

# SCAG EV Charging Station Study

## EV Charging Station Funding Guide

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**SCAG**<sup>TM</sup>  
INNOVATING FOR A BETTER TOMORROW

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## ABOUT SCAG

SCAG is the nation's largest metropolitan planning organization (MPO), representing six counties, 191 cities and more than 19 million residents. SCAG undertakes a variety of planning and policy initiatives to encourage a more sustainable Southern California now and in the future.

## VISION

Southern California's Catalyst for a Brighter Future

## MISSION

To foster innovative regional solutions that improve the lives of Southern Californians through inclusive collaboration, visionary planning, regional advocacy, information sharing, and promoting best practices.

## INTRODUCTION

California has passed multiple pieces of legislation to increase electric vehicle (EV) adoption. In August 2022, California Air Resources Board (CARB) passed the Advanced Clean Cars II (ACC II) rule to help the State achieve its goal of having 8 million EVs on the road by 2030 by requiring vehicle manufactures to sell an increasingly higher percentage of zero-emission vehicles (ZEVs). The California Energy Commission (CEC) estimates that 1.2 million EV charging stations (EVCS) will be needed to support the State’s 8 million EV goal. Installing 1.2 million EVCS will be a very capital-intensive endeavor and project developers will need to leverage outside funding sources or have creative ownership and financing structures to deploy the EVCS by 2030. There are a variety of federal, state, and local funding sources available to offset the upfront and/or ongoing costs of EVCS. Some funding programs may be in high demand and funds can be exhausted quickly. It is recommended to identify available funding sources, eligibility, and availability requirements early in the planning process to increase the chance of securing funds.

## FUNDING AND FINANCING OPPORTUNITIES

The following funding opportunities may be used by the public or private sector to reduce the cost of EV infrastructure or EVs for municipal and commercial fleets. Cities should consider providing information related to available incentives towards EV purchases and EVCS installation on an EV landing page on the City’ website. In several instances funding is prioritized for disadvantaged communities (DACs) or low-income communities (LICs) and should be highlighted on the City’s website.

## DIRECT INCENTIVES AND REBATES

There are currently multiple funding sources available to offset the upfront and ongoing costs of EV charging stations. Table 1 **Error! Reference source not found.** summarizes available incentives and rebate programs available in within the SCAG Region (as of December 2022). Some funding programs may be in high demand and funds can be exhausted quickly. It is recommended to identify available funding sources, eligibility, and availability requirements early in the planning process to increase the chance of securing funds. Some of these funding sources are explained in further detail in this section.

**TABLE 1 – EVCS FUNDING OPPORTUNITIES – DECEMBER 2022**

Entity	Program Name	Summary	Other Notes
California Energy Commission (CEC)	<a href="#">National Electric Vehicle Infrastructure Program (NEVI)</a>	Funding from Infrastructure Investment and Jobs Act (IIJA) for DCFC along Alternative Fuel Corridors (AFCs)	Will be issued as competitive grants by region. Only private sector entities may apply. 4 150kW port minimum
Varies/TBD	Inflation Reduction Act (IRA)	Includes tax credits for multiple clean energy measures including electric vehicles and chargers	Starting in 2024 public sector entities may be able to take advantage of tax credits as direct payments. Pending final guidance.
Southern California Edison (SCE)	<a href="#">Charge Ready</a>	No-cost infrastructure up to charger stub out and incentives on eligible charging stations. Waitlist for new applications effective September 1, 2022.	4 charging port minimum (10+ recommended). Preference for multifamily and DACs

