

SCAG EV Charging Station Study

Site Suitability Analysis Methodology

REVISED AND APPROVED

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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’s goal to have 5 million EVs on the road by 2030 has accelerated the need for electrifying transportation throughout the Southern California Associations of Governments (SCAG) region¹. As well as the goals of 100% medium- and heavy-duty vehicles be zero-emission by 2045; and drayage trucks by 2035 where feasible.² Creating accessible and reliable electric vehicle (EV) charging infrastructure will play a crucial role in meeting these goals and in reducing pollution and greenhouse gas emissions. The intent of this study is to help jurisdictions in the SCAG region to promote the development and deployment of EV charging infrastructure to accelerate transportation electrification. The site suitability analysis is intended to provide stakeholders in the study area with the information and tools they need to identify ideal locations for the placement of EV charging stations (EVCS) in their areas given a set of stated priorities. The study area for this project includes 18 cities and the San Gabriel Valley Council of Governments (SGVCOG) region, see Table 1. Each of these 18 cities and the SGVCOG are at different phases in their efforts to create EV infrastructure and incentivize the use of EVs. Cities may have different resources and priorities reflected in their approach to site selection. This document outlines the methodology, scoring framework, and criteria used to identify and evaluate ideal locations for installing EV charging stations throughout the SCAG region and for different cities in the study area given their current EV infrastructure status. The evaluation criteria and methodology presented in this study reflect comments and feedback presented by stakeholders during this study. Cities are invited to use the data and methodology presented here to help inform their decision-making process by applying the evaluation criteria to their regions in order to focus on optimal locations for the placement of EVCS.

TABLE 1 - CITIES IN STUDY REGION

Large Cities	Small Cities	San Gabriel Valley Cities
Anaheim	Artesia	San Gabriel Valley Council of Governments (SGVCOG)
Culver City	Pico Rivera	Diamond Bar
Long Beach	Redlands	Baldwin Park
Los Angeles		Covina
		Glendora
		La Puente
		La Verne
		Monrovia
		Rosemead
		San Dimas
		South El Monte
		Walnut

¹ [Electric Vehicle Charging Infrastructure Assessment - AB 2127 | California Energy Commission](#)

² California Governor Gavin Newsom Executive Order N-79-20, September 23, 2020.

Given data limitations, this analysis may not be able to address every factor to determine optimal sites for EVCS. For example, grid capacity is constantly changing and there is no dataset available on the number of parking stalls for a given site throughout the SCAG region. As a result, stakeholders reviewing the results of the analysis will need to conduct further site evaluation to determine which sites can viably host EVCS. Therefore, this guide intended to inform a process that cities and other stakeholders can use in the future to identify and prioritize sites, using the tools of this study as integrated into the PEV Atlas. Cities may use the results of the analysis to target outreach efforts, further evaluation, and spur project development alongside private sector partners where it is needed most.

EVALUATION METHODOLOGY

OVERVIEW

This section addresses some of the overarching assumptions and objectives for implementing EV charging infrastructure that applies to all areas in the SCAG region. The purpose of the scoring criteria is to help cities within the SCAG region prioritize locations for installing EV charging stations based on data-driven analysis, and in particular focusing on areas in or near medium and high-density residential areas, high-density employment sites, job training/education facilities, and commercial areas suitable for morning or mid-day charging, that the private market may not otherwise address. The evaluation methodology and scoring metrics are based on industry experience, SCAG's stated priorities for this project, literature review and best practices, as well as comments and feedback from SCAG members, cities, and stakeholders. The comments and feedback from SCAG, cities, stakeholders, and community members enabled us to ground results of the data in the actual needs and accessibility of the areas. The comments and feedback shaped the SCAG Regionwide Standard and additional the Three Scoring Scenarios for Cities, recognizing the differences in EV readiness between cities, as well as the scoring criteria and what qualities cities want to emphasize in developing EV infrastructure. Overall SCAG, cities, stakeholders, and community members locating new EV charging stations should highlight the following qualities:

