

**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 GM CRUISE, LLC ON THE ADMINISTRATIVE LAW
JUDGE'S RULING ORDERING PARTIES TO COMMENT ON
QUESTIONS REGARDING THE COMMISSION'S REGULATION OF
AUTONOMOUS VEHICLES**

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AUTONOMOUS VEHICLES**

Pursuant to the *Administrative Law Judge’s Ruling Ordering Parties to Comment on Questions Regarding the Commission’s Regulation of Autonomous Vehicles*, GM Cruise, LLC (“Cruise”) submits the following comments. These comments are timely filed pursuant to the extension of time granted by email ruling of Administrative Law Judge Robert Mason on January 9, 2020.

I. INTRODUCTION

Cruise appreciates this opportunity to comment on the Assigned Commissioner Ruling and to address critical issues involving fares, shared rides, and privacy, among others. Cruise urges the California Public Utilities Commission (“Commission”) to revisit and modify certain requirements to promote the nascent autonomous vehicle (“AV”) industry in California and empower passengers to safely participate in AV innovation. The proposed modifications will support California’s ambitious environmental and climate goals, and cement California as a global leader in AV technology and privacy protection.

Specifically, Cruise proposes that the Commission prioritize action on the following:

Fares: Fares are critical to a productive and passenger-focused pilot approach. Allowing compensation for rides in the Commission’s drivered and driverless pilots will spur positive outcomes for passengers, ensure realistic feedback, align with trends in other state pilot

programs, and advance the Commission's efforts to promote a sustainable and accessible permanent program.

Shared Rides: Shared rides are a valuable opportunity for the Commission's proposed pilot. Shared rides have the potential to reduce congestion, increase occupancy, significantly boost affordability for passengers, and reduce greenhouse gas emissions.

Privacy: Granular data sharing requirements not only compromise passenger privacy but also run counter to California's public policy leadership in consumer privacy protection, efforts to incentivize people toward zero-emission vehicles, and efforts to move people beyond single car ownership and usage. Trip location data is sensitive personal information that must be zealously guarded, and the Commission should be wary of proposals that weaken consumer protections. Indeed, privacy should be a foundational design principle for the Commission's regulatory activities and the AV industry at large. Disaggregated data retains substantial risk of de-anonymization and re-identification and is subject to serious unauthorized access risks. Detailed data sharing requirements would overly burden the nascent AV industry and not advance the Commission's regulatory interests.

Cruise further submits comments on other topics as requested by the Commission, noting that requirements related to a physical driver in the vehicle should be removed, vehicle labeling via trade dress is appropriate, quarterly data reporting frequency is adequate, and current safety assurances are sufficient, among others.

Cruise looks forward to continuing its cooperation with the Commission to establish regulatory certainty for the AV industry. Cruise's vision is to safely connect people with the places, things, and experiences they care about through AV technology. The Commission here has an opportunity to clear the path for a global transportation transformation—led by California—that can save lives, reduce environmental harm, promote sustainability and accessibility, and ensure fundamental privacy rights.

II. DISCUSSION

1. **The Commission should incorporate fare collection into the pilot program and lift its prohibition on charging fares.**

Fares are a critical component of any pilot program. By using a true test market—with fares—Cruise and other emerging AV companies will be able to understand how users experience, and value, new services and unfamiliar technology. Fared services empower consumers to take part in the piloting and program development process as well. Given that California’s Department of Motor Vehicles (“DMV”) prevents companies with *test* permits from charging fares, there is no need for the Commission to additionally prohibit fares for companies that hold a DMV deployment permit. Consequently, Cruise urges the Commission to authorize fare collection for both drivered and driverless AV passenger service.

A. Fare collection does not impact safety standards, which are a threshold prerequisite for AV technologies.

Safety is necessarily a threshold issue for AV pilot participants. It is also the core value for Cruise. Allowing fare collection will not change that fact, and there is no evidence in the Commission record, or elsewhere, that allowing fare collection compromises safety. Per Cruise’s survey, no federal, state, or local investigation or report listed charging a fare as a contributory cause (direct or indirect) of any incident in any location permitting fare collection. Autonomous vehicles meet safety standards, or they do not, regardless of whether a passenger pays for the service.

The AV industry has the benefit of having many safety regulatory frameworks by which to model its commitment to safe performance in passenger service. The United States has developed an extensive regulatory regime governing vehicle safety and the performance of vehicle safety systems. Consumers are protected by thorough safeguards that review motor vehicle designs and development. For more than 50 years, the federal Department of Transportation (“DOT”), through the National Highway Traffic Safety Administration (“NHTSA”), has created and enforced motor vehicle safety standards designed to ensure that vehicle safety systems perform in a manner that protects passengers. This role and responsibility has proven effective through the development of countless new safety technologies. Cruise

maintains safety performance of AVs in passenger service by complying with a myriad of existing regulatory frameworks that are time tested and reliable.

Similar to NHTSA regulations to ensure vehicle and passenger safety, the California DMV has developed an extensive regulatory program for testing and deployment of AVs on California roads over the past six years. Given NHTSA's and the DMV's focus on passenger safety, additional fare prohibitions from the Commission are unnecessary. Under its framework, when the DMV issues a deployment permit, it does so on the condition that extensive on-road testing has occurred. Fares have no material effect on or role in the operational safety of AVs.

B. Fare collection is essential to receive critical consumer feedback and build market-ready AV services that meet consumer expectations.

Price discovery is integral to assessing the value consumers place on a product. Only a fare-collecting pilot can meaningfully chart a path towards a full-scale, fare-collecting service that meets consumer expectations. It is counterintuitive to expect customers will provide *more* critical feedback for something that is free.¹ The opposite is more likely to occur. When consumers buy services, they invest in a desired result—with payment comes expectation. Paying buyers are naturally more critical of paid services and therefore more likely to provide feedback about their experiences. When people try a free product, they may be motivated by curiosity and are less likely to expect to have all their needs met. With free services, consumers tend to have lower standards and place less value on the trial service (i.e., you get what you pay for). This mutes critical feedback.² Pilot programs exist, in part, to mold a service to be responsive to consumer needs by allowing consumers to test-drive the product. A test-drive, without fares, does not simulate true market conditions.

¹ The Commission concludes, in the Decision, “By prohibiting fares during the pilot period, the public will have an opportunity to avail themselves of AVs on a pilot basis but will not pay fares as they would in a permanent program. This element differentiates the pilot from any final program we accept. The free rides will identify the pilot program as different from ordinary transportation and, therefore, will encourage the public to be more mindful of their experiences and provide critical feedback to the Commission and the permit-holders.” Decision at 21.

