

Federal Highway Administration (FHWA) Charging and Fueling Infrastructure (CFI) Program Notice of Funding Opportunity (NOFO)

Executive Summary

Major Goals: facilitate broad public access to charging infrastructure; accelerate adoption of ZEV vehicles; lower transportation costs; advance workforce development & equity; reduce GHG and vehicle emissions. (p. 2)

Emphasis on: environmental justice, in particular for rural and low-moderate income areas; targeting 40% of benefits to low-income, disadvantaged and underserved communities; supporting creation of good paying jobs with strong labor standards.

Community Program: Located along any public road, at a public parking facility, school, public bldg. or parking facility managed by a private entity; may contract with private entity; minimum award \$500,000; expected to reduce GHG emissions and expand or fill gaps in access to existing public infrastructure.

Corridor Program: Located along a designated Alternative Fuel Corridor (AFC) - (e.g. SR1, HWY 101); minimum award amount \$1M; must contract with private entity.

For both programs, charging stations **MUST** be publicly accessible; address environmental justice and be accessible by those with disabilities.

Cost Sharing or Matching: Federal share not to exceed 80% of total costs. Awardees must provide at least 20%. Private entities contracted with **MUST** pay the 20% (i.e. it appears the County would not be on the hook for the matching \$ if contracting with private entities). (p. 19)

Eligible Costs: Any construction or acquisition of real property; development phase activities - planning, feasibility analysis, revenue forecasting, environmental review, pre-engineering and design and other reconstruction activities as well as educational and community engagement activities. (p. 21)

Submission Deadline: May 30, 2023 at [grants.gov](https://www.grants.gov) website. Submit questions to CFIgrants@dot.gov. Select Community or Corridor program for the application.

Award recipients required to comply fully with the **National Electric Vehicle Infrastructure Standards and Requirements** which outline all technical and other aspects of an EV charging station. <https://www.federalregister.gov/documents/2023/02/28/2023-03500/national-electric-vehicle-infrastructure-standards-and-requirements>

Note that the minimum number of ports required for any new infrastructure location is 4. This can be 4 L2 ports or a combination of L2 and L3 ports equalling 4 at minimum.

“Dig Once” approach: Community Program encourages future-proofing installations by considering future expansion needs - i.e. lay additional conduit & plan for new circuits. (p. 14)

Priorities considered by the U.S. DOT: Safety of the charging site to minimize risk of accidents; climate change and sustainability aspects taking into consideration the entire project's environmental impacts; equity and Justice40 impacts; workforce development, job quality and wealth creation; accessibility. (p. 14)

Project Narrative: Include description of project location(s), geographical information, map of location(s), geospatial data and how traffic safety is addressed for vehicles entering and leaving the site, how the project fills gaps in charging access, how funds will be spent, payment options for charging and much more . (p. 25)

Climate Change, Resilience and Sustainability - A Highly Qualified Application significantly reduces emissions; incorporates evidence-based climate resilience measures or features; considers climate change, resilience and environmental justice in project planning; addresses the extent to which the project avoids adverse environmental impacts. (p. 43)

Note the other descriptions of a Highly Qualified application for additional criteria. (pp. 42-49)

DOT Selection Priorities go to: projects that expand EV charging within rural areas, within low- and moderate-income neighborhoods and within communities with a low ratio of private parking spaces to households. (p. 50 and p. 53)

Domestic Preference Requirements: Applicants should comply with the Build America, Buy America Act. (p. 59)

Notes, Questions and Comments re: CFI NOFO

By: D. Hess
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- * Of the two funding categories the Community Program appears to be the best fit, even if SR1 is a designated Alternative Fuel Corridor SR 128 is not. The NOFO states that applications submitted under Community Program may also be considered for the Corridor Program.
- * What options do we have to make EV charging in the County more resilient and less dependent on the transmission grid, 24x7? Lets be honest here - the PG&E transmission grid is outdated, unreliable and at times, downright dangerous. One solution to improve and modernize the grid is to establish interconnected microgrids which would integrate distributed energy resources based locally that can provide local power when the grid is down. Admittedly, that is another, major endeavor not for this project. In the meantime, what about an EV charging system that runs on batteries that can recharge at off-peak hours (load shifting) and be available even when the transmission grid is down?
- * Must register on grants.gov to submit application, which can take weeks for user registration approval. Do this ASAP.
- * Climate change and sustainability actions are **big** aspects of this program. Make very clear what Mendocino Co. is doing here - think SCP's Evergreen option and resilience measures that could be integrated in this project given our history of power outages and fires. Also think of possible mitigation measures since construction and acquisition of equipment involves GHG emissions.

From the NOFO:

Resiliency: Promote reliability and resiliency to intermittent or sustained power outages, disruptive and increasingly severe weather (snowstorms, fire, hurricanes, etc.), high-demand events that can strain the electric grid, or otherwise provide charging services in emergency situations. Projects should accommodate the safe movement of vehicles during these extreme weather events or power outages. These solutions may require complementary technologies (e.g., on-site battery storage, distributed energy resources, microgrids, bi-directional power).