- **Accessibility** – EV charging stations (EVCS) should be accessible. The US Infrastructure Investment Jobs Act (IIJA), Section 11401, "Grants for Charging and Fueling Infrastructure," established the criteria for a funding a grant program to strategically deploy publicly accessible electric vehicle charging infrastructure. One of the criteria for the IIJA grant is accessibility, which is defined as "public accessibility of charging or fueling infrastructure proposed to be funded with a grant under this subsection, including-- (I) charging or fueling connector types and publicly available information on real-time availability; and (II) payment methods to ensure secure, convenient, fair, and equal access."³ This requires prioritizing the placement of EV charging stations in public areas (public parking, parks & recreation areas) as opposed to private locations or restricted areas (e.g., military bases, industrial areas, etc.). This does not preclude the possibility of placing an EV charging station in these locations, it merely lowers its prioritization. Additionally, this increases the number of publicly available EV charging stations. Beyond site accessibility, charging stations should use industry-standard plug types, payment methods, and open network protocols so that charging stations are able to be used by all EV drivers.

³ US Congress (2021) *H.R.3684 - Infrastructure Investment and Jobs Act*, [Rep. DeFazio, Peter A. \[D-OR-4\]](#) (Introduced 06/04/2021), Section 11401, "Grants for Charging and Fueling Infrastructure," Page 135 STAT. 548.

- **Equity** – Identifying disadvantages communities (DACs) based on areas of low-income, CalEnviroScreen scores, high density, and environmental vulnerability to prioritize these areas for consideration for new EV charging stations.
- **High-Capacity Locations** – Identifying locations where EV charging stations are likely to be in high demand and provide continuous use for the community. This emphasizes placing EV charging station near high-capacity locations which are sites, other than major employment centers, that typically have on-site or adjacent parking and have large numbers of visitors or usage. These locations may include hospitals, schools and universities, shopping centers, sports venues, entertainment venues, airports, and public services centers. These locations tend to have high traffic volumes, in which people might want to charge their EVs while visiting the location. These locations also support EV charging for ridesharing drivers as they can charge their EVs while waiting to pick up riders or after dropping off their fares. This criteria does not include grid capacity. While electric grid capacity can be an important factor for installing EVCS, based on a combination of data availability and stakeholder feedback grid capacity was not included in the analysis.
- **Convenience** – To increase the charging stations utilization, when possible, EV charging stations should be located near main streets or highways. Additionally, cities at the initial stages of developing EV infrastructure will want new charging stations to be in highly visible locations.
- **Transit** – Supporting a multi-modal transportation system, where possible new EV charging stations can be located near public transportation stations or hubs. Thus, encouraging people to drive and charge their EVs at transit park and ride lots.
- **Environment** – Tailpipe emissions from internal combustion engine (ICE) vehicles impacts the local environment and air quality. Prioritizing installing EV charging stations in areas with high pollution burden and health impacts from asthma could increase local EV adoption and improve air quality and health.
- **Employment** – Prioritizing the placement of EV charging stations in locations with high employment and education centers could support the use of EVs for commuting.⁴

This study takes into account the policies outlined in California State Assembly Bill (AB) 841⁵, which authorizes the California Public Utilities Commission (CPUC) in consultation with the California State Energy Resources Conservation and Development Commission (Energy Commission), the State Air Resources Board, electrical corporations, and the motor vehicle industry, to evaluate policies to develop infrastructure sufficient to overcome any barriers to the widespread deployment and use of plug-in hybrid and electric vehicles. Additionally, this study incorporates guidelines from resolutions, which directed the investor-owned utilities (IOUs)...new rule[s] that authorizes each IOU to design and deploy all electrical distribution infrastructure on the utility side of the customer’s meter for all customers, or applicants, installing separately metered infrastructure to support charging stations, other than those in single-family residences.⁶ Based on industry standards, regulations, research, as well as the qualities listed above, the

⁴ J.R. DeShazo (2021) “An Electric Vehicle Charging Station Siting Strategy for the South Coast: Expanding Opportunities in Multi-unit Dwellings and Workplaces,” UCLA Luskin Center for Innovation, Mobile Source Review Committee (MSRC), and Clean Transportation Funding.