² See e.g., Datta et al., *The Challenge of Retaining Customers Acquired with Free Trials*, Journal of Marketing Research (2014) [10.1509/jmr.12.0160](https://doi.org/10.1509/jmr.12.0160).

Further, removing the bar on charging fares will encourage more AV rides with members of the public through more robust industry participation. Companies are more likely to see value in participation if they can track consumer behavior and reactions to a paid AV service. To receive meaningful feedback from industry and the public on AV services, the Commission should allow such services to operate as they normally would, commercially, at scale. Allowing for fared service will create greater incentives for industry to participate and, as a result, create a more real-world pilot with meaningful takeaways for regulators, AV industry participants, and passengers. Operational data collected from a fare-enabled pilot would be more salient, enabling the Commission to better analyze pilot program dynamics.

The piloting of a service is meant to enable the understanding of consumer expectations and assess the service's market value. AV technology is unique in that the average consumer does not know how it functions. AV testers must work towards building customer loyalty in this unfamiliar technology. Charging a fare is an essential part of this process. Cruise seeks to understand consumer expectations with regard to valuing a never before experienced service. And by understanding how consumers respond to certain price signals, Cruise can develop a successful business model in California - one that can encourage shared rides in zero emission vehicles.

C. Nationwide regulatory action trends towards allowing fares in AV technology pilots.

This proceeding presents an opportunity for California to maintain nationwide leadership in light of trends towards fared pilots in other states. In Nevada, for instance, companies may apply for permits authorizing them to connect passengers to a fully autonomous vehicle for transportation services.³ With a valid permit, companies can then charge fares for their transportation services.⁴ Additionally, the governor of Arizona issued an executive order permitting companies to test or operate fully autonomous vehicles on public roads upon a formal written statement with designated conditions—none of which prohibit charging fares.⁵ Florida,

³ NRS 706B.110.

⁴ NRS 706B.160.

⁵ AZ Exec. Order No. 2018-04, Advancing Autonomous Vehicle Testing and Operating; Prioritizing Public Safety, March 1, 2018.

Texas and Georgia also all affirmatively allow for commercial operation of AVs.⁶ On the other hand, Cruise has not found a single instance in which American regulators outside of California have *required* an AV company conduct a free pilot program before running a paid pilot program. Such a requirement is contrary to the purpose of a pilot program: to assess whether a service is suitable for broader market deployment.

D. Fares should be allowed for all services—drivered and driverless.

The Commission should authorize fare collection for both drivered and driverless AV passenger service. The ability to charge fares is critical to achieving that vision, laying the groundwork for a safe and effective permanent program. To determine how best to meet the public’s needs, Cruise and other participants need the flexibility to gather information from both drivered and driverless AV services. Every participant in the current drivered pilot program desires to launch a driverless AV service in California. Both forms of AV passenger services should be subject to fares, as critical data is needed from both. DMV regulations require a rigorous process to receive test and deployment permits regardless of whether there is a driver present or not.⁷ Companies like Cruise validate their commitment to safety through the multi-step permit processes for all AV services—drivered and driverless. Consumers participating in fare-collecting pilot programs are protected by the same safety mechanisms.

E. Fare-driven business model innovation will enable Cruise to promote sustainability and accessibility.

AVs can significantly help reduce transportation related greenhouse gas emissions and support California’s ambitious decarbonization goals. Cruise’s long held commitment to an all-electric fleet, increases the public’s exposure to electric vehicles (“EVs”) by removing barriers around access and infrastructure challenges, while providing attendant environmental benefits. In the long run, reduced service costs—driven by fare optimization and shared rides—will facilitate greater access to AVs and EVs, solidifying sustainable transportation options for consumers that might otherwise never own an EV themselves.

⁶ Florida Statutes § 316.85(4); Texas Trans. Code § 545; Georgia Code § 40-1-1.

⁷ See e.g., 13 CCR § 227.18 (authorizing testing and deployment of driverless vehicles) & 13 CCR § 228.06 (authorizing permits for deployment of autonomous vehicles).

Transportation constitutes 41% of California’s greenhouse gas emissions - the state’s largest source of emissions, with passenger vehicles alone responsible for 28% of the total.⁸ In order to support California’s environmental goals, replace single-occupant internal combustion vehicles, and greatly reduce transportation emissions, California needs commercial scale, fared deployment of electric, shared vehicles. Encouraging business models, like Cruise’s, can help California meet its climate objectives by expanding public access to electric miles and increasing the number of occupants in a single vehicle, thus reducing emissions for cleaner air in our cities. Further, large EV fleets controlled by one central entity, like Cruise, have the potential to support the State’s environmental goals by serving as energy storage resources - charging during times of excess grid power, and using that power to transport members of the public at later times.

Cruise seeks to focus on the needs of persons with disabilities by providing a transformative supplement to the current transportation system. Cornell University’s Yang-Tan Institute on Employment and Disability reports that as of 2017, there were 781,700 Californians with a visual disability.⁹ The development of self-driving technology and the business around it can create a more accessible transportation option for many. Cruise has prioritized working with experts in the field and the accessibility community to shape its thinking on access and accessibility. Cruise’s very first external user experience initiative focused on accessibility. Specifically, Cruise completed a two-part study in the summers of 2018 and 2019 to better understand the current transportation challenges facing the blind and low vision community, and how AV technology may present a solution.

The findings of the study led to a co-design session with partners and the examination of a variety of possible product solutions to better serve the needs of the blind and low vision community. Cruise is continuing to develop ways in which it can improve software and hardware designs to make AVs more accessible. This is the beginning of an ongoing partnership both with and beyond the visually impaired community. The Commission should empower companies like

⁸ California Air Resources Board, *California Greenhouse Gas Emissions from 2000 to 2018: Trends of Emissions and Other Indicators* (2019), https://ww3.arb.ca.gov/cc/inventory/pubs/reports/2000_2017/ghg_inventory_trends_00-17.pdf.

⁹ Erickson, Lee, & von Schrader, *2017 Disability Status Report: United States*, Cornell University Yang-Tan Institute on Employment and Disability (2019) <http://www.disabilitystatistics.org/>.

Cruise to continue, and accelerate, this work by removing regulatory barriers, such as prohibitions on fare collections, that impede AV commercialization.

