



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

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

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

**COMMENTS OF AURORA INNOVATION, INC. TO THE ADMINISTRATIVE LAW JUDGE'S RULING  
ORDERING PARTIES TO COMMENT ON QUESTIONS 2 - 8 REGARDING THE COMMISSION'S  
REGULATION OF AUTONOMOUS VEHICLES**

**I. INTRODUCTION**

In accordance with Rule 6.2 of the California Public Utilities Commission ("Commission") Rules of Practice and Procedure ("Rules"), Aurora Innovation, Inc. ("Aurora") submits these comments to questions two through eight of the Administrative Law Judge's Ruling Ordering Parties to Comment on Questions Regarding the Commission's Regulation of Autonomous Vehicles ("AVs") in the Order Instituting Rulemaking 12-12-011 ("Rulemaking").

**II. BACKGROUND ON AURORA**

Aurora is an AV technology company that is dual-headquartered in Palo Alto, California and Pittsburgh, Pennsylvania, with additional offices in San Francisco, California and Bozeman, Montana. Our mission is to deliver the benefits of self-driving technology safely, quickly, and broadly. We are focused on building the Aurora Driver, a platform that combines hardware (including cameras, radar, and lasers), software, and data services, allowing vehicles to move people and goods safely through the world without a human driver. The Aurora Driver will enable a transportation ecosystem, bringing together automakers, logistics services, mobility services, and fleet management providers to deliver the benefits of this technology broadly. Aurora architected the Aurora Driver to pilot vehicles

of all sizes, from small cars to large trucks, and to operate on both ride-sharing and logistics (delivery) service networks.

Safety is Aurora's first priority and primary motivation for developing the Aurora Driver. We put safety top of mind with everything that we do, including in our development and decision-making processes. Aurora partners closely with regulators, community groups, and other industry players to prepare our communities for this transformative moment as the industry collectively brings self-driving vehicles to our roads. In fact, Aurora recently became the fifth participating member of the Charter Party Carrier of Passengers ("TCP") Driver AV Passenger Service Pilot Program ("Pilot Program"), pursuant to Decision Authorizing a Pilot Test Program for Autonomous Vehicle Passenger Service (Decision 18-05-043)<sup>1</sup> and General Order 157-E. As a company with a strong California presence, Aurora is excited about collaborating with the Commission in this Pilot Program to bring the promise of AV technology, safely, quickly, and broadly to California.

### **III. COMMENTS**

Aurora appreciates the opportunity to comment on questions two through eight of the ALJ's Ruling Order Parties to Comment on Questions Regarding the Commission's Regulation of AVs. First, however, Aurora notes that many of the goals-related questions are of a more systematic and far-reaching policy nature concerning passenger service as a whole when compared to the issues posed in question one. While the broad policy questions presented by AVs by questions two through eight — including with respect to equity and environmental justice, city operations and planning, social impacts, and environmental impacts — are clearly important to the long term development of the AV passenger service industry, we believe that it would be premature for the Commission to attempt to answer all of these questions now. Attempts to do so, absent the additional information that will be discernible from the commercialization of AV passenger service, will stifle innovation in the industry and delay the industry, and Aurora in particular, from delivering the benefits of self-driving technology safely, quickly, and broadly.

Moreover, the Commission should focus on finalizing updates to its Pilot Program, so that it can then use the learnings and additional information obtained from these real-life commercialized services to better inform the important policy questions posed in questions two through eight. In fact, Aurora believes that finalizing any requirements related to these goals before receiving such information would be based on mere conjecture and belief, rather than confirmed data.

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<sup>1</sup> 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 (D. 18-05-043).

Aurora thus urges the Commission to remain focused on the practical issues raised in question one with respect to establishing a path to commercialization for AV passenger service, including whether to allow fare collection and shared rides. Determining how to best approach the issues in questions two through eight, which do not present novel issues specific to AV passenger service but rather are also being considering in reference to the Commission’s rulemaking on general passenger service carriers, should not hold back the Commission from either determining that commercialized AV passengers services can be safely operated within California or providing a path for AV companies to do so.