⁵ Assembly Bill No. 841, CHAPTER 372 An act to amend Section 740.12 of, to add Sections 740.18, 740.19, and 740.20 to, and to add and repeal Chapter 8.7 (commencing with Section 1600) of Part 1 of Division 1 of, the Public Utilities Code, relating to energy. September 30, 2020.

⁶ Public Utilities Commission of The State of California, Energy Division (2021), Resolution E-5167 Pacific Gas & Electric, Southern California Edison, and San Diego Gas & Electric request approval to establish new

evaluation criteria were selected, and scoring created in order to rank locations and provide SCAG and the municipalities with the ability to prioritize locations in their region. The locations with the highest number of points based on this scoring criteria are locations that can be considered for further evaluation to install new EV charging stations.

DATA SOURCES

The sources used in for the evaluation criteria in this methodology were all sources that were provided by SCAG, by the city participants, or publicly available. The data sources included in the evaluation criteria were intended to support the qualities outlined in the overview section. The data sources were categorized as follows:

- **Electric vehicles (EV)** – the data sources in this category provided information on the existing or planned publicly funded EVCS. Data sources in this category also included vehicle ownership of EVs. Understanding geographic locations of current EV ownership as well as current and planned EVCS is key to helping cities determine where new infrastructure is needed.
- **Demographics** – The demographics data sources used were focused on income, DACs, employment locations, and population density. These data sources were important for supporting the equity, high-capacity, and employment components of this scoring methodology and enabling cities to identify areas of low-income and high capacity for locating new EVCS.
- **Environmental** – the environmental data sources focused in pollution burden and particularly asthma levels. One of the main principals of outlined by SCAG, cities, and stakeholders was to prioritize locating EVCS in areas to reduce environmental pollution and improve air quality.
- **Transportation** – Another principal is to locate new EVCS near public transportation stations or hubs. As a result, data sources in this category focused on identifying the locations of Metro stations, Metrolink stations, and high-quality transit areas, and airports. The data source on highways and arterial streets in this category are also important to identifying areas of convenience for siting new EVCS.
- **Parking Lots** – identifying the parking lots and park & ride lots in the region supports the convenience and transportation principals, by identifying locations near transit and existing availability parking for siting new EVCS.
- **Land Use** – the land use data was important for this evaluation criteria to identify types of land use that provide wider accessibility for the public and promotes increased usage of EVCS. Types of land use that are accessible to the public or have large traffic volumes support the principles accessibility, convenience, and high-capacity locations.

The specific data sources used in the scoring criteria are outlined in Table 2 and utilized the most recent version of data available when this analysis was developed.

Electric Vehicle (EV) Infrastructure Rules and associated Memorandum Accounts, pursuant to Assembly Bill 841. RESOLUTION E-5167, October 7, 2021.