2. The Commission should allow shared rides in driverless AVs.

Shared rides¹⁰ in AVs have the incredible potential to deliver safe transportation to the public while reducing congestion, increasing vehicle occupancy, decreasing harmful greenhouse gas emissions, and increasing affordability through pooled fares. In order to meet California’s ambitious decarbonization goals in the transportation sector Cruise believes that the entire transportation sector must begin to change. All electric, shared rides that are optimized for transportation and grid support have the potential to revolutionize transportation, reduce traffic congestion, and, thereby, vehicle emissions.¹¹ The testing of shared ride services in AVs should be a priority of the pilot program and should certainly not be discouraged.

The Commission, through this Rulemaking¹² and throughout the remainder of its work, actively designs and implements policies that “promote California’s environmental sustainability goals.”¹³ Shared ride technology and shared ride transportation solutions are vital to making inroads into the problems of single-occupancy vehicle trips, traffic congestion, and emissions that plague California’s urban areas. In order to properly advance shared ride technology and transportation solutions, the Commission should avoid restraining participants from properly understanding how to best implement AV technology for shared rides, as well as to optimize the shared ride experience for users.

A. Members of the public routinely share rides.

Cruise understands and shares the Commission’s important concern over safety in driverless AVs. However, a blanket ban on shared rides in driverless AVs is not necessary and

¹⁰ Cruise uses the term “shared rides” here to refer to “ride-sharing” or “fare-splitting,” as the Commission used this nomenclature in the Administrative Law Judge’s Ruling Ordering Parties to Comment on Questions Regarding the Commission’s Regulation of Autonomous Vehicles, December 19, 2019, at 2.

¹¹ As exemplified in SB350, among other legislation and policies.

¹² Rulemaking 12-12-011, on Regulations Relations to Passenger Carriers, Ridesharing, and New Online-Enabled Transportation Services, https://apps.cpuc.ca.gov/apex/f?p=401:56:0::NO:RP,57,RIR:P5_PROCEEDING_SELECT:R1212011.

¹³ California Public Utilities Commission, About the California Public Utilities Commission (the Commission): Our Values, <https://www.cpuc.ca.gov/aboutus/>.

counter to the development of AV technology.¹⁴ The public routinely utilizes transportation services in which people ride with other members of the public without a driver in the immediate space. In the Bay Area in particular, such examples can be found in MUNI trains, BART cars, San Francisco International Airport and Oakland International Airport monorail systems, and much more. Every day, thousands of people enter into strangers' cars at "casual carpools" throughout the Bay Area, in which drivers pick up passengers at designated locations in order to benefit from reduced commute time in high occupancy vehicle lanes.¹⁵

Further, driverless AV services around the world have already been launched in full shared ride applications, with great success. In New South Wales, senior citizens are sharing small autonomous, electric buses with other members of the public.¹⁶ In San Ramon, individuals share small autonomous buses with fellow commuters, without a driver.¹⁷ In Finland, Switzerland, Sweden, and France, driverless AVs are extremely successful, while allowing members of the public to share rides unaccompanied by drivers.¹⁸

B. Safety prerequisites underpin driverless AV design.

Authorizing shared rides in driverless AV passenger service would not detract from the same high standard of safety that guides the design and operation of all Cruise AVs. The Commission should avoid a prescriptive, blanket ban on shared rides in driverless AVs and, instead, request that pilot participants submit a general overview and plan of how the participant would address passenger safety in driverless rides.

Cruise has developed a number of important features crucial to passenger safety in driverless AVs. All driverless Cruise vehicles will contain a remote operator communication

¹⁴ The Decision states that, "In order to ensure public safety during the pilot program, fare-splitting is not allowed. The driverless AV must be chartered and used by a single party . . . This is to prevent two parties unknown to each other from sharing the chartered vehicle without a driver . . ." Decision at 38.

¹⁵ See, e.g., San Francisco Casual Carpool, <https://sfcasualcarpool.com/>.

¹⁶ See Derwin, *Meet BusBot, The Driverless Bus Being Trialled by the NSW Government That You Hail With Your Smartphone*, Business Insider (July 12, 2019), <https://www.businessinsider.com.au/meet-busbot-the-driverless-bus-being-trialled-by-the-nsw-government-that-you-hail-with-your-smartphone-2019-7>.

¹⁷ See *Driverless Shuttles Hit the Road in San Ramon*, California, CBS News (March 19, 2018), <https://www.cbsnews.com/news/california-driverless-buses-start-rolling-this-month-san-ramon/>.

¹⁸ See Zaleski, *The Future Is coming—At 11 mMiles Per Hour*, Curbed (April 17, 2019), <https://www.curbed.com/2019/4/17/18410988/autonomous-vehicle-local-motors-navya-may-mobility>.

link, as required by DMV regulations.¹⁹ All Cruise vehicles will also provide emergency customer support 24 hours a day, seven days a week, by linking passengers with operators specifically trained in situations requiring emergency assistance. In the event of an incident requiring emergency assistance, this emergency customer support feature will have the ability to transmit important information to first responders, such as a crash severity analysis, to better inform first responders of the situation before they arrive on the scene. Cruise's emergency customer supporter will also provide passengers emergency support access in the event of other unanticipated incidents in a vehicle. Further, in-app chatting functions will be available between passengers and customer support, allowing for more private communications in the event a passenger feels uncomfortable or at risk.

In addition, Cruise driverless AVs will be equipped with an "end ride" button, as well as non-emergency customer support functionality. Users will further be able to use the application to end the ride once they can reach a safe stopping location.

Cruise is currently working with a number of third-party groups around user experience research and is reaching out to additional third-party organizations focused on personal safety and violence prevention in order to best inform the design and operations of its driverless AVs. Cruise driverless AVs are already designed to include internal cabin video, as just one example of the emphasis on safety. Similar to our work on accessibility, we plan to rely on expert guidance to further shape our approach and thinking. All with the goal of designing and integrating unique products and features into our operations that focus on passenger safety.

Further, users of Cruise driverless AVs will not be anonymous. Users will be required to pre-register with Cruise, which will create greater accountability, while deterring users from improper conduct.²⁰ Penalties will importantly deter unsafe and improper behavior.

¹⁹ 13 CCR § 227.38.

²⁰ See "ORide: A Privacy-Preserving yet Accountable Ride-Hailing Service" at <https://www.usenix.org/system/files/conference/usenixsecurity17/sec17-pham.pdf>. The "accountability" provided by ride-hailing services such as Uber and Lyft is "a key feature for riders and drivers, as it make them feel safer." For example, "in case of a criminal investigation, the RHS provider can offer law-enforcement agencies with the location trace of a particular ride and the identities of the participants". The ridesharing service "accountability to deter misbehavior."

