

**DOCKETED**

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**Cruise LLC Comments on IEPR Three Revolutions Workshop**

*Additional submitted attachment is included below.*



August 6, 2020

California Energy Commission  
Dockets Office  
Re: Docket No. 20-FINANCE-01  
1516 9th Street  
Sacramento, CA 95814

Dear California Energy Commission,

Cruise LLC is pleased to submit the following comments in response to the California Energy Commission's (CEC's) "Three Revolutions, Opportunities, Challenges, and Intelligent Transportation Systems: Workshop on Zero Emission Vehicle Resilience and Three Revolutions in Transportation", held on July 16 as part of the CEC's 2020 Integrated Energy Policy Report (IEPR) Update proceeding.

Founded in San Francisco in 2013, Cruise is an all-electric self-driving technology company with a mission to build the world's most advanced autonomous vehicles (AVs) to safely connect people to the places, things and experiences they care about. Cruise was pleased to have the opportunity to present at the Workshop, offering its approach to automated, electric, and shared transportation. These comments provide additional context on the potential energy and environmental benefits associated with automated and fully-electric ridesharing; underscoring how innovative technologies and unique business models can help California achieve its climate goals:

**I. Automated electric ridesharing can help California meet its ambitious climate goals.**

California faces significant challenges from transportation pollution. The sector accounts for over 40 percent of statewide emissions, with nearly 70 percent of that stemming from light-duty passenger vehicles.<sup>1</sup> In response to this crisis, the state established important milestones for zero emission vehicle (ZEV) adoption, including 250,000 ZEV charging stations by 2025 and 5 million ZEVs by 2030, and associated incentive and investment programs to catalyze this transition.<sup>2</sup> However, the latest data shows that progress needs to be made if we are to meet the state's ambitious goals. For example, EV registrations in California represent approximately

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<sup>1</sup> California Air Resources Board, "2019 GHG Inventory", *GHG Current California Emission Inventory Data*, <https://ww2.arb.ca.gov/ghg-inventory-data>.

<sup>2</sup> Office of Governor Edmund G. Brown Jr., "Governor Brown Takes Action to Increase Zero-Emission Vehicles, Fund New Climate Investments", January 26, 2018, . <https://www.ca.gov/archive/gov39/2018/01/26/governor-brown-takes-action-to-increase-zero-emission-vehicles-fund-new-climate-investments/index.html>.

0.8% of total vehicles in the state,<sup>3</sup> while traditional barriers to adoption like charger availability, range anxiety, and vehicle cost still persist.

As addressed in Cruise's remarks, as a company, we believe that meeting California's climate goals means being intentional, strategic, collaborative and creative in our collective approach. It is our view that automated driving and electrification are uniquely positioned to help transform California's transportation landscape. And if properly considered and supported, these technologies, especially when paired as a ridesharing service, could be instrumental in accelerating transportation electrification and emissions reductions.

Studies show that electrifying new mobility, such as transportation network company (TNC) vehicles, can greatly reduce transportation related emissions. UC Davis has calculated that electrifying TNC vehicles can have three times the impact of electrifying a personal vehicle.<sup>4</sup> Electric ridehailing *fleets* can build on these gains through fleet-wide energy procurement decisions that can virtually eliminate carbon emissions across all vehicles - such as Cruise's commitment in April 2020 to charging with 100% renewables.

Automated, electric ride sharing fleets can also help increase exposure to and knowledge about EVs and associated technology. Research shows that exposure to EV technology is correlated with an increased likelihood of ownership. A study from the Consumer Federation of America found that among respondents who knew a "great deal or a fair amount" about EVs, 42% were likely to buy or lease an EV as their next vehicle, compared to just 27% for those less familiar.<sup>5</sup> AAA built on these findings, showing 96% of EV owners likely to make their next purchase or lease an EV.<sup>6</sup> This is a potential positive spillover from the deployment of automated, electric ride hailing; exposure to EV technology through ridesharing could produce benefits for adoption in the personal vehicle market.