As a final general note, Aurora would like to note that underpinning all of its comments is the intention that the Commission should not treat the AV industry differently from other passenger carriers. The Commission should avoid burdening AV passenger carrier services with new policy goals and substantive requirements that apply to the transportation as a whole solely because our autonomous driver is new and different, without any basis in ensuring passenger safety in such services. Broadly applicable requirements for AV passenger carriers that deviate from traditional charter party carrier requirements should be justifiable as necessary for passenger safety in the AV context. Doing otherwise creates an uneven playing field for the deployment of AVs as compared to traditional vehicles, potentially slowing deployment of this crucial life-saving technology.

**A. Goals-Related Questions.**

**i. Safety Goals.**

Aurora puts safety at the forefront of everything it does, from the people that we hire to our development and decision-making process, and so we appreciate the Commission’s commitment to ensuring safety in California AV passenger carrier services. The Commission is considering its rules at the same time as other California and national regulatory bodies are also either implementing or considering safety regulation. Given that there will be overlapping jurisdiction on these rules, Aurora encourages the Commission to take these other state and national regulatory safety frameworks into account before drafting entirely new rules regarding this industry. In particular, the Commission should not duplicate existing rules promulgated by the California Department of Motor Vehicles (“DMV”) regarding the general safe operation of AVs on California roads, nor should it anticipate rules regarding the design, construction, and performance of vehicles by the National Highway Traffic Safety Administration (“NHTSA”). If the Commission were to expand its domain to regulate the general testing and operation of AVs on California roads, or the design, construction, and performance of AVs, it would create an unnavigable patchwork of conflicting rules and regulations for AV companies in California. Accordingly, Aurora urges the Commission to focus solely on

developing policies and rules related to its core authority: the safety of passengers as consumers of transportation services.

## **ii. Accessibility.**

In question two, the Commission asks parties to address how it should consider accessibility issues in AV passenger service. Aurora is grateful for the Commission's leadership in this area. As noted above, the Company's goal is to deliver the benefits of self-driving technology safely, quickly, and broadly. Over 25 million people in the U.S. live with a disability that makes traveling outside the home difficult. Solving accessibility issues will be central to our goal of broadly delivering the benefits of the technology. Aurora strongly believes that self-driving technology has the potential to transform how diverse communities access transportation. As such, as we bring self-driving vehicles to our roads, Aurora is partnering individually and through industry education groups, such as Partners for Automated Vehicle Education ("PAVE"), with accessibility groups like the National Federation for the Blind to prepare our communities for this transformative moment.

However, self-driving technology is still developing. Autonomous vehicles present a new transportation option that can greatly reduce transportation barriers for the people with disabilities, whether those are hearing, vision, cognitive, mobility, self-care, or independent living difficulties. During this initial phase of industry maturation, AV companies must have the leeway to determine *first* how any service may generally operate, and *then* how best to reduce the unique transportation obstacles facing each of the different communities with disabilities. The Commission preemptively regulating accessibility in a narrow manner will serve only to stifle innovation, preventing companies from considering how autonomous technology can best address distinctive hurdles of these groups. Aurora thus urges the Commission to continue encouraging the AV industry to consider accessibility in its passenger services without prematurely prescribing particular accessibility requirements within those services.

## **B. Data-Related Questions**

The Commission asked the parties to address data-related issues, particularly with respect to confidentiality, in question three. Aurora believes that the Commission, first, should be wary of encumbering this nascent industry with extensive data requests. Any requirements to submit data should be directly grounded in real, proven policy goals. The Commission should not merely be requesting data as a fishing expedition to learning more about the industry in general, but rather should be tailoring — in type, quantity, method of providing, and schedule — its requests to provide the Commission with the data it needs to meet its goals.

Second, the Commission should ensure that any confidential business information and any data that present privacy or cyber-security concerns that are reported to the Commission will not be broadly released to the public, but remain confidential. As we have previously stated in our comments to question one, Aurora believes that requiring the submission of detailed trip or operation data has the potential to subject passengers using our services to an invasion of their privacy through the exposure of their personal information. Even where trip data is aggregated and anonymized, it may be possible to track individual users in their daily lives. Aurora believes that individuals who learn that their movements will be tracked and reported to the Commission will be deterred from using AV passenger carrier services, in turn burdening an emerging industry.