C. *Allowing shared rides during the pilot program will result in both (1) better services for users and (2) clear environmental benefits.*

Allowing shared rides during the pilot program is essential for the Commission and program participants to understand the positive traffic, environmental, and societal impacts of AV operations. Pilot shared rides will provide valuable insight into consumer demand and acceptance for pooled AV service.

As previously discussed, Cruise AVs have a number of positive environmental impacts, including greatly reduced emissions through an all-electric fleet. The environmental benefits of Cruise AVs can be further amplified when shared rides are considered—including expanding the reach of EVs, promoting the growth of charging infrastructure, decreasing the public’s carbon footprint through increased vehicle occupancy, and optimizing the number of vehicles on the road through central fleet management, unique to Cruise.

A 2018 study conducted by Université Paris-Est and École des Ponts ParisTech, simulated higher ridesharing by modeling 50% higher vehicle occupancy across a number of future transportation planning scenarios in the Paris metro area. Even after adjusting for induced demand from lower congestion and travel times, the study found that higher ridesharing could reduce morning rush hour road traffic anywhere from 23-24% and evening rush hour traffic from 22-29%, depending on modeled travel characteristics. The study also found that carbon dioxide emissions could be reduced from 18.4%-35.6% during the morning rush and 11%-28.9% during the evening rush, assuming continued use of gasoline-powered vehicles.²¹ Cruise AVs and electrified ridesharing could even further drastically improve these carbon dioxide reduction targets.

With respect to the potential impacts of electrifying AV rideshare services, a recent 2019 study from UC Davis found that an electric rideshare vehicle reduces carbon dioxide emissions by roughly 85 lbs. per day compared to a gasoline rideshare vehicle—nearly three times greater

²¹ See Coulombel et al., “Substantial rebound effects in urban ridesharing: Simulating travel decisions in Paris, France,” *Transportation Research* (December 6, 2018) https://www.researchgate.net/publication/329678938_Substantial_rebound_effects_in_urban_ridesharing_Simulating_travel_decisions_in_Paris_France.

than replacing a personally owned gasoline vehicle with an EV.²² The study was based on data from 1.4 million TNC rides in San Francisco, Los Angeles, and San Diego between 2016 and 2018, as well as from 12 million+ charging events at Level II and DCFC charging stations.

Finally, shared ride AV trips have the potential to significantly reduce the amount of personally owned vehicles on the road. A 2015 study by Greenblatt and Shaheen found that “Ridesharing can provide transportation, infrastructure, and environmental benefits, although the exact magnitude of these impacts is not well understood. Individually, ridesharing participants benefit from shared travel costs, travel-time savings from high occupancy vehicle lanes, reduced commute stress, and often preferential parking and other incentives.”²³ In Austin, Texas, a study found that every shared AV in service could replace up to 11 personally owned vehicles.²⁴ Cruise’s all-electric AV fleet not only has the potential to significantly reduce the amount of personally owned vehicles on the road, but it will also expand public access to EVs through high utilization shared rides, resulting in even more green miles for Californians.

A blanket prohibition on shared rides will detrimentally impact efforts to optimize the use of AV technology during the pilot program in order to reduce single-occupancy trips, traffic congestion, and emissions. The Commission should eliminate the prohibition on shared rides in Decision 18-05-043 (the “Decision”).

D. Shared rides provide users a safe service and can increase access to more transportation options.

By sharing an AV with other members of the public, many users feel safer. A study conducted by Texas A&M University and Virginia Tech Transportation Institute researchers on the safety perceptions of TNCs by the blind and visually impaired identified as a recurring theme that “the multiple users required by pooled service may facilitate an increased feeling of safety . .

²² See Jenn, “Emissions Benefits of Electric Vehicles in Uber and Lyft Services,” National Center for Sustainable Transportation: Research Reports, August 2019, <https://escholarship.org/uc/item/15s1h1kn>.

²³ See Greenblatt & Shaheen, “Automated Vehicles, On-Demand Mobility, and Environmental Impacts,” Current Sustainable/Renewable Energy Reports, Vol 2:3, September 2015 at 74-81, <https://link.springer.com/article/10.1007/s40518-015-0038-5>.

²⁴ See Fagnant & Kockelman, “The Travel and Environmental Implications of Shared Autonomous Vehicles, Using Agent-Based Model Scenarios,” *Transportation Research Part C*, Vol 40 (2014), at 1-13, http://www.ce.utexas.edu/prof/kockelman/public_html/TRB14SAVenergy_emissions.pdf.

.”²⁵ Further, the report also found that respondents who evaluated a transportation mode as safe—including TNCs, public transit, and paratransit—also mentioned that the presence of other passengers made them feel safer.²⁶ By allowing the sharing of rides, the Commission will enable users to feel safer and more comfortable in their chosen mode of transit. Passenger safety during shared rides is a key priority for Cruise and can be addressed through multiple ride, vehicle, and platform features.

By allowing shared rides during the pilot program, the Commission would greatly increase the affordability of AV transportation services. Shared ride AV transportation services are vital to increasing affordability, efficiency, and sustainability of transportation. Studies have found that “the reach of pooled-ride services could be broader because pooling rides drives down costs,” as compared to standard mobility options.²⁷ A study from Dr. Merlin at Florida Atlantic University finds that “pooled-ride services could address some of the transportation system’s most intractable issues, offering affordable flexibility to those who do not own a vehicle or cannot drive while reducing congestion. Simulation-based research suggests pooled-ride services offer substantial potential to offer more equitable mobility options, improve energy efficiency, and reduce congestion.”²⁸

Without shared ride services permitted during the pilot program, pilot participants will be hindered in properly testing, deploying, and applying shared ride technology in order to provide users safer and more affordable transportation options.

3. Privacy should be a foundational principle in shaping the Commission’s data sharing regulatory approach.

Cruise puts great care into protecting user privacy and data security. Cruise practices privacy by design in its technology development, as well as its approach to data sharing and government entity access requests. Here, Cruise values the Commission’s regulatory role and appreciates that certain data may be used to support the Commission’s regulatory objectives.

²⁵ See Simek et al., “Safety Perceptions of Transportation Network Companies (TNCs) by the Blind and Visually Impaired” (October 2018) at 15, https://www.vtti.vt.edu/utc/safe-d/wp-content/uploads/2019/04/02-010_Final-Research-Report_Final.pdf.

²⁶ *Id.* at 16.

²⁷ Merlin, “Transportation Sustainability Follows from More People in Fewer Vehicles, Not Necessarily Automation,” *Journal of the American Planning Association* (August 26, 2019) 501-510 at 506.

²⁸ *Id.* at 507.

