

DOCKETED

Docket Number:	21-TRAN-03
Project Title:	Zero Emission Vehicle Infrastructure Barriers and Opportunities
TN #:	243063
Document Title:	Cruise LLC Comments - to CEC Draft Zero-Emission Vehicle Infrastructure Pan
Description:	N/A
Filer:	System
Organization:	Cruise LLC
Submitter Role:	Public
Submission Date:	5/13/2022 1:17:22 PM
Docketed Date:	5/13/2022

*Comment Received From: Cruise LLC
Submitted On: 5/13/2022
Docket Number: 21-TRAN-03*

Cruise Comments to CEC Draft Zero-Emission Vehicle Infrastructure Plan

Please find attached Cruise's comments to the Draft ZIP. Let me know if there are issues with opening the attachment.

Additional submitted attachment is included below.



May 13, 2022

California Energy Commission
Docket Office
715 P Street
Sacramento, CA 95814

RE: Cruise Comments in Response to CEC Draft Zero-Emission Vehicle Infrastructure Pan; Docket No. 21-TRAN-03

Cruise LLC (“Cruise”) appreciates the opportunity to comment on the California Energy Commission (CEC) Draft Zero-Emission Vehicle Infrastructure Pan (ZIP) workshop held on April 14, 2022. At the workshop, CEC staff provided an overview of the Draft ZIP which included the the state’s efforts to date in deployment of zero-emission vehicle (ZEV) infrastructure as well as actions in the near and long-term to support ZEV charging and hydrogen fueling infrastructure deployment, electric grid readiness, and sufficient hydrogen supply.

As California evaluates pathways to achieve its decarbonization goals - including 5M zero-emission vehicles (ZEVs) by 2030 as well as Governor Newsom’s Executive Order N-79-20, we believe it is critical that the Draft ZIP also examine the crucial role of light-duty ZEV fleet charging needs and its impact on the state’s infrastructure planning efforts for ZEVs.

About Cruise

Cruise is a shared, fully-electric, self-driving car company based in San Francisco, California, with a mission to provide safer, cleaner, and more inclusive transportation. Our company has developed a fleet of AVs with the purpose of providing ridesharing service to all Californians. As the operator of the only fully-electric AV fleet in the country, we believe centralized EV ridesharing fleets can be a sustainable transportation option for Californians who may never own an EV or lack access to charging. Centralized fleets like ours also allow for fast and efficient electrification of California’s transportation stock and support the CEC’s, and other regulatory agencies’, goals for a stronger, more resilient, electric grid.

Infrastructure Needs of Light-Duty Fleet & Ridesharing Electrification

As noted by staff at the workshop as well in the Draft ZIP, private sector investments in light-duty vehicle charging have been critical in the state’s efforts to deploy existing ZEV

infrastructure to date. As more fleets with high vehicle utilization and energy demand move to electrification, there will be tremendous impacts on infrastructure needs in California over the years ahead. Ridesharing and light-duty fleet electrification are a prime example of this.

Research cited at the March 2022 [CEC AB 2127 assessment workshop](#) shows that home charging represents the most common preference for personally-owned battery electric vehicles (BEVs), followed by workplace charging. In contrast, EVs used in ridesharing services have very different charging patterns and behaviors that require greater charging availability and power levels. Research from UC Davis found that ridesharing EVs represented 30% of total energy demand from DC fast chargers but only make up 0.5% of total EVs on the road at the time in California.¹ That analysis also found that these electric ridesharing vehicles visit DC fast charging (DCFC) stations 2.5 times per day, compared to private EVs which visit DCFCs on average once every 2 weeks. Charging behavior for EV ridesharing at DCFCs also showed higher use during overnight periods, compared to near zero use of this infrastructure for private vehicles. This empirical evidence conforms strongly with the data that the CEC cited, showing a strong preference of personal EV owners to favor at-home and workplace charging over public DCFCs, while EV ridesharing vehicles charge much more frequently at DCFC sites.

Building on this, recent analysis by UC Davis using the Widespread Infrastructure for Ride-hail EV Deployment (WIRED) model found that the ratio of chargers to vehicles for EV ridesharing in California is approximately 10 times higher than for privately owned EVs.²

Given recent policy developments in the state, this need will only grow. The California Public Utilities Commission (CPUC) is in the midst of its rulemaking process on the Clean Miles Standard program, informed by the California Air Resources Board's (CARB's) assessment and recommended program guidelines. Based on CARB's targets, the Clean Miles Standard would require net zero carbon emissions for every rideshare passenger mile traveled (PMT) by 2030, as well as at least 90% of VMT to be electric by that same year. Similarly, [Senate Bill \(SB\) 500](#) (Min, 2021) requires all light-duty autonomous vehicle fleets to be zero emission by January 1, 2030, creating additional charging infrastructure requirements.

Charger Deployment Funding for Light-Duty Vehicle Fleets and Ridesharing

Cruise is pleased that the Draft ZIP includes additional funding for light-duty vehicle infrastructure if appropriated. As reflected in discussions on CARB's rulemaking, the ongoing CPUC proceeding, and in the CEC's own leadership in opportunities like the Charging Access for Reliable On-Demand Transportation Services (CARTS) grant, significant charging

¹ Dr. Alan Jenn. "Emissions Benefits of Electric Vehicles in Uber and Lyft Services". *National Center for Sustainable Transportation*. August 2019.

<https://escholarship.org/content/qt15s1h1kn/qt15s1h1kn.pdf?t=pw4rht>.

² Dr. Alan Jenn. "Charging Forward: Deploying Electric Vehicle Infrastructure for Uber and Lyft in California". *ITS UC Davis; Pacific Southwest Region University Transportation Center*. March 2021.

<https://escholarship.org/uc/item/6vk0h1mj>.

infrastructure will be needed to support these vehicle charging use cases. Additionally, we recommend that the California Electric Vehicle Infrastructure Project 2.0 (CalEVIP) program allow for the emergence of these diverse charging models and include flexibility in funding for both publicly-accessible charging sites, as well as fleet-operated charging depots with higher utilization needs that still serve a public benefit, such as with Cruise. There is a strong policy imperative for these efforts, including the ability for these shared electric fleets to provide the public access to clean miles, regardless of the ability to afford an EV or conveniently charge.

Streamlining the EV Infrastructure Permitting Process

As presented at the workshop, parallel efforts are being taken on infrastructure including improving building codes, streamlining permitting processes and improving interconnection times. Cruise supports efforts to streamline and standardize local permitting processes. As stated in our comments in other CEC dockets, there are significant project finance costs involved in site development, including long lead times for site electrification, considerable back end infrastructure costs, and delays and uncertainties in EV site permitting and zoning ordinances. We support the CEC's effort in collaborating with other state and local agencies to address these challenges.

Integrating Fleet and Rideshare Electrification into ZIP

While the Draft ZIP is a high-level planning document, Cruise recommends that CEC staff continue to incorporate the important charging use cases and infrastructure needs of light-duty fleet and rideshare electrification into the next iteration of the ZIP. With charging infrastructure for ridesharing and light-duty fleets representing such a potentially critical area of growth and need in the state, it is imperative that use cases like ridesharing and light-duty autonomous vehicle fleet electrification be incorporated into the state's infrastructure planning needs to achieve our 2030 and 2045 targets.

Conclusion

Cruise thanks the CEC for the opportunity to provide these comments to the Draft ZIP. We look forward to continued engagement with the Commission and staff on this topic which is critical to achieving a cleaner and more inclusive transportation future for California. Please do not hesitate to contact us if we can be of assistance.

Sincerely,



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Government Affairs

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Cruise, LLC