TABLE 2: DATA SETS USED FOR SCORING CRITERIA

NO.	THEME	DATA	METRIC	DATA TYPE
1	Proximity to Existing EV Charging Station	Department of Energy Alternative Fuels Data Center, Electric Vehicle Charging Station Locations https://afdc.energy.gov/fuels/electricity_locations.html	Distance - Miles	EV Data
2	EV Charging Stations - Existing and Planned	Department of Energy Alternative Fuels Data Center, Electric Vehicle Charging Station Locations https://afdc.energy.gov/fuels/electricity_locations.html	Distance - Miles	EV Data
3	California Motor Vehicle Fuel Types Battery Electric Vehicles	California Department of Motor Vehicles, via SCAG by ZIP Code, January 1, 2020.	CA Motor Vehicle Fuel Types by Zip Code - Number of Battery Electric Vehicles	EV Data
4	California Motor Vehicle Fuel Types Plug-In Hybrid Vehicles	California Department of Motor Vehicles, via SCAG by ZIP Code, January 1, 2020	CA Motor Vehicle Fuel Types by Zip Code - Number of Plug-In Hybrid Vehicles	EV Data
5	Population Density	USA Population density based on Census 2010 data	Density per square mile	Demographics
6	Median Household Income	SCAG Open Data Portal 6-County SCAG Region 2016	US Dollar Median Income levels	Demographics
7	Disadvantaged Communities	SCAG GIS Open Data Portal 2017 Data, CalEnviroScreen 3.0	Percent DAC Score Scores from 0-100%	Demographics
8	Low-income community Census Tracts	The 2012-2016 American Community Survey, FGDB: Low_Income_Community_Census_Tracts_-_2016_ACS.gdb	Population % Below Poverty Level, Scoring is the >20%.	Demographics
9	Pollution Burden	Pollution Burden scores from CalEnviroScreen 3.0	Scores range 0.1-10, with as score of 10 as highest pollution burden.	Environmental
10	Health Impacts - Asthma	Asthma scores from scores from CalEnviroScreen 3.0 (averaged over 2011-2013) in percentiles	Scores range from 0-100%, with 100% being the highest asthma score.	Environmental

NO.	THEME	DATA	METRIC	DATA TYPE
11	High Quality Transit Areas	High Quality Transit Areas (HQTAs) in the SCAG Region 2016, SoCal / 2020-2045 RTP/SCS. SCAG Open Portal GIS Data, February 2021 https://gisdata-scag.opendata.arcgis.com/datasets/43e6fef395d041c09deae369a513ca1	Locations are within or outside a High-Quality Transit Areas (HQTA)	Transportation
12	Highways and arterial streets	SCAG GIS Open Data Portal, Street Centerline Data	Proximity to highways or major streets, distance in miles	Transportation
13	MTA Metro stations	Geographic locations of MTA Stations Los Angeles MTA GIS Data 2021, https://developer.metro.net/gis-data/	Proximity to MTA stations, distance in miles	Transportation
14	MTA Metro stations parking lots	MTA Stations with parking, MTA GIS and Lot Data 2021 https://www.metro.net/riding/parking/lotsbyline/	MTA station with or without a parking lot	Parking Lots
15	Metrolink stations	Metrolink Stations Los Angeles County Arc GIS Hub Data https://hub.arcgis.com/datasets/a7395919500449a8b05efdead9738e72/explore?location=33.800844%2C-118.295000%2C8.81	Proximity to Metrolink stations, distance in miles	Transportation
16	Railroad Stations: Metrolink and Amtrak	Amtrak Stations USDOT Geospatial Bureau of Transportation Statistics, U.S. Department of Transportation ArcGIS Online, Amtrak Station database, July 2021 https://data-usdot.opendata.arcgis.com/datasets/baa5a6c4d4ae4034850e99aaca38cfbb/explore?location=36.184993%2C-96.584950%2C4.69	Proximity to Metrolink and Amtrak stations, distance in miles	Transportation
17	Airports - SCAG Region	SCAG Open Portal, March 2016 DataWarehouse.SDEADMIN.Airport_pnt_scag https://gisdata-scag.opendata.arcgis.com/maps/d50b1caf8f64436ea19fc844d811195a/about	Proximity to airports, distance in miles	Transportation
18	LA City-owned and other parking lots	Los Angeles City Parking Lot Data https://geohub.lacity.org/datasets/city-owned-parking-lots	Parking lot types	Parking Lots
19	LA City-owned parking lots convenience	Los Angeles City Parking Lot Data https://geohub.lacity.org/datasets/city-owned-parking-lots	Parking Proximity	Parking Lots
20	Park & Ride Lots: LA County	Los Angeles County Park and Ride Lots GIS Location Data https://public.gis.lacounty.gov/public/rest/services/LA_County_Dynamic/LMS_Data_Public/MapServer/187	Location of a Park & Ride parking lot	Parking Lots