Number of charging ports, connector types & power level (taken directly from the National Electric Vehicle Infrastructure Standards and Requirements document):

This final rule establishes a requirement for the number of ports at a charging station. Any time charging stations are installed there is a required minimum of 4 ports, notwithstanding the type of port (Direct Current Fast Charger (DCFC) or alternating current (AC) Level 2 or a combination of DCFC and AC Level 2). Additionally, in all instances when a DCFC charging station is installed along and designed to serve users of designated AFCs, there must be at least four network-connected DCFC charging ports.

This final rule establishes a requirement that each DCFC port must have a Combined Charging System (CCS) Type 1 connectors. This final rule also allows DCFC charging ports to have other non-proprietary connectors so long as each DCFC charging port is capable of charging a CCS-compliant vehicle.

This final rule establishes a requirement that each DCFC located along and designed to serve users of designated AFCs must simultaneously deliver up to 150kW, as requested by the EV,

and that each AC Level 2 port be capable of providing at least 6 kW per port simultaneously across all AC ports with an option to allow the customer to consent to accept a lower power level to allow power sharing or to participate in smart charge management programs. This final rule also clarifies that power sharing is permissible above the minimum 150-kW per-port requirement for DCFCs.

Comment: The above stated requirements for charging ports may pose some challenges, depending on how the DOT may interpret a Community Program application from us. Yes, SR1 is an AFC but SR128 is not and any other locations we are looking at this time are not. Requiring 4 DCFC ports at an AFC location (Gualala, Mendocino) will significantly increase the costs and electrical infrastructure requirements in areas which may be hard-pressed to support such additional loads on the grid, especially simultaneously and furthermore if each L3 port must provide 150kW. A question addressing these requirements should be addressed to the DOT regarding our unique situation on the coast as we need to take into consideration the capabilities of an aging grid in a relatively remote environment. Just think about 4 EVs charging simultaneously (600kW load) at 6 pm on an extremely hot day when the CA ISO is threatening to shed loads in order to keep the entire grid from failing! Yes, I think we will want DCFC chargers in Gualala, Boonville and perhaps Mendocino but they should be compatible with the limitations of the grid therefore it is more practical to plan for lower power L3 chargers, IMHO. Or, can we start with a single L3 charger (2 charging ports) combined with one or more L2 chargers to comply with the minimum 4 charging port total for any site, despite a location on an AFC?

Multi-site Proposal #1 (Community Program)

This is just a first stab at possible charging site configurations to get an idea what we may be looking at. We have not included brand names but we have an idea what they could be. We are brand agnostic as long as the chargers chosen have a proven track record and the right qualifications to provide the capabilities we want and need. In all of the following configurations there is no need for PG&E to provide a high power (480 volt) circuit, which is time-consuming to get approval for, expensive to provision (if it is even available - no guarantee) and adds significant load to the grid. I think one of our many goals should be to minimize any added stress to the grid and provide some level of resiliency for when the grid is down. We have not included a L3 DCFC charger in Mendocino with this configuration out of costs concerns but we are flexible on that point. There are Fast Chargers in Ft. Bragg.

Gualala Site A

- Qty 1 - Battery-backed L3 DCFC Charger configured with Qty 2 CCS1 Combo ports (50-150 amps) Capable of powering 1 EV at 150kW or 2 EVs simultaneously at 75kW each
- Qty 2 - Level 2 Charger with dual J1772 ports (200 amp service) providing >6kW each port
Optional Solar Canopy and batteries for added resiliency. Capable of charging 4 vehicles simultaneously.

Notes: This would require both a 200 amp service for the L2 Chargers and a say a 100 amp service for the DCFC. The DCFC provides resiliency with its batteries. Resiliency for the L2 chargers would require additional batteries and ideally a solar canopy.

Gualala Site B

- Qty 2 - Level 2 Charger with dual J1772 ports (200 amp service) providing >6kW each port
Solar Canopy and batteries to provide resiliency at this site.
Capable of charging 4 vehicles simultaneously.

Note: A single 200 amp service will suffice for all chargers with this configuration.

We have recommended 2 separate sites for Gualala because currently there is literally NOTHING in Gualala - no public chargers and not even any privately owned chargers for the 4, multi-room lodging facilities in town. As far as we can tell, of all the unincorporated towns in the County, Gualala is as bad as it gets when it comes to charging facilities, public or private. Gualala needs to catch up and this will not happen without public subsidies.

Boonville Site

- Qty 1 - Battery-backed L3 Charger configured with Qty 2 CCS1 Combo ports (50-100 amps)
Capable of powering 1 EV at 150kW or 2 EVs simultaneously at 75kW each
- Qty 1 - Level 2 Charger with dual J1772 ports providing >6kW each port
Optional Solar Canopy and batteries for resiliency.

Note: A single 200 amp service will suffice for all chargers with this configuration.

Mendocino Site

- Qty 2 - Level 2 Charger with dual J1772 ports (200 amp service) providing >6kW each port
Solar Canopy and batteries to provide resiliency at this site.

Capable of charging 4 vehicles simultaneously.

Note: A single 200 amp service will suffice for all chargers with this configuration.

Camp 20 at Chamberlain Creek, Jackson State Forest on SR 20

Qty 1 - Level 2 Charger with dual J1772 ports (100 amp service) providing >6kW each port
Solar Canopy and batteries to provide resiliency at this site (optional)
Capable of charging 2 vehicles simultaneously.