Entity	Program Name	Summary	Other Notes
Los Angeles Department of Water and Power	<a href="#">Charge Up LA!</a>	Rebates on qualifying L2 and DCFCs for qualifying site types	Funding must be reserved before installation
Anaheim Public Utility (APU)	<a href="#">Public Access EV Charger Rebates</a>	Rebates for Level 2 or higher plug-in chargers installed at commercial, schools, industrial, or municipal properties	Subject to funding availability. Funds need to be reserved before installation. Rebate issued after installation is complete
California Energy Commission	<a href="#">CAleVIP</a>	Starting in 2023, only DCFC projects will be eligible for this rebate	Funding must be reserved before installation. Funding allocated by region and may be exhausted quickly.
California Air Resources Board	<a href="#">Clean Vehicle Rebate Project</a>	Rebates for qualifying low or zero emission light duty vehicle purchases.	Rebates vary on technology type and are limited to vehicles under certain price thresholds. Income limits.
California Air Resources Board	<a href="#">Hybrid and Zero-Emission Truck and Bus Voucher Incentive Project</a>	Voucher for qualifying low or zero emission medium and heavy-duty vehicle purchases.	Voucher issued at point of sale through qualified vendors and manufacturers. Value vary by vehicle and technology type
California Air Resources Board	<a href="#">Low Carbon Fuel Standard</a>	Program that issues credits for low carbon fuels. Credits can be generated from the electricity dispensed from EVCS.	Credits can be banked or sold up to once per quarter. Credit values fluctuate based on market conditions.
Department of Energy	<a href="#">Energy Efficiency and Conservation Block Grant Program</a>	As part of the IIJA, block grants for capital investments or financing energy efficiency, renewable energy, and zero-emission transportation (and associated infrastructure), projects	Issued as formula funds directly to Cities that may be used for energy projects at their discretion.

## LOW CARBON FUEL STANDARD

Under AB32, in 2009 California created the low carbon fuel standard (LCFS) to reduce GHG emissions from the transportation sector. The goal is to decrease the carbon intensity of the CA transportation fuel pool, 20% by 2030, and provide financial incentives for low carbon alternative fuel sources<sup>1</sup>. Fuel providers can generate credits for producing low carbon fuels, including dispensed electricity from EVCS. After charging stations are installed, the site host should reach out to brokerages that specialize in the sale of LCFS c<sup>2</sup>

<sup>1</sup> <https://ww2.arb.ca.gov/our-work/programs/low-carbon-fuel-standard/about>

<sup>2</sup> <https://www.neste.com/investors/market-data/lcfs-credit-price>

redits. Fuel data and metered energy usage must be reported quarterly to CARB. Site hosts should coordinate with the EVCS manufacturer so that energy usage is automatically sent to brokers who can facilitate the sale of credits generated each quarter. The total number of and value of the credits generated will be impacted by the carbon intensity of the electricity used, the amount of electricity dispensed from the chargers, and the overall supply and demand of credits in the market. Credit values have fluctuated over time, at one point peaking at \$200/credit. As of January 2023, credit prices have fallen to a low of \$60-70/credit. Public and private sector EVCS owners can use this LCFS revenue to offset EVS infrastructure costs, hardware costs, and other ongoing costs (maintenance, networking fees, etc.) not recovered by selling electricity.

## NEVI

The 2021 Infrastructure Investment and Jobs Act (IIJA) included \$7.5B in to support a national electric vehicle infrastructure (NEVI) program. Of the \$7.5B, \$5B is allocated specifically for DCFCs along Alternative Fuel Corridors (AFCs) to support long distance travel and reduce range anxiety for EV drivers. This funding will be issued as formula funds to states over five years. California is set to receive \$384M. The CEC will issue this funding as competitive grants and in September 2022 released preliminary guidance on eligible projects and how funds will be issued<sup>3</sup>. Some elements of this guidance, current proposals, and how this Study aligns with them are summarized below:

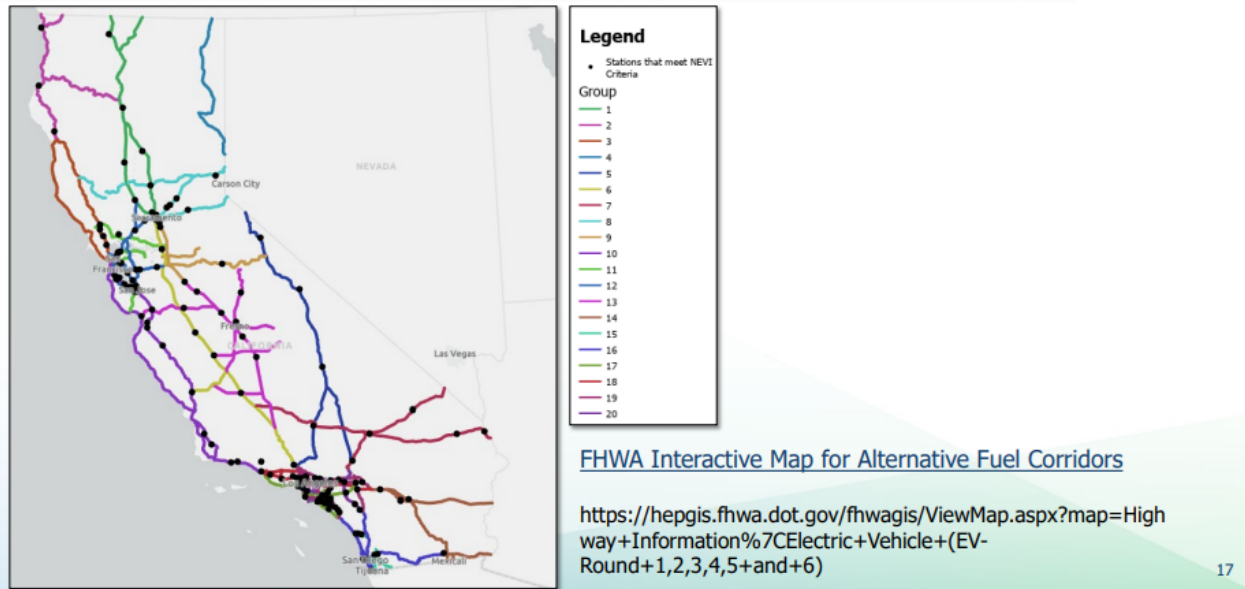
- Projects must have a minimum of four (4) 150kW ports where each port can simultaneously output a maximum of 150kW.
  - This is an IIJA requirement, but California will require infrastructure to support up to five (5) 350kW ports long term.
- Projects must be within 1 mile of an AFC exit and no more than 50 miles apart. This is set from the IIJA.
  - The suitability analysis weighted sites close to highways and major travel corridors higher, though not all highways and major travel corridors are AFCs.
- The projects must include a 5-year networking and maintenance agreement, with a 97% uptime guarantee. Chargers must be available 24/7/365.
- California has evaluated AFCs in the state and broken up the highway system into corridors (Figure 1). The CEC is expected to release solicitations every 6 months; each solicitation will only be for a select number of corridors.
  - Depending on the corridor, project applicants may need to contribute 50% in match share funding. Some corridors will only require 20% match share funding– in line with typical federal funding requirements.
- Only private sector entities will be able to apply for funds. Cities and other public agencies cannot be the lead applicant, though they may be a partner on project applications.
- At least 50% of EVCS must be in a DAC or Low-Income Community (LIC). At least 40% of chargers must benefit Justice 40 communities.
  - The suitability analysis prioritized DACs and areas with lower income (though LIC designations were not used).

CEC's final approach to issuing funds may change based on stakeholder's feedback. During the CEC's September 2022 workshop, the CEC anticipated the first round of solicitations being related in Q1 2023,

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<sup>3</sup> [National Electric Vehicle Infrastructure Program \(NEVI\) | California Energy Commission](#)

and future solicitations every six months thereafter. At the time of this Study, the first solicitation has not been announced.



**FIGURE 1. CEC'S PROPOSED NEVI CORRIDORS GROUP**

While, SCAG or its member cities cannot directly apply for NEVI funds, they can partner with a private sector developer on project applications. If public owned sites are eligible for NEVI, public sector site hosts can help influence the final project design, contribute towards match funding, and/or expedited the permitting review and approval. SCAG can build on the work completed in this project to narrow down the suitability analysis to just sites that may qualify for NEVI, filtering for sites within one mile from AFCs, and exist within priority populations including DACs, LICs, or Justice 40 census tracts. This can help project developers target the most suitable or prioritized sites for EVCS. SCAG can form partnerships with project developers to further investigate highly ranked sites or provide a list of qualified contractors to member cities.

## INFLATION REDUCTION ACT (IRA)

The Inflation Reduction Act (IRA) passed in 2022 provides funding for EVs and charging stations in the form of tax credits. Individuals and commercial/public entities are eligible for different credits with different conditions.