However, those regulatory interests must prioritize protection of rider personal information, including sensitive location data. Thus, Cruise urges the Commission not to expand its data sharing requirements in the Decision with respect to the proposed requirement for participants to submit detailed data regarding their operations, such as the specific locations at which trips begin and end.

The Commission’s contemplated expanded approach to data sharing compromises the privacy and security of rider data. Expansive data sharing requirements run counter to California public policy goals related to privacy, as well as the trend to greater privacy protection under California and federal law, and risk stifling the AV industry. Granular data sharing requirements lack design and operational protections—seeking far more than what the Commission needs to advance its regulatory interests. Broad data sharing will not aid the Commission’s goals of safety, understanding operations, environmental impacts, accessibility, workforce impacts, or accessibility of service and runs counter to the Commission’s customer protection goals.

- A. *Expanded Commission data sharing requirements would undermine and threaten customer protections.*
 - i. Trip data is sensitive personal information that must be zealously guarded.

California and federal public policy priorities and legislative statutes run counter to unfettered data sharing and access by government entities. California’s constitution enshrines privacy as an inalienable right held by all people.²⁹ As to location information, the United States Supreme Court recently held that location data is “deeply revealing” and must be protected under the Fourth Amendment of the United States constitution given, among other factors, the “inescapable and automatic nature of its collection.”³⁰

California law similarly demonstrates a policy of strong privacy protections for consumer personal information generated by services such as those contemplated by AV technology. California’s Electronic Communications Protection Act (CalECPA) affirmatively prohibits government entity access to electronic device information and electronic communications absent

²⁹ Cal. Const., art. I, § 1.

³⁰ *Carpenter v. United States*, 138 S. Ct. 2206, 22097 (2018).

strict limiting procedures.³¹ California’s Office of Legislative Counsel (OLC) recently analyzed CalECPA in the context of regulatory requests for geolocation data sharing and found that the statute’s limitations on government entity access apply to such requests. Indeed, per OLC’s analysis, sharing such data with a government entity would be impermissible without the direct consent of an individual to the government entity seeking that individual’s data, further complicating potential requirements for expanded granular data sharing.³²

California’s leadership in protecting the privacy of personal information is further reflected in the California Consumer Privacy Act (CCPA). CCPA, which just went into force in this new year, explicitly defines “geolocation data” as “personal information,” noting that personal information means “information that identifies, relates to, describes, is reasonably capable of being associated with, or could reasonably be linked, directly or indirectly, with a particular consumer or household.”³³ The CCPA, as the most broad-based privacy statute in California, makes it clear that geolocation data constitutes personal information. Moreover, even where such geolocation data is not linked to an individual’s name or other identifier, as discussed in further detail below, such data alone may be re-identified or de-anonymized.

At the federal level, agencies, such as the Federal Trade Commission (“FTC”), consider geolocation data to be “sensitive personal information.”³⁴ Such personal information can “raise concerns because it can reveal a consumer’s movements in real time and provide a detailed record of a consumer’s movements over time.”³⁵ The FTC has conducted a variety of enforcement activities involving geolocation information, as well as studies and workshops that have stressed the importance of proper protections for such information.³⁶

ii. Protecting rider privacy is vital to AV technology adoption.

Privacy is a top consumer concern when it comes to AV adoption. Multiple studies have repeatedly shown privacy to be a critical factor that consumers evaluate when considering AV

³¹ Cal. Penal Code § 1546.1.

³² See OLC Letter to Honorable Jacquie Irwin, August 1, 2019, [https://cdn.theatlantic.com/assets/media/files/calecpa_dockless_mobility_provider_lc_opinion_\(2\).pdf](https://cdn.theatlantic.com/assets/media/files/calecpa_dockless_mobility_provider_lc_opinion_(2).pdf).

³³ Cal. Civ. Code § 1798.140(o)(1).

³⁴ See Federal Trade Commission, *FTC Testifies on Geolocation Privacy* (June 4, 2014), <https://www.ftc.gov/news-events/press-releases/2014/06/ftc-testifies-geolocation-privacy>.

³⁵ Cal. Civ. Code § 1798.140(o)(1).

³⁶ *Id.*

technology adoption in their day-to-day lives. One industry study from the human behavior and analytics firm Escalent, based on a weighted monthly online survey, concluded that the “specter that AV technology will further abridge someone’s privacy appears to be a deal breaker for those who would rather cruise in relative anonymity.”³⁷ A survey of public opinion about autonomous vehicles from the University of Michigan Transportation Research Institute similarly found significant public perceptions of concern around AV technology from privacy perspectives.³⁸ Given wary consumer perceptions, it is vital for the Commission to elevate the importance of privacy in crafting regulatory requirements in order to avoid stifling AV adoption and all of the benefits the technology will bring to the state of California. Indeed, a gap between privacy afforded to those who travel via personal cars and those who ride in AVs runs counter to both the Commission’s consumer protection and environmental goals (as it will result in less environmentally friendly vehicles on the road).

iii. Cautious, privacy-conscious regulatory strategies are critical to the success of civic innovation initiatives.

Privacy must be baked into regulatory design at the outset, as a foundational principle. Cruise urges the Commission to embrace the present opportunity to protect citizen information from surveillance by regulatory agencies, municipalities, and other organizations who would seek unfettered access to personal trip data.

Multiple recent examples of “smart government” efforts that prioritized data sharing over privacy show how such an approach can quickly go awry. In Toronto, an initially heralded civic innovation project faced major controversy due to citizens’ concerns over the collection and sharing of their personal information, including location information.³⁹ Backlash over lax data sharing approaches in Toronto led to Ann Cavoukian, a former privacy commissioner, resigning

³⁷ See Escalent, *An Autonomous Future: Building Trust in a Driverless World*, <https://landing.escalent.co/hubfs/Escalent%202/An-Autonomous-Future-ebook-FINAL.pdf>.

³⁸ See Schoettle and Sivak, *A Survey of Public Opinion About Autonomous and Self-Driving Vehicles in the U.S., the U.K., and Australia*, University of Michigan Transportation Research Institute (July 2014), <https://deepblue.lib.umich.edu/bitstream/handle/2027.42/108384/103024.pdf?sequence=1&isAllowed=y>.