NO.	THEME	DATA	METRIC	DATA TYPE
21	Employment Locations	Employment locations 2016 ESRI's Info Group	Distance in miles	Demographics
22	PEV Propensity To Purchase (point features)	ArcGIS PEV Propensity To Purchase-Heatmap, UCLA Luskin Center for Innovation 2018 https://maps.scag.ca.gov/scaggis/rest/services/PEV_ATLAS/PEV_Propensity_To_Purchase_Heatmap/MapServer/0	PEV Propensity to Purchase Score (prpnst_0 - 10 score)	EV Data
23	PEV AM Destinations Registrations	SCAG 2012 Regional Model SCAG Open Portal Data PEV_AMDestinations_Registrations_poly_scag	PEV AM Destinations Registration AM Sums score range 0 - 238.51	EV Data
24	PEV PM Destination Registrations	SCAG 2012 Regional Model Open Portal Data PEV_PMDestinations_Registrations_poly_scag	PEV PM Destinations Registration MID Sums score range 0 - 251.17	EV Data
25 - 35	Land Use Classifications	SCAG 2016 Land Use Data** Available by county at https://gisdata-scag.opendata.arcgis.com/explore?layout=list&query=land%20use	Land Use Categories	Land Use
36	Streamlined Permitting	California State "EV Charging Station Permit Streamlining Map" (EVCS Streamlining Map) is a living companion to the July 2019 Electric Vehicle Charging Station Permitting Guidebook ZEV Permit Streamlining https://business.ca.gov/industries/zero-emission-vehicles/plug-in-readiness/	Permitting process: Green – streamlined Yellow – in process Red – not streamlined	Land Use

**slightly after this was done, SCAG 2019 Annual Land Use (ALU v.2019.2) at the parcel-level, updated as of February 2021 became available at <https://gisdata-scag.opendata.arcgis.com/maps/3b27b21e9aa64e4a8200d0385ccfe3ac/explore?location=34.185395%2C-116.867750%2C7.72>

EXCLUDED CRITERIA

This research intended to include as many criteria as possible to incorporate the qualities outlined in the previous section to promote equity, accessibility, and convenience for siting locations for EVCS. There are boundaries in the data that was included in this analysis, due to availability of the appropriate information

and the relevance to this stage of the methodology. Data that was considered but not included in this analysis:

- **Grid capacity** - electric grid capacity is an important criterion for siting EVCS, but a reliable dataset was not available throughout the entire study region. Grid capacity can be evaluated as implementation projects are developed. Limited grid capacity is also not a fixed barrier, as utilities can add capacity, though it may increase final cost and delay implementation.
- **Utility Infrastructure** – the availability of connectivity points to the electrical grid such as distance to substations or transformers, was not included, because data from private utilities was unavailable. Similar to grid capacity, this can be evaluated as needed during project development and implementation.
- **Public schools** – the data on the locations of public schools was not included in this research as it presented a possibility of over counting of school locations. It was determined that the land use associated with schools and education centers was sufficient and did not exclude other learning centers that were not classified as public schools.

SCAG REGIONWIDE STANDARD AND THREE SCORING SCENARIOS FOR CITIES

This study started with an initial scoring of a SCAG Regionwide Standard. This preliminary scoring was used to evaluate suitable locations for the placement of EV charging stations throughout the SCAG region. The SCAG Regionwide Standard focused on maximizing the scoring for the qualities that SCAG, the stakeholders, and the cities had emphasized in the scoping of this study and the various points of feedback. The primary motivations were equity and the placement of new EV charging stations in areas that were low-income communities and/or DACs that needed public support in order to build EV infrastructure in these areas. Prioritizing EV charging stations in public locations that are accessible, convenient for the general public, and are highly trafficked also help to serve the equity component. Similarly, the environmental component recognizes that some of the areas with the highest pollution burden and the highest asthma scores were also areas with lower median household incomes and/or areas with a higher percentage of households below the poverty line and DACs, thus reinforcing the need for low emission vehicles and EV charging stations in these areas. The Regionwide Standard criteria prioritized locations that were DACs, low-income, highest pollution burden, and in high-capacity locations (hospitals, public services, parks, schools, etc.).