For individuals, the IRA extends the previous \$7,500 tax credit for EV purchases and removes the previous sales volume cap but instituted several other eligibility requirements including<sup>4</sup>:

- U.S. has a free trade agreement or use critical minerals that were recycled in North America.
- Only vehicles assembled in North America will be eligible.
- Only cars under \$55,000 or SUVs, vans, and pickup trucks under \$80,000 are eligible for the credit.
- On the consumer side, the income cap to be eligible for the credit is \$150,000 for single filers, \$225,000 for head of household and \$300,000 for joint filers.

<sup>4</sup> [Inflation Reduction Act \(IRA\) EV Incentives, Explained - \(pluginamerica.org\)](https://www.pluginamerica.org/inflation-reduction-act-ira-ev-incentives-explained)

- Starting in 2024 individuals can transfer the tax credit to the car dealer to receive the value of the tax credit at the point of sale.
- Starting in 2023 the tax credit will be broken up into two portions, though the following requirements are waived until final guidance is issued.
  - A vehicle is eligible for one-half of the total credit (\$3,750) if the vehicle has battery components that are manufactured or assembled in North America. The percentage of battery components will increase up to 80% starting January 1, 2027.
  - To be eligible for the other \$3,750, a vehicle must have critical minerals that were extracted or processed in the U.S. or countries with a free trade agreement with the U.S. The percentage of battery components will increase up to 80% starting January 1, 2027.

The IRA also establishes new tax credits for used EVs that goes into effect January 1, 2023. The used EV tax credit is for \$4,000 or up to 30% of the vehicle price (whichever is lower.) The used EV tax credit has a few requirements:

- The vehicle must be under \$25,000.
- The vehicle model year must be at least 2 years old (based on when the consumer is purchasing the used vehicle.)
- In order to be eligible, the vehicle must be sold by a dealer.
- The income cap to be eligible for the used EV credit is \$75,000 for single filers, \$112,500 for head of household and \$150,000 for joint filers.
- The credit can only be applied once per vehicle.

The EV charger credit, formally known as the alternative fuel refueling station credit, has been extended through 2032. The credit is available for both individual and commercial uses to help cover the cost of charging stations.

- For individual/residential uses, the tax credit covers 30% (up to \$1,000 per unit) of the cost of the equipment
- For commercial uses, the tax credit covers 6% (up to \$100,000 per unit) of the cost of the equipment
- Bidirectional charging equipment is eligible
- Starting January 1, 2023, equipment must be placed in a low-income community or non-urban area to qualify

EV tax credits will be available for commercial and public entities as well, with fewer eligibility restrictions. EVs with a gross vehicle weight rating (GVWR) under 14,000 pounds will be eligible for a \$7,500 tax credit without the aforementioned assembly or sourcing requirements. EVs with a GVWR over 14,000 pounds will be eligible for a \$40,000 tax credit. In both cases the tax credit is capped at up to 30% of the vehicle cost and cannot exceed the incremental cost difference of a comparable internal combustion engine vehicle.

Public agencies have previously not been able to take advantage of tax credits directly, because they are tax exempt. Starting in 2024 public agencies will be able to receive the tax credits as a direct payment, though final guidance on how this will be issued is still pending.

## SCE CHARGE READY

Cities within Southern California Edison (SCE) territory may apply for the utility's Charge Ready program which opened on July 12, 2021. This program covers utility side infrastructure and behind the meter infrastructure for EV charger installations that have at least four level 2 charging ports and provides rebates to qualified EV chargers, though due to cost effectiveness criteria SCE is required to meet,

### SCE Charge Ready on Hold

Due to an abundance of applications, SCE created a waitlist for new Charge Ready applications starting September 1, 2022. As of February 2023, additional waitlist applications may only be submitted by the sites in DACs.



typically projects must contain at least 10 charging points to get approved. The program has a focus on MUDs and sites located within DACs. SCE has additional Charge Ready Programs to turnkey EVCS in MUDs within DACs, new construction rebate program, and Charge Ready Transport for medium and heavy-duty fleets. The program will help make EVSE installation projects more economically viable. Due to an abundance of applications, SCE has stopped accepting new applications as of September 1, 2022, for public Level 2 EVCS rebates and MUD turnkey application projects<sup>5</sup>. Between September 2022 and January 2023, new applications for these programs were placed on a waitlist. As of February 2023, only sites in DACs may apply for the waitlist for those programs. New construction rebates and Charge Ready Transport project applications are still being accepted.