³⁹ See, e.g., *What’s Fueling the Smart City Backlash?* Knowledge@Wharton (Sept. 24, 2019) <https://knowledge.wharton.upenn.edu/article/whats-behind-backlash-smart-cities/>.

from the project. Ms. Cavoukian, an architect of privacy by design principles, noted, “I imagined us creating a Smart City of Privacy, as opposed to a Smart City of Surveillance.”⁴⁰

Barcelona faced similar issues. There, the city originally adopted extensive data collection and sharing policies in its smart city initiative. Without a proper eye towards privacy, however, Barcelona’s smart city initiatives eventually faced a groundswell of citizen opposition. One commenter noted the importance of “reversing the smart city paradigm” and ensuring that data sharing principles were aligned with privacy principles, rather than collected and shared willy-nilly.⁴¹ One of the organizations pushing back on over-broad data sharing in Barcelona notes “[t]raditional notions of ‘smart city’ put individual privacy at risk. Cities want to be connected, and data-driven, but in doing this many are unwittingly engaging in large-scale surveillance of citizens.”⁴² Similarly, the Commission has an opportunity to reduce the risk to rider privacy by limiting intrusive data sharing requirements.

Given the nascent stages of municipalities’ and governments’ mobility data regimes, it is vital to adopt a cautious, thoughtful, and deliberate approach to data sharing. Cruise believes it would be more productive for the Commission, municipalities, and other government entities to consider data privacy as a guiding principle rather than collecting data *en masse* from AVs without a clear approach to secure, analyze, or draw insight from such data.

iv. Disaggregated data is vulnerable to de-anonymization and re-identification.

Disaggregating and anonymizing shared data does not resolve the concerns around rider privacy and trip location data. Granular data reporting requirements can lead to dangerous unintentional exposure of personal trip data. Even with purportedly de-identified trip information, commonly available data analysis techniques can risk identifying personal

⁴⁰ See, e.g., Cecco, ‘Surveillance capitalism’: Critic Urges Toronto to Abandon Smart City Project, The Guardian (June 6, 2019) <https://www.theguardian.com/cities/2019/jun/06/toronto-smart-city-google-project-privacy-concerns>.

⁴¹ See, e.g., Barcelona is leading the fightback against smart city surveillance, Wired (May 18, 2018) <https://www.wired.co.uk/article/barcelona-decidim-ada-colau-francesca-bria-decode>.

⁴² See *Reclaiming the Smart City: Personal Data and the New Commons*, Decode (July 2018) <https://decodeproject.eu/file/380/download+&cd=5&hl=en&ct=clnk&gl=us>.

information and travel patterns. Where a disaggregated data set is of limited size, as would be the case in a pilot program, the risk is further compounded.⁴³

Multiple studies reinforce the dangers and ease of de-anonymization. Research by a group of Massachusetts Institute of Technology (MIT) scientists and urban planners concluded that data could be de-anonymized quickly when working with multiple datasets within a city.⁴⁴ The study found that, given only a few randomly selected points in mobility datasets, someone could identify and learn sensitive information about individuals.

With merged mobility datasets, such as those the Commission is contemplating in this proceeding, such re-identification becomes *even easier*: an agent could potentially match users' trajectories in anonymized data from one dataset with de-anonymized data in another to unmask the anonymized data. The MIT researchers demonstrated exactly how this might happen in a first-ever analysis of what they refer to as user "matchability" in two large-scale datasets from Singapore, one from a mobile network operator, and one from a local transportation system. In the experiments, researchers found that the model could match around 17% of individuals in one week's worth of data, and *more than 55% of individuals could be matched after one month of collected data*.⁴⁵ Researchers warn such processes can increase the possibility of de-anonymizing real user data. Co-author Carlo Ratti, a professor in MIT's Department of Urban Studies and Planning and director of MIT's Senseable City Lab, states that "[w]e felt that it was important to warn people about these new possibilities [of data merging] and [to consider] how we might regulate it."⁴⁶

Another study, at Columbia University, explored whether demographic traits could be inferred from users' location data and concluded that mobility patterns can be used to

⁴³ See, e.g., *Robust De-anonymization of Large Sparse Datasets*, University of Texas, https://www.cs.utexas.edu/~shmat/shmat_oak08netflix.pdf.

⁴⁴ See Kondor et al., *Towards Matching User Mobility Traces in Large-Scale Datasets*, IEEE (Sept. 24, 2018) <https://ieeexplore.ieee.org/document/8470173>.

⁴⁵ *Id.*

⁴⁶ See Matheson, *The Privacy Risks of Compiling Mobility Data*, MIT News (Dec. 7, 2018) <http://news.mit.edu/2018/privacy-risks-mobility-data-1207>.

discriminate based on gender or ethnicity.⁴⁷ The study examined a dataset of geo-tagged photos from Instagram and Foursquare and found that a person’s demographic information can be inferred solely from visited locations. From this dataset, researchers found that it is possible to predict ethnicity with reasonable accuracy.

Location data is among the most difficult types of data to anonymize. Mr. Joseph Jerome, a leading policy expert and privacy counsel for the Center for Democracy and Technology, has noted that there is “no bona fide standard for personal information to be de-identified.”⁴⁸ Mr. Jerome cites multiple examples showing the ease in which researchers can extract sensitive personal information from supposedly anonymized datasets—including taxi driver location data in New York.⁴⁹

In light of sophisticated re-identification and de-anonymization methods, Cruise cautions the Commission that granular regulatory requirements for sharing trip data would be too broad. Indeed, study after study has shown that location and transportation data is among the more difficult types of data to anonymize. Consequently, the Commission’s contemplated expansions would place riders’ personal information at risk of improper exposure.

v. Over sharing data risks unauthorized disclosure via security incidents and other means.

Granular data sharing requirements would leave data vulnerable to unauthorized disclosure. Security incidents, whether unintentional or due to malicious activity, are a significant risk for any collected, retained, transmitted, and shared data set. Here, the Commission’s data sharing proposal risks expanding the data attack surface across multiple agencies, government entities, and other parties with varying levels of information security sophistication. Cruise drives significant investment into internal security measures, technologies,

⁴⁷ See Riedere, et al., “*I Don’t Have a Photograph, but You Can Have My Footprints*”—*Revealing The Demographics of Location Data*, Proceedings of the Ninth International AAAI Conference on Web and Social Media, <https://sebastianzimmeck.de/riedererEtAlPhotograph2015ShortPaper.pdf>.

⁴⁸ See Jerome, *De-Identification Should Be Relevant to a Privacy Law, but Not an Automatic Get-Out-Of-Jail-Free Card*, Center for Democracy & Technology, <https://cdt.org/insights/de-identification-should-be-relevant-to-a-privacy-law-but-not-an-automatic-get-out-of-jail-free-card/>.