After additional stakeholder engagement, outreach to cities, and discussions with SCAG the scoring methodology was expanded and enhanced to reflect the diversity of the member cities in the SCAG region. Recognizing that each of the cities in the study area are at different stages of identifying and installing EV charging stations, this analysis was further refined and tailored to recognize these differences and better support the varying degrees of EV readiness. As a result, this analysis created three additional scoring scenarios that weight the scoring criteria differently for jurisdictions based on their needs and approximate readiness for EV installing charging: “Expanding, Progressing, and Initiating.” Specific feedback from stakeholders and the communities informed the development of these scenarios. The feedback gathered from residents in cities with little charging infrastructure highlighted there is a still a need for a more robust charging network to encourage adoption of electric vehicles. Responses gathered from industry stakeholders advised on how to better target EVCS given local EV adoption rates. One example of feedback gathered from the stakeholders indicated that “Communities with a greater number of early adopters are likely to be wealthier, single-family homeowners who charge from home and/or work. They don't need more public charging stations. Communities that don't have many EV owners probably consist of lower-income residents who live in MUDs and don't have access to home charging.

Moreover, many of them probably work in places without workplace charging. So, these communities should be given more points for public charging stations that will foster EV adoption by residents.” This comment was reflecting on the evaluation criteria for EV ownership and current numbers of EVCS. The stakeholder was highlighting that areas within cities with high levels of EV charging infrastructure and high levels of EV ownership were less likely to need additional publicly available charging stations. These cities can consider targeting publicly owned EVCS or collaborating with the private sector to direct EVCS investment in areas of lower-income and little or no EV ownership for siting new EVCS, thus providing new infrastructure for these areas and reducing the barrier to EV ownership. The difference between the needs and priorities of the cities necessitated creating three different scoring scenarios.

Another stakeholder commented that the study should weight or prioritize low-income more in the study specifically to “the cities who are less likely to have the funds to install public charges on their own.” This further highlights the need for distinctive evaluation criteria for cities with different budgets and infrastructure needs. This also comment also reinforced the emphasis this study placed on locating new EVCS in areas that support low-income and DAC neighborhoods. Other stakeholders maintained that, “religious facilities should rank higher. Cultural institutions are important in increasing exposure to EVs and people can charge while at church and events.” Originally, religious facilities were scored lower due to the assumption that religious facilities were empty and unused for portions of the week. The stakeholder emphasized that religious facilities were also cultural centers that often had after school activities, social events, and other meetings that would support a higher usage of new EVCS.

The first scenario is comprised of cities or areas that are generally more advanced in their EV planning efforts. The emphasis for cities in this group is in “Expanding” existing efforts and siting EV charging in disadvantaged communities and areas that lack EV infrastructure. The second scenario is comprised of “Progressing” cities or areas that have made initial steps in developing EV charging infrastructure and could benefit from increasing accessibility to EV charging stations. The third scenario consists of cities or areas that are “Initiating” the process to start building EV infrastructure, they need to determine locations for the placement of their first few EV charging stations. The next section outlines the unique assumptions, objectives, and scoring adjustments for each of the three scenarios. Some criteria are equally relevant and are fixed in all three scenarios. These scenarios can serve as a template for the jurisdictions to align with to identify their specific needs and level of readiness for developing EV infrastructure. Each of the Three Scoring Scenarios has different scoring in the evaluation criteria to reflect the differences in priorities and readiness, which is explained in the Evaluation Criteria section. A detailed breakdown of the Regionwide Standard and the additional Three Scoring Scenarios are outlined below.