## CALEVIP 1.0 AND 2.0

CALEVIP is a state rebate program that provides rebate funding for Level 2 EVCS and DCFCs. The previous (CALEVIP 1.0) project allocated funding by county and was issued on a first come-first serve basis. At the time of this plan, Ventura and Imperial Counties still have funding available for Level 2 charging station projects. All other SCAG counties have exhausted their CALeVIP 1.0 funds.

Starting in 2023, the CALeVIP program will be rebranded as the Golden State Priority Project ([CALEVIP 2.0](#)) and focus exclusively on DCFC projects that have a minimum power output of 150kW. Eligible applicants can qualify for rebates up to \$100,000 per port or up to 50% of their project's total approved costs, capped at \$100,000 per port. Funding is only available for sites located in DAC or low-income community (LIC) census tracts. The suitability analysis prioritized DACs and areas with lower income (though LIC designations were not used).

Funding will be issued regionally, but instead of issuing funds on a first come first serve basis, funding will be prioritized based on how shovel-ready the project is. This will encourage some initial development so that only the projects with the highest likelihood of getting completed are funded. The first application window will be open from January 24, 2023 through March 10, 2023 and cover eastern and central California including Ventura, San Bernardino, Riverside, and Imperial Counties (Figure 2). After the application window closes, sites will be categorized based on how shovel-ready they are and then funding will be reserved for the most shovel-ready projects.



**FIGURE 2. CALEVIP 2.0 INITIAL FUNDING REGIONS**

## ALTERNATIVE FUELS DATA CENTER

The Study provides a snapshot of some of the most common EV and EVCS funding opportunities available at the time of this Study. The list is far from comprehensive; new funding sources may be available; and funding sources may be exhausted and not renewed. The Department of Energy (DOE) Alternative Fuels Data Center (AFDC) maintains a comprehensive, up-to-date database of federal, state,

### DOE AFDC Database

The Department of Energy Alternative Fuels Data Center maintains a comprehensive, up-to-date database of funding and financing opportunities for EVs and EVCS.

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<sup>5</sup> [Charging Infrastructure and Rebate Program \(sce.com\)](#)



utility, or local funding and financing opportunities for EVs and EVCS ([AFDC Laws and Incentives](#)). Cities are encouraged to review this database regularly and include links to the AFDC on City websites. SCAG, Cities, and EVCS project stakeholders should review the AFDC website early in project development to determine what funding sources may be available or appropriate for the given project. Users can search for incentives, rebates, financing, or policies for a variety of fuel types, end users (Figure 3).

## Search Federal and State Laws and Incentives

Search incentives and laws related to alternative fuels and advanced vehicles. You can search by keyword, category, or both.

### Keyword Search

Note: You can search by title, description, or public law number.

### Category Search

Jurisdiction	Technology/Fuel	Incentive/Regulation	User
<input type="checkbox"/> All <input type="checkbox"/> Federal <input type="checkbox"/> Alabama <input type="checkbox"/> Alaska <input type="checkbox"/> Arizona <input type="checkbox"/> Arkansas <input type="checkbox"/> California	<input type="checkbox"/> All <input type="checkbox"/> Biodiesel <input type="checkbox"/> Ethanol <input type="checkbox"/> Natural Gas <input type="checkbox"/> Propane (LPG) <input type="checkbox"/> Hydrogen Fuel Cells <input type="checkbox"/> EVs	<input type="checkbox"/> All <input type="checkbox"/> Grants <input type="checkbox"/> Tax Incentives <input type="checkbox"/> Loans and Leases <input type="checkbox"/> Rebates <input type="checkbox"/> Exemptions <input type="checkbox"/> Time-of-Use Rate	<input type="checkbox"/> All <input type="checkbox"/> Commercial <input type="checkbox"/> Government Entity <input type="checkbox"/> Tribal Government <input type="checkbox"/> Personal Vehicle Owner or Driver <input type="checkbox"/> Alternative Fuel

