air Resources Board, to develop and implement new requirements to encourage TNCs to find innovative ways to reduce greenhouse gas emissions as new mobility options grow. <sup>19</sup> One of the most effective and innovative ways that TNCs can reduce congestion, energy consumption, and greenhouse gas emissions is by harnessing TNC technology for shared rides, employing smart routing algorithms and other techniques to group riders taking similar trips and thereby reduce overall Vehicle Miles Traveled ("VMT"). This approach is no less important for AVs than traditional rides. Indeed, because the proliferation of AVs is likely to open up new mobility options for a wide range of individuals who might otherwise have been mobility-challenged —

<sup>15</sup> https://www.eastbaytimes.com/2017/03/06/san-ramon-driverless-shuttles-make-their-debut

https://mcity.umich.edu/driverless-shuttle-service-coming-u-ms-north-campus/

http://www.citymobil2.eu/en/

https://bestmile.com/case-study-postbus

https://ww2.arb.ca.gov/our-work/programs/clean-miles-standard

leading to a short-run increase in VMT — developing policies designed to encourage the use of AVs for shared rides in California will be essential to achieving the state's climate and congestion goals.<sup>20</sup> Shared rides also help providers reduce costs, and fares, enhancing service equity and access.

Optimizing deployment of AVs for shared rides is an extremely complex undertaking that involves not only the refinement of optimal routing methods, but understanding consumer preferences and behavioral patterns. This optimization will require a tremendous amount of real-world testing to achieve. The ban on testing of shared rides in the Driverless AV Service pilot program prevents companies from studying these issues or optimizing solutions. As a result, the ban will inevitably have the effect of delaying the adoption of AV technology for shared rides and thus the use of that technology to reduce single-occupancy trips, traffic congestion, and greenhouse gas emissions. These negative impacts can and should be avoided. The Commission should eliminate the ban on testing of shared rides in the Driverless AV Service pilot.

## C. The Commission Should Modify the Data Reporting Requirements in the AV Pilot Programs

In D.18-05-43, the Commission imposed various data reporting requirements for participants in the AV Service Pilot Programs. Those requirements include:

- Transmit simultaneously to the Commission all collision reports required by DMV regulations.
- Transmit to the Commission public versions of the annual Autonomous Vehicle disengagement reports required by DMV regulations.
- Submit to the Commission quarterly reports of anonymized data about the operation of their vehicles providing Driverless AV Passenger Service, including
  - Total quarterly vehicle miles traveled during passenger service by all vehicles in the entity's list of AV equipment, provided per-vehicle,

<sup>&</sup>lt;sup>20</sup> See, e.g., Toward A Shared Future: Strategies To Manage Travel Demand, Assn of Bay Area Governments and Metropolitan Transportation Commission, at. Appendix A, p. 8 ("As automobiles transition to connected and autonomous vehicles, pricing and incentives to increase pooling will be critical to preventing a significant increase in congestion."); Preparing Communities For Autonomous Vehicles, American Planning Assn, 2018, at <a href="https://planning-org-uploaded-media.s3.amazonaws.com/document/Autonomous-Vehicles-Symposium-Report.pdf">https://planning-org-uploaded-media.s3.amazonaws.com/document/Autonomous-Vehicles-Symposium-Report.pdf</a>, p. 30 ("[T]he extent to which the AV fleet consists of shared-use versus privately owned vehicles is likely the factor that will have the most impact on environmental and other community costs and benefits of AVs.").

- 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,
- O 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

Certain of the data reporting requirements imposed by D.18-05-43 should be modified or eliminated. First, the requirement to report to the Commission all of the foregoing data elements on a quarterly basis is unnecessarily burdensome. D.18-05-43 requires participants in the AV Pilot Programs to simultaneously submit to the Commission annual reports required by DMV regulations, while also imposing a slew of Commission-specific reporting requirements, to be submitted on a quarterly basis. The decision thus establishes two sets of reporting requirements on very different timetables, resulting in unwieldy and unnecessarily complex, competing regulatory requirements. Lyft is not aware of any compelling reason why the reports submitted to the Commission cannot, like the DMV reports, be submitted on an annual basis. In the absence of any compelling justification, Lyft respectfully requests that the data reporting requirement in the AV Pilot programs be modified from quarterly to annual, on the same schedule as the DMV reports.