⁴⁹ *Id.*; see also Goodin, *Poorly anonymized logs reveal NYC cab drivers’ detailed whereabouts*, Ars Technica (June 23, 2014) <https://arstechnica.com/tech-policy/2014/06/poorly-anonymized-logs-reveal-nyc-cab-drivers-detailed-whereabouts/>.

and procedures to protect the sensitive personal information of its future riders, as well as other data. Requiring AV companies, such as Cruise, to share such data across a porous data supply chain of other agencies, as well as public and private entities, creates significant risk of unauthorized access and compromise.

In some cases, unauthorized access may result simply from data custodians inadvertently releasing sensitive personal information due to deficient internal review. For instance, Harvard's Berkman Klein Center for Internet & Society warns "[s]ensitive data that is not actively monitored will not be properly protected, increasing the likelihood that private information will be disclosed as open data or through public records requests. Personnel turnover and regular upgrades to records management systems add to the difficulty of properly evaluating an old dataset for privacy risks. The rapid pace of developments in data analytics is especially troubling, as it means that the risks in a dataset are constantly evolving even when the data remains unchanged."⁵⁰

Such mistaken disclosure is exactly what happened in New York. There, pursuant to a Freedom of Information Law request of the New York City Taxi and Limousine Commission's (NYC TLC) taxi data made in 2014 by an open data activist, the NYC TLC released data for 173 million individual taxi trips. As many researchers have demonstrated, personally identifiable information was easily and quickly extracted from purportedly anonymized data.⁵¹ The original dataset, as released by the TLC, included the time and location of passenger pick-ups and drop-offs and taxi medallion numbers that were weakly anonymized. Taken together, this data easily allowed for data reconstruction that revealed driver home addresses, aggregated driver income, and driver movements across the city. In addition to inadequate anonymization, data privacy and security experts stressed that the NYC TLC's storage of that data lacked sufficient security protections.⁵²

⁵⁰ See Green, et al., *Open Data Privacy*, Berkman Klein Center for Internet & Society Research Publication (2017) <https://dash.harvard.edu/bitstream/handle/1/30340010/OpenDataPrivacy.pdf>.

⁵¹ See Hern, *New York Taxi Details Can Be Extracted From a\Anonymized d\Data, Rresearchers Say*, The Guardian (June 27, 2014) <https://www.theguardian.com/technology/2014/jun/27/new-york-taxi-details-anonymised-data-researchers-warn>.

⁵² See Pandurangan, *On Taxis and Rainbows*, Medium (June 21, 2014) <https://tech.vijayp.ca/of-taxis-and-rainbows-f6bc289679a1>.

B. Granular data sharing requirements are overly burdensome and would not advance the Commission's primary regulatory goals.

Beyond privacy and security concerns, the Commission's presently contemplated data sharing requirements would overly burden Cruise without advancing the Commission's legitimate regulatory interests. Requirements to share granular location and trip data would fall disproportionately on Cruise relative to other non-AV regulated entities. Other Transportation Charter Party Carriers (TCPs) are not required to share geolocation or trip data. The fact that AV companies may have such data does not entitle the Commission to require such companies to share it at risk to rider privacy, among other risks.

Cruise appreciates that California law provides that "government entities such as the Commission may require businesses to maintain records and make them available for routine inspection when necessary to further a legitimate regulatory interest."⁵³ At the same time, regulatory inspection demands must be "sufficiently limited in scope, relevant in purpose, and specific in directive so that compliance will not be unreasonably burdensome."⁵⁴ The Commission's contemplated expansive data sharing requirements do not strike this balance. For valid technical security reasons, Cruise's internal data infrastructure is not set up to easily share data with third parties. Cruise would likely face a significant technical and operational burden in preparing, treating, and sharing sensitive trip data with the Commission.

Further, there is no evidence in the record to suggest that sharing sensitive trip data would further the Commission's regulatory interests in safety, operations and impacts, environmental impacts, accessibility, workforce impacts, and access of service. Such data has no bearing on passenger safety, nor would it aid the Commission to gain insight that the Commission could not otherwise achieve into operations and impacts of AVs in passenger service. Similarly, environmental impacts can be assessed by other means. As to accessibility, Cruise believes that reporting specific location data will not have any meaningful impact. The same is true with respect to workforce impacts. In terms of service geography, analysis into the availability of services to various communities does not require reporting trip data; this analysis can be conducted through other means.

⁵³ *Patel v. City of Los Angeles*, 738 F.3d 1058 (9th Cir. 2013).

⁵⁴ *Id.* at 1064 (citing cases).

C. *Granular data sharing requirements risk exposure of valuable trade secret information.*

Cruise also stresses that it considers data subject to potentially expanded sharing requirements as valuable trade secrets and invests in security measures to keep this data confidential. Under California law, such trade secret information is protected from disclosure.⁵⁵ Especially for nascent emerging technology innovators, such as Cruise, granular location data would be particularly valuable information to incumbent competitors. For example, competitors could use data regarding where pick-ups and drop-offs occur to evaluate the efficacy of Cruise's marketing campaigns, promotions, and market fit in particular communities. The Commission should not impose regulatory requirements that fall disproportionately on Cruise (and other AV companies) and risk exposing its valuable and protected trade secret information.

D. *The Commission should adopt a privacy-first approach to data sharing requirements.*

In light of significant risks to data privacy, security, and confidentiality, the Commission should reconsider its proposed expanded regulatory requirements for sharing trip location data. Cruise urges the Commission to adopt a practice of regulatory privacy by design. Meaning, any regulatory requirement should prioritize rider privacy, be proactive rather than remedial, consider privacy as the default, embed privacy into the design phase of regulations, and provide for visibility, transparency, notice, and consent from those whose information is at risk of disclosure. Cruise believes the conversation around privacy is in nascent stages; the Commission's stated objectives do not justify broader requirements and pose a risk to customer protection. At the very least, the Commission should not require sharing of data regarding specific locations at which trips begin and end.

California's privacy landscape has substantially changed throughout the course of this proceeding. California now has a landmark new privacy law that is the most expansive in the nation, and there are proposals to create even greater privacy rights for Californians. As the Commission is likely aware, privacy is a stated priority for the current governor's administration. In the current environment, there will be heightened awareness and scrutiny of how AV

⁵⁵ See, e.g., Cal. Evid. Code § 1060 (“[T]he owner of a trade secret has a privilege to refuse to disclose the secret, and to prevent another from disclosing it, if the allowance of the privilege will not tend to conceal fraud or otherwise work injustice.”); see also Cal. Gov't Code § 6254(k).

companies and government entities collect and share geolocation data, including more express and explicit obligations to restrict such sharing and disclose to consumers how data is shared. California is paying close attention to privacy, as is Cruise. In light of all this, the Commission should advance privacy-driven regulations that avoid any potential chilling effects on consumer adoption of AV technologies.

