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Comment Received From: Kelsey Johnson
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Rivian Comments on NEVI Pre-Solicitation Workshop

Additional submitted attachment is included below.

September 28, 2022

Re: 22-EVI-05, National Electric Vehicle Infrastructure (NEVI) Funding Program, Pre-Solicitation Joint Workshop

To the California Department of Transportation and California Energy Commission,

Rivian thanks the California Department of Transportation (Caltrans) and California Energy Commission (CEC) for the opportunity to provide comments on the proposals set forth during the pre-solicitation joint workshop regarding California's National Electric Vehicle Infrastructure (NEVI) funding. Rivian appreciates the robust stakeholder engagement process Caltrans and the CEC (the "Agencies") have committed to and believe it will result in a strong foundation not only for California's NEVI funding deployment, but also set a valuable example for other states.

Rivian is an independent U.S. company on a mission to "Keep the World Adventurous Forever" through the design, development, manufacture and distribution of class-leading all-electric trucks, sport utility vehicles ("SUVs") and delivery vans. Our R1T pickup, R1S full-size SUV, and commercial delivery van all displace some of the heaviest-polluting vehicle segments on US roads today. The R1T, our flagship vehicle, was the first all-electric pickup available in the U.S. market and has won numerous awards and accolades, including being named MotorTrend's 2022 Truck of the Year. In addition to vehicles, Rivian is also building out two complementary charging networks to support transportation electrification nationwide, the Level 2 Rivian Waypoints Network and the DC Fast Charging ("DCFC") Rivian Adventure Network.

Rivian offers the following comments for the Agencies' consideration as the solicitation is finalized in the coming months:

Maintain the requirement for each eligible site to have restroom access. Restroom access is a basic requirement for all charging sites and critical for the electric vehicle (EV) driver experience. Rivian supports restrooms being available during business hours.

Maintain a clear separation between consumer, light-duty charging and commercial medium / heavy-duty charging. As a manufacturer of both consumer and commercial electric vehicles, Rivian encourages the Agencies to keep the NEVI funding dedicated to light-duty, consumer vehicles and leverage other funding sources to specifically address the unique needs and challenges of charging commercial medium / heavy duty vehicles. Currently, Rivian evaluates each potential consumer charging site for pull-through charging spots to accommodate a consumer driver's desire to tow. However, many site hosts express reservations about allocating the additional space for a pull-through spot and have concerns regarding the general ingress,

egress and maneuverability space available in their parking lots, especially with tight parking ratio margins[1]. These concerns would be even further compounded with the larger size of commercial medium / heavy duty vehicles making site selection even more difficult and increasing costs for space. In addition, site selection focuses strongly on consumer-friendly amenities and there is an increasing preference by site hosts and EV drivers alike to keep the consumer vehicle charging experience separate from other commercial use cases where drivers typically seek a different amenity profile and / or optimized space for their commercial needs.

Maintain 150 kW continuous power requirement per dispenser. Rivian strongly supports maintaining the current federal requirement of 150 kW continuous power per dispenser and applauds the Agencies for maintaining this requirement in the pre-solicitation proposal. The 150 kW power requirement is well-calibrated to facilitate EV expansion by considering driver needs, grid upgrade costs and expected utilization on a site-by-site basis. Given the significant variance in grid capacity and utilization rates across California, it is critical to maintain the 150 kW requirement. The Rivian R1T and R1S have some of the largest battery capacities (135 kWh) among consumer EVs on the road today and are both capable of accepting charging speeds in excess of 150 kW. However, due to factors like temperature, origination state of charge, and cell derating, the time saved per charging session by higher rates of charge may actually be de minimis from the driver perspective. This is especially true of corridor travel, when stops are often accompanied by bathroom breaks, food and beverage purchases, or leisure activities. Further, data cited by the International Council on Clean Transportation show a nearly two-fold increase in per-charger cost when increasing power levels from 150 kW to 350 kW[2]. As increased power levels directly correlate with increased infrastructure deployment cost, requiring even one charger to dispense as high as 350 kW would necessarily reduce the number of stations able to be deployed in California. This tradeoff is simply not worth the likely minimal potential time savings of higher power under real world conditions and additional infrastructure costs it would introduce.

Reduce and / or stagger the required number of stations and chargers per corridor based on the EVI-RoadTrip 2030 demand forecast. Based on Rivian's experience deploying DC fast charging sites in California, we are concerned the Agencies' proposal to base build out requirements on 2030 demand will result in: deployment delays due to premature and expensive substation upgrades, the need for additional operations and maintenance support for applicants, and a negative impact on ability to receive a competitive pool of applicants for each corridor group.

- Deployment delays. At the time of writing, Rivian has deployed 30 DC fast chargers across 5 sites in California[3], currently accessible to Rivian drivers. Those sites are deployed along key

[1] Site hosts must comply with zoning requirements and meet required ratios of parking spaces to square footage of retail space. Required rations under zoning law can constrain the ability for sites to accommodate pull through parking spots.