<sup>&</sup>lt;sup>21</sup> See Cal. Code Regs., tit. 13, § 227.50; https://www.dmv.ca.gov/portal/wcm/connect/0b712ccd-1e7e-41eb-84fc-f16af0ce6265/ol311r.pdf?MOD=AJPERES&CVID=. Under DMV regulations, collision reports must be reported within 10 days of a collision. Cal. Code Regs., tit. 13, § 227.48

D.18-05-043 also requires participants to report the 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). Although this metric might generate meaningful data from standard TNC service, it will not generate any meaningful data in the context of the AV pilot programs, as there are myriad reasons why an AV utilized in a pilot test program might be inactive between rides for reasons which are unique to the testing environment and which convey nothing meaningful about how the AV service will perform when fully deployed (e.g., downloading mission data from a vehicle or pausing the pilot to modify the testing parameters). The decision thus imposes a burdensome reporting requirement that serves no useful purposes in this context and may provide misleading information about future AV service that could delay consumer acceptance and adoption. Notably, because this metric generates no useful data in a testing context, there is no negative environmental impact from eliminating the requirement. The requirement to report dwell time in the Pilot programs should be removed.

Lastly, D.18-05-043 requires participants to report various metrics regarding accessible ride requests. In view of the ongoing rulemaking to implement SB 1376 and the data reporting requirements imposed therein, these requirements are duplicative and serve no further purpose in this context. The requirements relating to accessible vehicle requests in the AV Service Pilot programs can be eliminated without any detrimental impact to the Commission's regulatory goals.

#### D. D.18-05-043 Should Be Modified to Exclude Demonstration and Other Non-Transportation Rides

In D.18-05-043, the Commission stated that ... "[h]istorically, 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.... 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." D.18-05-043, p. 23. As a general matter, Lyft understands the Commission's concern that the AV Pilot Programs should cover trips for which no fares are collected. Lyft believes, however, that certain rides provided for demonstration or other non-transportation purposes, are adequately regulated by DMV rules and should not be deemed to

be "for compensation." Demonstration and other rides provided for reasons other than transportation should be excluded from the Commission's Pilot programs.

- 1.1.2. At a minimum, comment specifically on the following potential changes to the requirements established by D.18-05-043:
- Authorizing fare collection for the drivered AV passenger service but not driverless AV passenger service;
- Authorizing fare collection for both drivered and driverless AV passenger service;
- · Authorizing shared rides for driverless AVs; and
- Requiring pilot participants to submit detailed data regarding their operations, such as the specific locations at which trips begin and end.

As explained above, Lyft urges the Commission to allow fare collection and shared rides in both the Drivered AV Service and the Driverless AV Service Pilots. Lyft is not aware of any valid regulatory purpose for authorizing fare collection for drivered but not driverless service. Enforcement of the prohibition will have all of the same detrimental impacts identified above as to both forms of service. Furthermore, companies testing driverless service have an equal need to evaluate payment aspects of driverless service as with drivered service. The same is true as to shared rides. Allowing testing of both drivered and driverless testing will allow for more rapid collection of data and ultimately deployment. Both fare collection and shared rides should be authorized for both pilot programs.

The Commission should not add to the already unnecessarily burdensome data reporting requirements in the AV Pilot Programs, and should instead, as explained above, modify or eliminate certain unnecessary or duplicative requirements. More particularly, the Commission definitely should *not* impose a requirement to identify the specific locations at which trips begin and end. Whether in a pilot program or standard TNC service, submission of specific pick-up and drop-off locations would impinge on the privacy of passengers and expose such data to potential misuse.

- 1.2. What information should the Commission use to inform any changes to the requirements governing AV testing established by D.18-05-043? At minimum, please comment specifically on:
  - 1.2.1. The number of entities participating in the Commission's AV pilot programs;
  - 1.2.2. The content and volume of quarterly pilot data reports:

- 1.2.3. The safety assurances provided by the current requirements to obtain a permit to participate in the CPUC's AV pilots;
- 1.2.4. AV activities outside of California, both within the United States and internationally;
- 1.2.5. AV regulatory frameworks outside of California, both within the United States and internationally; and,
- 1.2.6. Academic studies.

As explained above, California regulations for testing AV passenger service are substantially more restrictive than those of other states, creating significant disincentives to conducting testing in California. In developing a permanent framework for regulating AV passenger service, the Commission should strive to regulate only those aspects necessary to ensure consumer safety or consumer protection. With the elimination of a few of the most burdensome provisions, outlined above, the Commission will go a long way toward restoring California's position as a leader bringing this life-saving technology to the market.

Dated:	January	21.	2020
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Lyft, Inc.

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