## **II. Pursuing the Three Revolutions II requires an updated approach to policies and programs.**

The transportation landscape is rapidly evolving, with new technologies, business models, and solutions being developed that could deliver significant reductions in emissions. The CEC and many other agencies in California are actively working on programs related to the transportation and fuels sectors, specifically targeting their shared potential to reduce greenhouse gas emissions and promote economic development. At the same time academics, experts and

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<sup>3</sup> California Department of Motor Vehicles, "Motor Vehicle Fuel Types by County as of 01/01/2019", June 2020, [https://www.dmv.ca.gov/portal/uploads/2020/06/MotorVehicleFuelTypes\\_County\\_01012019.pdf](https://www.dmv.ca.gov/portal/uploads/2020/06/MotorVehicleFuelTypes_County_01012019.pdf).

<sup>4</sup> Alan Jenn, "Emissions Benefits of Electric Vehicles in Uber and Lyft Services", *National Center for Sustainable Transportation - UC Davis ITS*, August 2019, <https://escholarship.org/uc/item/15s1h1kn>.

<sup>5</sup> Consumer Federation of America, "Knowledge Affects Consumer Interest in EVs, New EVs Guide to Address Info Gap", October 29, 2015, [https://consumerfed.org/press\\_release/knowledge-affects-consumer-interest-in-evs-new-evs-guide-to-address-info-gap/](https://consumerfed.org/press_release/knowledge-affects-consumer-interest-in-evs-new-evs-guide-to-address-info-gap/).

<sup>6</sup> AAA, "Owning an Electric Vehicle is the Cure for Most Consumer Concerns", January 22, 2020, <https://newsroom.aaa.com/2020/01/aaa-owning-an-electric-vehicle-is-the-cure-for-most-consumer-concerns/>.

practitioners are thinking of ways to encourage travel by cleaner modes and increase the availability of options that align with the Three Revolutions (3Rs).

In addition to continuing to pursue the above, the 2020 IEPR is also an opportunity to revisit both new and existing programs and policies to ensure alignment and prevent unintended consequences. It is important to recognize that not all transportation needs are the same - not everyone is in the market for a new car, and many do not have the means to afford EVs at current costs. Many of the programs in place in California to support broader EV light duty adoption remain largely reflective of, and accessible through, personal vehicle ownership and/or target only public charging stations, making many new business and service models ineligible.

For example, incentive programs like CALeVIP have public access requirements for charging infrastructure which wholly-owned and operated rideshare fleet managers are unable to meet. While fleet operators often do not make stations available to the public due to charging coordination and maintenance requirements, these vehicles still directly serve the public - and in the case of Cruise, will be sustainable and powered by renewable energy. While the additional buildout of EV charging stations supports California's ZEV goals, the central dispatch and management of an automated fleet can also offer additional benefits to supporting California's grid. For example, coordinated charging strategies for automated electric vehicles through owned and operated charging infrastructure could reduce grid stress - all positives for the sector and in alignment with the goals of the 3Rs.

These business models could yield significant benefits to the CEC's transportation goals. However, to unlock these benefits, existing programs like CALeVIP and others must be revisited to reflect changes and innovations in charging models and transportation technology - especially those in close alignment with the state's goals and the 3Rs.

### **III. Conclusion**

Cruise thanks the Commission for the opportunity to both participate and provide comments in advance of the 2020 IEPR. As outlined above, automated electric fleets not only support California's climate goals, but when paired with a ridesharing service will directly advance the CEC's vision of a sustainable, low-carbon transportation sector. As a company, we believe our model and approach to service directly supports and aligns with these efforts - yielding more electric vehicle miles, positively impacting statewide EV penetration, and achieving emissions reductions goals. We look forward to continued collaboration and dialogue, and thank you again for the opportunity to present and comment.

Sincerely,



Prashanthi Raman  
Director, Global Government Affairs  
Cruise