SEARCH CLEAR

FIGURE 3. AFDC EV INCENTIVE SEARCH AND FILTER FEATURE

## EV INFRASTRUCTURE OWNERSHIP MODELS

While California will likely continue to provide funding for EV infrastructure, it remains highly competitive. Forming public-private partnerships and exploring alternative financing or ownership models can help reduce financial barriers. Cities or site hosts can purchase, own, and operate the chargers themselves but that typically comes with networking fees and the responsibility of maintaining the chargers. For this reason, it's generally recommended for site hosts to charge users for the electricity to recover ongoing costs. In some cases, the site hosts such as employers or MUD owners may choose to not charge for dispensed electricity and instead consider EVCS a differentiator and a perk for their employees or tenants. For highly utilized sites, Cities may be able to provide an easement or lease parking spaces to third parties where the vendor retains sole ownership of the charging stations and is responsible for maintaining them. Other successful ownership models include charging as a service (CaaS), where the site host pays little to no money upfront and pays the vendor over time via a subscription model, typically on a per kWh basis. Lastly, shared ownership and revenue models may be possible. These ownership models, summarized in Table 2 may not be viable for all projects, so site hosts should work closely with project developers and the charging vendors to determine the best ownership model for the specific project. For third party ownership models, Cities should work closely with project partners to ensure sites meet local design requirements and goals such as multiple payment mechanisms and open-access plug types.

**TABLE 2 – SAMPLE EV OWNERSHIP MODELS**

Line Item	Host Owned	Charging as a Service (CaaS)	Hybrid Host-Vendor Owned	Vendor Owned
<b>Service Model</b>	Host own and operate	Vendor own and operate via subscription	Shared ownership	Vendor own and operate
<b>Ideal for:</b>	Pilot projects, site desire to control charging revenue	Large fleet electrification projects	Sites that want limited control on charger O&M	Sites with very high expected EVCS utilization
<b>Equipment Ownership</b>	Host	Vendor	Host or Vendor	Vendor
<b>Installation Costs</b>	Host	Vendor	Host or Vendor	Vendor
<b>Electricity Costs</b>	Host	Vendor	Vendor	Vendor
<b>Support &amp; Maintenance Costs</b>	Host	Vendor	Vendor	Vendor
<b>Charging Revenue</b>	Goes to Host	Varies	Split with Vendor	Majority Percentage to Vendor
<b>Pricing Controls</b>	Host	Vendor	Vendor	Vendor
<b>Contract Term</b>	Contract Typically Not Required	Contract Typically Required	Contract Typically Required	Contract Typically Required
<b>Network Fees</b>	Yes	No	Yes	Yes
<b>Monthly Subscription Fee</b>	No	Yes	No	No

## **CONCLUSION**

EVCS must be rapidly deployed throughout the SCAG region in order to provide the consumer confidence needed to adopt EVs in line with state goals. There is currently a variety of funding sources available to reduce the upfront and on-going cost of EVCS. While Cities can lead the way by installing EVCS at publicly owned locations, most EV infrastructure is expected to be owned and operated by the private sector. The public sector has a role to play in forming public-private partnerships and connecting the private sector to funding sources to encourage EVCS installation.



### **Main Office**

900 Wilshire Blvd., Ste. 1700,  
Los Angeles, CA 90017  
Tel: (213) 236-1800

### **Regional Offices**

Imperial County  
1503 North Imperial Ave., Ste. 104  
El Centro, CA 92243  
Tel: (213) 236-1967

Orange County  
OCTA Building  
600 South Main St., Ste. 741  
Orange, CA 92868  
Tel: (213) 236-1997

Riverside County  
3403 10th St., Ste. 805  
Riverside, CA 92501  
Tel: (951) 784-1513

San Bernardino County  
Santa Fe Depot  
1170 West 3rd St., Ste. 140  
San Bernardino, CA 92418  
Tel: (213) 236-1925

Ventura County  
4001 Mission Oaks Blvd., Ste. L  
Ventura, CA 93012  
Tel: (213) 236-1960

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