4. The Commission should remove driver vehicle requirements inapplicable to driverless AVs.

The following requirements should not be applicable to fully driverless AVs.

A. Requirements related to having a physical driver in the vehicle, as incorporated in Commission General Order 157-E.⁵⁶

In Part 3.01, the Commission should remove the reference to a driver's name as a required part of the waybill. The Commission should also remove the entirety of Part 5 – Drivers and Part 10 – Controlled Substance and Alcohol Testing Certification Program, as these two sections are inapplicable to driverless vehicles. These changes are logical extensions of the fact that there is no driver present in a driverless vehicle.

B. Certain unnecessary requirements related to the labeling of vehicles.

Regarding Part 4.03, the Commission should allow vehicle identification to be in the form of a name instead of a number. Regarding Part 4.04, the Commission should further allow car wrapping or decals that replace the requirement to display a TCP number and serve the same purposes. The use of a name or alternative trade dress may allow for easier identification of AVs by users, in contrast to numbers, which are more difficult to identify and recognize.

⁵⁶ Pub. Util. Comm'n of the State of Cal., General Order 157-E, Amended Effective October 25, 2018, https://www.cpuc.ca.gov/uploadedFiles/CPUC_Public_Website/Content/Proceedings/General%20Order%20157%20Booklet%20-%20v5.pdf.

5. The Commission should draw on diverse information to inform any changes to the Decision’s pilot program requirements.

A. There should be no prescribed number of entities participating in the Commission’s pilot testing program.

The Commission should not establish either minimum numbers of entities required, or maximum amount of entities permitted, in any pilot program. However, the Commission should remove the prohibition on charging fares in order to allow and encourage greater participation in the pilot program by qualifying entities. Removing the prohibition on fare collection may encourage greater participation in the pilot program.

B. The Commission’s current quarterly pilot data reporting requirements are sufficient.

The current Quarterly Pilot Service Data Reports⁵⁷ do not require expansion for purposes of any pilot program for AV transportation services. Setting thresholds of data based on volume is arbitrary and not linked to any clear regulatory objective.

AV pilot program participants are currently required to report the following data points on a quarterly basis: (1) total quarterly vehicle miles traveled during passenger service by all vehicles in the entity’s list of Autonomous Vehicle equipment, provided per-vehicle; (2) total quarterly vehicle miles traveled during passenger service that are served by EVs or other vehicles not using an internal combustion engine, provided per vehicle; (3) total quarterly vehicle miles traveled during passenger service, from the vehicle’s starting location when it first accepted a trip request to the pickup point for each requested trip, expressed in miles and provided per-vehicle; (4) 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); (5) vehicle occupancy (total number of passengers) in each vehicle for each trip; (6) total number of accessible rides requested per quarter that are fulfilled; (7) total number of accessible rides requested per quarter that are unfulfilled because of a lack of accessible vehicles; and (8) total number of accessible rides

⁵⁷ California Public Utilities Commission, “Quarterly Pilot Service Data Reports,” <https://www.cpuc.ca.gov/avcpilotdata/>.

requested per quarter that are declined by the driver. Such data, in both frequency and volume, does not need expansion for the Commission to properly understand the efficacy of the AV pilot program and may, if anything, be overly broad.

C. The Commission's current safety assurances are sufficient.

The Commission already requires significant safety assurances in order to obtain a permit to participate in an AV pilot program. A participant must comply with all the standard terms and conditions of the Commission's TCP permit and comply with all terms and conditions applicable to drivers. Participants must also certify to the following: compliance with all applicable DMV regulations, maintenance of insurance for AVs, performance of vehicle inspections and maintenance consistent with the requirements of the TCP permit, maintenance of a plan to ensure that the service is available only to be chartered by adults 18 years and older, and that AV operations have been tested for a minimum of 30 days on California roads.

The Commission, together with the DMV, has created a strong safety framework for AVs, throughout California. California's current safety framework is in line with best practices promoted by the National Transportation Safety Board ("NTSB"). The NTSB recommends that companies testing AVs on public roads submit a self-assessment to the agency for their review to evaluate safeguards. The California DMV has adopted similar safety regulations by requiring manufacturers of both drivered and driverless AVs to submit a public assessment showing their approach to achieving safety and provide a copy for the DMV to review.⁵⁸ The NTSB also recommends that companies submit an application detailing plans to manage the risks of crashes and driver inattentiveness. In California, companies are required to ensure that drivers of AVs are trained, knowledgeable of the limitations of the vehicle, and capable of safely operating the vehicle in all conditions under which testing will take place.⁵⁹ In driverless vehicles, AV companies must ensure that there is a communication link between the vehicle and a remote operator with two-way communication in the event of a passenger endangerment.⁶⁰ Further, NTSB also recommends that companies complete a safety management system for self-driving tests. In California, both driverless AVs are required to disclose any safety-related defects in

⁵⁸ 13 CCR § 227.38(g); 13 CCR § 228.06(d).

⁵⁹ 13 CCR § 227.32(d); 13 CCR § 227.34(b)(2).

⁶⁰ 13 CCR § 228.06(b).

their autonomous technology that creates an unreasonable safety risk and must submit a copy of the report to the DMV.⁶¹ The safety assurances that AV companies must attest to at both the Commission and DMV further show why the regulatory landscape is ready for a fared and shared ride service pilot program in California.

D. The Commission should not unnecessarily constrain pilot participants in comparison to other AV regulatory frameworks.

As previously discussed, there are no other U.S. regulatory or legislative bodies that affirmatively prohibit shared rides in driverless AVs or affirmatively prohibit fared services in AVs generally. The Commission should not unnecessarily become an outlier in this regard.

III. CONCLUSION

Cruise applauds California—the Commission, DMV, and other state leaders—for its leadership in innovation and technology. Cruise strongly believes that the adjustments described in this submission will greatly improve California’s regulatory framework and that this proceeding is a tremendous opportunity to further California’s leadership on emerging transportation technologies.

Cruise performs the overwhelming majority of its testing in California and plans to deploy a commercial rideshare business with AVs in this state should the Commission open a proper regulatory pathway permitting such a business. Cruise looks forward to cooperating with the Commission on such a beneficial outcome. AVs have immense potential to improve roadway and passenger safety, reduce transportation emissions, and expand access to transportation, while preserving passenger privacy and building consumer confidence. Such benefits should come first to Californians.

⁶¹ 13 CCR § 228.12.

Respectfully submitted,

A handwritten signature in blue ink that reads "Candice Plotkin". The signature is written in a cursive, flowing style.

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