Similarly, at the outset of any autonomous passenger service, the operational details of a company's passenger service will be highly confidential business information, the specifics of which will not be known outside of the company because it would be highly valuable competitive information. For example, such confidential information may include the number of drivers and vehicles a company has, or how and where the company deploys its vehicles within an operational design domain ("ODD"). AV companies would be materially and adversely affected by such confidential information being disclosed to the public as a matter of course. Aurora, and other AV companies like Aurora, would be less likely to choose to develop a California passenger service if they believed that the Commission would widely disclose extensive confidential operating information to the public while the company was still developing its business. Thus the Commission should ensure that companies are able to protect proprietary business information from being disclosed publicly.

Finally, as previously stated in response to question one, Aurora does not support the sharing of operational data submitted to the Commission with other interested government entities. AV passenger service companies should not be forced to share the proprietary commercial information required to be submitted to the Commission with other unrelated regulatory agencies as a side-effect of commercializing their services. Data reporting requirements should be tailored to meet the Commission's specific regulatory goals. The Commission should not use the submission of this data for purposes unconnected with those policy objections, including unrelated research by other interested governmental entities.

### **C. Definition-Related, Driver-Related, Vehicle Questions**

Aurora believes that, whenever possible, the Commission should adopt by reference autonomous definitions or requirements that already exist in California regulations. Doing so will avoid confusion across agencies with concurrent jurisdictions, such as the DMV.

For example, in reference to question four regarding definitions, the DMV has already defined these terms, and the Commission would be unnecessarily and confusingly duplicating efforts by developing its own definitions. “Autonomous vehicle” is defined in DMV regulations to mean

“any vehicle equipped with technology that is a combination of both hardware and software that has the capability of performing the dynamic driving task without the active physical control or monitoring of a natural person, excluding vehicles equipped with one or more systems that enhance safety or provide driver assistance but are not capable of driving or operating the vehicle without the active physical control or monitoring of a human. For the purposes of this article an “autonomous vehicle” meets the definition of levels 3, 4, or 5 of the SAE International’s Taxonomy and Definitions for Terms Related to Driving Automation Systems for On-Road Motor Vehicles, Standard J3016 (SEP2016), which is hereby incorporated by reference.”<sup>2</sup>

Similarly, DMV defines “remote operator” 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>3</sup>

The DMV also has established rules on point for the driver-related and vehicle-related questions<sup>4</sup> that ensure the safety of AV operation on public roads. Considering that all self-driving car companies must first comply with DMV regulations in order to test and deploy in California, regardless of whether they eventually also operate a passenger service, the Commission should adopt these existing definitions and any related substantive requirements to avoid unnecessary confusion.

#### **D. Permit-Related Questions**

##### **i. New category “Autonomous Vehicle Carrier” for driverless**

With respect to the permit-related issues raised in question five, Aurora believes that the Commission should avoid creating an entirely new regulatory category, such as Autonomous Vehicle Carrier, to authorize individuals to provide prearranged passenger transportation service using AVs

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<sup>2</sup> 13 CCR § 228.02(b).

<sup>3</sup> 13 CCR § 227.02(n).

<sup>4</sup> See 13 CCR § 228.04 for insurance coverage requirements.

operated with or without a driver in the vehicle. On the contrary, the existing TCP framework can be modified in order to account for both drivered and driverless AV passenger service, such as by allowing companies to disregard requirements related to physical drivers, modifying existing TCP inspection requirements, or by piggybacking on DMV requirements related to passenger communications links in driverless AVs. In the same vein, Aurora also urges the Commission to refrain from prohibiting or imposing any requirements on prearranged passenger transportation service to, from, or within airports using AVs operated without a driver in the vehicle, which are not equally applied to non-AV passenger service vehicles.

