

DOCKETED

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**NRDC Comments on the Draft Zero Emission Vehicle
Transportation Infrastructure Plan**

See attached.

Additional submitted attachment is included below.

May 13, 2022

California Energy Commission
1516 9th Street
Sacramento, CA 95814

Posted at Docket 21-TRAN-03

Re: Natural Resources Defense Council Comments on the Draft Zero Emission Vehicle Transportation Infrastructure Plan (ZIP)

On behalf of the Natural Resources Defense Council (NRDC), and our more than 95,000 members in California, we thank you for the opportunity to comment on the draft ZIP presented at the California Energy Commission's (CEC) workshop on April 14, 2022. NRDC appreciates that CEC staff coordinated with eight other agencies to produce the first-ever state ZIP, and we recognize this is a challenging endeavor. Further, we support the many findings and recommendations in the study including (1) the need to increase focus on assisting home charging especially for underserved, priority communities, (2) that California is on a path to success with our adoption of and incentives for electric vehicles and charging infrastructure, and (3) that California's grid readiness preparations are going well.

Our comments are meant to further improve the draft ZIP and are organized into two sections: light-duty EV charging and medium- and heavy-duty EV charging. At a high-level, we recommend the draft ZIP include more specific policy recommendations for state policymakers to consider.

Light-duty EV Charging Infrastructure. NRDC recommends the following improvements to the draft ZIP:

- **Lowering charging costs:** While the section on charging away from home (level 1 and level 2) is very good, we believe adding recommendations on how the state can help reduce the costs of charging is merited.¹ We estimate that home charging is roughly three times less costly for EV drivers than away-from-home Level 2 or DC fast charging (DCFC), and that a similar situation exists for fleets based on an 2021 study by the Electric Power Research Institute.² The ZIP should call for a report on how to reduce the cost of charging, including collection of new data on willingness to pay for away-from-home charging, existing costs of charging, and best practices to reduce the costs of charging in the various market segments. Determining the low-cost solutions is very important especially for under-resourced and priority communities such as renters and those in multi-unit dwellings who are unable to access charging at their homes
- CEC also points out in the draft ZIP that 350 kW DC fast charging maybe less expensive than 150 kW DC fast charging.³ This intriguing possibility of saving billions of dollars merits a specific recommendation in the ZIP for a CEC study to confirm this.
- **Hard-to-serve markets:** The ZIP should contain a recommendation for a study to gain a deeper understanding of the travel and charging needs for hard-to-serve markets (e.g., those who live in

¹ Draft ZIP pages 30-31.

² NRDC analysis and EPRI study (Trinko, D.; Porter, E.; Dunckley, J.; Bradley, T.; Coburn, T. Combining Ad Hoc Text Mining and Descriptive Analytics to Investigate Public EV Charging Prices in the United States. Energies 2021.)

³ Draft ZIP page 42.

large apartments and condos, those who park on the street near their homes, low-income EV drivers, rural EV drivers, renters in both single-family residences and multi-unit dwellings) and a more refined breakdown on their access to charging at residences.⁴ Producing good public-domain data is an important method to accelerate charging infrastructure and helps improve decision-making.

- ***Strengthening accessibility:*** The draft ZIP’s recommendations to deploy infrastructure to provide greater charging access to priority populations, while very good, can be strengthened by including the following:⁵
 - Subsidized panel upgrades which are needed in low-income residences including rentals
 - Subsidized cash cards that use tap readers for low-income EV drivers to access away-from-home level 2 and DC fast charging
 - Extra incentives for workplace parking lots that allow neighbors to use their charging stations and for creation of special EV charging lots accessible only to those employees who rent or who live in multi-unit dwellings.
- ***Modeling updates:*** The ZIP should also recommend that CEC’s EVI PRO 3 model used to assess charging infrastructure needs be continually updated together with the assumptions. For example, current trends appear to show that California is on an accelerated EV adoption path and that the goal of 250,000 public charging stations by 2025 will not be enough. In addition, because the need for level 2 public charging is heavily influenced by assumptions on charging by plug-in hybrid EVs, better data should be collected on the willingness to pay of these PHEV drivers. (Assuming less PHEV charging away from home saves hundreds of millions of dollars). We also recommend the CEC’s EVI PRO 3 model should be made public domain as that will enable faster progress and better comments to the CEC by having a crowd-sourced approach to modeling
- ***Other improvements:***
 - The section on bidirectional charging should be expanded to request that a V2B/V2G roadmap be developed to identify and address the barriers to bidirectional charging and also provide a sentence or two on the April 2022 announcement of the [Vehicle to Everything \(V2X\) Memorandum of Understanding](#) to accelerate bi-directional charging commercialization that was led by the U. S. Department of Energy (DOE) together with the CEC and the California Public Utilities Commission, five California utilities, and other stakeholders representing labor, community choice aggregators, cities, car and vehicle manufacturers, and charging providers.
 - Given the increased attention that cybersecurity is receiving nationally and internationally, the ZIP should have a recommendation to investigate what needs to be done to better secure the different communication pathways used for charging to minimize threats to the EVs, the grid and EV consumers.

Medium- and heavy-duty EV Charging Infrastructure. NRDC recommends the ZIP should include:

⁴ For example, based on detailed size of the MUD, or number of cars in the household.

⁵ Draft ZIP page 39.

- A section on the barriers to medium- and heavy-duty EV charging that mirrors the draft ZIP's section on barriers to hydrogen fueling infrastructure⁶
- A specific recommendation calling for the CEC to develop a plan for the location of medium- and heavy-duty charging infrastructure that serves the need for charging away from a vehicle's home base. While the draft ZIP mentions it is "important to identify where load will grow" we believe a more specific action item for the CEC is merited⁷
- A recommendation calling for the development of pilots for loans that cover both the cost of medium- and heavy-duty charging infrastructure and the cost of medium- and heavy-duty vehicle. NRDC, CALSTART and SCE submitted to the CEC a detailed proposal on how this should work as part the CEC's innovative financing docket⁸
- A brief discussion on the truck parking crisis.⁹

We appreciate the consideration of these comments and look forward to continuing to work with the CEC and staff on accelerating widespread transportation electrification in California.

Sincerely,

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⁶ Draft ZIP page 37.

⁷ Draft ZIP page 35.

⁸ See NRDC, CALSTART and SCE letter submitted Oct 1, 2021 to docket 20-FINANCE-01.

⁹ See <https://www.freightwaves.com/news/truck-parking-crisis-recognized-on-the-hill>. CalTrans is almost finished with its [truck parking study](#).