[2] Estimating electric vehicle charging infrastructure costs across major U.S. metropolitan areas. ICCT. 2019. https://theicct.org/sites/default/files/publications/ICCT_EV_Charging_Cost_20190813.pdf

[3] https://rivian.com/experience/charging

routes that enable drivers to reach top outdoor destinations like Yosemite, Mammoth and Northern California's Lost Coast. Due to the nature of deploying fast charging infrastructure, electrical capacity has been a key barrier in many potential sites Rivian has evaluated in the state, including sites along designated Alternative Fuel Corridors (AFCs). For example, 13 potential charging sites in California have been cancelled, significantly delayed (1+ years), or downsized in terms of port count due to lack of power availability and delays in utility equipment to support upgrades.

Based on this experience, Rivian is concerned regarding the Agencies' current proposal to require the number of sites and connectors deployed in 2024/5 to be based on expected 2030 demand. Chargers installed in the near-term based on 2030 demand would not maximize capital funds due to their initial low utilization. In addition, the large volume of the chargers required have a potential to result in delays in site energization due to required upgrades, therefore reducing the amount of infrastructure available for EV drivers in the near-term. We acknowledge these potential delays are expected given current market conditions and likely informed the Agencies' proposal to deploy infrastructure in the near-term to meet 2030 needs. However, we encourage the Agencies to further evaluate whether the trade off in delayed infrastructure deployment (and thus EV adoption) is worth meeting the 2030 demand levels, when fewer numbers of sites and chargers could be deployed more quickly while still meeting federal requirements and EV driver needs over the next 2-3 years.

- Additional operations and maintenance (O&M) support. As currently proposed, the infrastructure deployed under the first year of California's NEVI funding will likely go live in 2025, if not earlier. Therefore, this infrastructure would be required to operate for 5 years prior to experiencing the 2030 forecasted demand levels. Given the delay between install and expected utilization, it is more than likely these chargers will be underutilized, therefore requiring more O&M support out of the available NEVI funding.

- Impact on competitive applicant pool. Many of the currently proposed corridor groups require a significant number of sites and chargers based on the 2030 demand forecast. This may present significant challenges even for the most established charging network provider, especially given the nationwide nature and competition of the NEVI funding deployment. To keep competition open to all qualifying applicants, we encourage the Agencies to consider reducing the size of the larger corridor groups.

To address the above concerns, we offer the following proposals for the Agencies' consideration:

- Leverage EVI-RoadTrip to forecast demand for 2028 and 2030 and use the results to inform a range of sites and chargers amounts required for each corridor. This will provide a reasonable level of flexibility to applicants, especially for corridors in more rural or remote areas of the state.
- Leverage the EVI-RoadTrip 2028 forecast demand to set the site and charger numbers for each corridor for the first two rounds of NEVI funding applications. Consider requiring the

installation of stub-outs in the first two rounds to meet the full forecasted 2030 demand. Require the following three funding rounds to meet 2030 (or beyond) demand.

- If the Agencies choose to continue with requiring all corridors to meet 2030 demand forecast numbers, account for the increase in O&M costs but adjusting the application scoring criteria for the first two years of funding applications by reducing the weight focused on the cost parameter.

Finally, once stakeholder feedback on the above areas of concern is considered, we request the Agencies provide additional clarification regarding the proposal to include one additional stub-out. We specifically request clarification on the following: whether the stub-out is required per site, per corridor, or per corridor group, whether the stub-out is in addition to the required site and connector numbers or included in them, and what the required power capacity of the stub-out is.

Do not require existing stub-out conduits compliant with the 150 kW federal requirement to be sized for 350 kW. The proposal to require all conduit runs installed at a NEVI-funded site to be sized for 350kW capacity to future proof for higher capacity chargers will make sense for some sites, but not all. Existing charging sites in California may have installed stub-out conduit sized to meet the current 150 kW federal requirement, meaning the conduit has been sized to include the required void space to meet the desired power capacity level while also meeting safety standards. Therefore, there would be significant cost associated with ripping out and reinstalling upsized conduit to meet the proposed 350 kW conduit size – conduit that could otherwise be used to deploy NEVI-compliant infrastructure at a significantly reduced cost by leveraging existing stub-outs. To best optimize California's use of federal funds and align with the Agencies' proposal to heavily prioritize project cost and private investment contribution in application scoring, we encourage the Agencies to provide an exception for existing, federally compliant stub-outs and not required them to be upgraded to 350 kW in order to qualify for funding.

Edit the definition of "experienced network provider" to remove the requirement for chargers to have been installed in only California. The Agencies' proposed definition will limit competition in NEVI funding applications and create a significant hurdle for industry newcomers in California and potentially beyond. While we agree with the goal of awarding funding to network providers with proven track records, we think it is overly constraining to require their eligible experience to ***only*** be within the state of California. There are several network providers who have ample experience in installing and operating charging infrastructure in other states and countries who should be given the opportunity to submit applications for California's NEVI funding.

Thank you for the opportunity to comment and we look forward to continued discussion with the Agencies on these points.

Sincerely,
Kelsey G. Johnson
Senior Policy Advisor – Energy & Charging
Rivian