## **ii. Modification of D.13-09-045**

Finally, Aurora also supports the Commission modifying the Decision Adopting Rules and Regulations to Protect Public Safety While Allowing New Entrants to the Transportation Industry (“D. 13-09-045”) to either allow TNCs to own AVs or allow AVs leased or rented by TNCs partnering entities on their online-enabled applications or platforms. Many AV companies have not yet determined how they will eventually commercialize their AVs in the passenger service context, but should not be proscribed from commercializing in a manner due to arbitrary regulatory definitions. Indeed, Aurora plans to partner closely with vehicle manufacturers, transportation networks, fleet management companies, and regional and local governments. We will do what we do best — build state-of-the-art self-driving technology — as our partners do what they do best . By working together, we are building a more scalable platform than any one of us could do alone.

Aurora can think of no coherent reason to justify the Commission prohibiting TNCs from owning or leasing AVs, or partnering with companies that AV companies to put those vehicles on within their passenger service fleets. This is particularly important for autonomous vehicle technology companies like Aurora, which do not plan to develop their own service. Indeed, Aurora is a fiercely independent company that is focusing on building the autonomous technology that will enable vehicles to move people and property through the world. Although Aurora is currently a participant in the Pilot Program, there may come a time when Aurora provides the Aurora Driver to another company permitted as a TCP or TNC. Our choice to operate our own carrier service or partner with another company will not affect the safety of our passengers in any way. As such, the Commission should avoid prematurely or arbitrarily shaping Aurora’s ability to determine how best to deliver the benefits of self-driving safely, quickly, and broadly.

Moreover, a number of TNCs are also AV companies. The Commission should not be in the business of saying what kind of business model a company can pursue, whether that is through a

purely AV company partnering with existing TNCs or a company pursuing multiple business lines at the same time, including both AV-development and the creation of a passenger service.

### **E. Passenger-Safety Related Questions**

To reiterate Aurora's comments outlined above regarding general safety goals in respect to the specific passenger safety related questions raised in question six, the Commission should focus its regulatory efforts on ensuring passenger, rather than either vehicle safety or the safety of the testing or deployment of vehicles on public roads. These areas are already regulated by other state and national regulatory bodies (DMV and NHTSA, respectively). The Commission should avoid duplicating existing regulatory requirements that create a patchwork of overlapping rules. As an example, to deploy on public roads in CA, which is separate and distinct from any eventual Commission requirements to commercialize, companies must obtain a deployment permit from the DMV. To obtain the permit, a company must certify the vehicle is safe to deploy on public roads, meet insurance minimums, provide training for remote drivers and safety drivers, outline the ODD, create of a Law Enforcement Interaction Plan, all of which is aimed at keeping passengers safe in that commercial context.

To the extent that these requirements are already met by CA DMV requirements, the Commission should not duplicate their efforts. Thus, when question six asks whether the Commission should separately require information about how to contact the passenger service company or to have a two-way communication link, the Commission should adopt the applicable DMV regulations. Indeed the DMV autonomous deployment regulations specifically require both the existence of a communication link between the vehicle and remote operator and a plan for how to deal with law enforcement and other exigencies in the event of a collision. More specifically, the regulations require

“(1) A communication link between the vehicle and the remote operator, if any, to provide information on the vehicle's location and status and allow two-way communication between the remote operator and any passengers, if applicable, should the vehicle experience any failures that would endanger the safety of the vehicle's passengers or other road users while operating without a driver.

(2) The ability to display or transfer vehicle owner or operator information as specified in Vehicle Code section 16025 in the event that the vehicle is involved in a crash, collision, or accident or if there is a need to provide that information to a law enforcement officer for any reason.”<sup>5</sup>

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<sup>5</sup> 13 CCR § 228.06(b)(1)-(2).



In such cases, the Commission need not duplicate the DMV's efforts by drafting its own competing rules. Not only are these requirements sufficient to ensure passenger safety on their own, but if the Commission were to promulgate its own versions of the same regulations, it could create a confusing patchwork of conflicting, but nonetheless applicable rules. Aurora thus urges the Commission to look to DMV regulations or NHTSA or guidance wherever possible to inform its rulemaking.

#### **IV. CONCLUSION**

Aurora appreciates the opportunity to submit these comments, and looks forward to continuing to collaborate with the Commission regarding AV passenger service commercialization.

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Respectfully submitted on this 10th day of February, 2020.

/s/ Charity Allen  
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