SCAG REGIONWIDE STANDARD

This scoring focused on aligning with the overall qualities that SCAG, the cities, and the stakeholders wanted to focus on; prioritizing high employment areas, accessibility, high-capacity, convenience, public transit, and the environment. To accomplish this the Regionwide Standard scoring gave higher scores to locations in close proximity to public transit stations, large employers, and high-capacity locations (hospitals, shopping centers, schools, etc.). Additionally, the Regionwide Standard scoring criteria focused on having a larger geographic coverage of EV charging stations; scoring the highest points for further distances (>7 miles) between existing and planned charging stations and lowest points for closer distances (<1 mile). The Regionwide Standard scoring also sought to maximize points awarded to low-income, high-density, and disadvantaged communities (DACs); awarding the maximum 10 points for the lowest income, highest density, and most disadvantaged communities. Yet, the Regionwide Standard scoring did not take into account the level of EV readiness and existing EV infrastructure of the area. Based on feedback from SCAG, cities, and stakeholders it became apparent that depending on a city’s level of EV readiness and existing EV infrastructure different cities may have different priorities, and thus

adjust the weighting of the scoring criteria. For example, cities with minimal existing EV infrastructure should still target traditional locations close to highways and arterial streets, while more cities with more built out EV infrastructure have likely already addressed these areas. As a result, the Three Scoring Scenarios for Cities were created to differentiate between the levels of EV readiness and the varying priorities.

EXPANDING

The Expanding category recognizes that certain cities have a more robust EV infrastructure network and many publicly accessible EVCS installed at high-capacity locations throughout their jurisdictions. These cities have a high level of EV readiness and have a need to expand EV charging infrastructure to underserved locations within their jurisdiction. Future EVCS infrastructure should be prioritized in areas with an absence of EV charging infrastructure. New EV chargers should be located at further distances from their existing infrastructure to address gaps in the system. EV charging stations should be in DACs and lower-income areas to reduce barriers to EV infrastructure to historically underserved groups. Installing EVCS in DACs is further supported by the California Energy Commission (CEC), which is working to provide Clean Transportation Program funds from the investment plan toward projects that benefit low-income and disadvantaged communities.⁷ Public support or ownership of the EVCS may be needed to address these areas previously underserved by the private market.

Objectives:

- Expand existing EV network
- Address gaps in EV infrastructure
- Prioritize DACs, DVCs, and low-income areas
- Prioritize areas with lower EV ownership to catalyze additional purchases

The Expanding cities scoring criteria awarded the highest number of points to areas furthest (>5 miles) from any existing or planned EV charging stations to increase the geographic coverage of the EV infrastructure network. Furthermore, cities in the Expanding scenario awarded the highest points to areas with the lowest current EV ownership in an effort to concentrate on expanding new areas and reduce barriers to charging EVs. The Expanding scenario also awards the highest points for lowest-income, DACs, and highest pollution burden locations.

As noted in the California Energy Commission Clean Transportation Program Final Project Report; installing EV charging stations in low-income and DAC areas provides the opportunity to not only expand EV charging infrastructure, but also increase equity and reduce barriers to EV ownership.

- The installation of 16, level 2 Electric Vehicle Supply Equipment in a 900-vehicle parking structure at a County Service Center at 8300 S. Vermont Avenue in South Central Los Angeles, a community of color in the 85th percentile as a disadvantaged community, was a bold move. When this project was approved, there were only two public level 2 Electric Vehicle Supply Equipment within a four-mile radius of the site and only two or three employees drove plug-in vehicles. The project's goal was to install Electric Vehicle Supply Equipment at scale to enable and accelerate the adoption of plug-in vehicles and provide public access for the secondary (used) car market. After 9 months of usage the operation data found that: 1) the total number of Charging Sessions has almost doubled, from 59 sessions in May to 111 in February 2022; the EVCS usage has steadily increased from 162 kWh to 806 kWh per month; actual charging time more than tripled

⁷ California Energy Commission (2021) "2021–2023 Investment Plan Update for the Clean Transportation Program," Commission Report, CEC-600-2021-038-CMF.

from 5,232 minutes to almost 16,000 minutes; and at 4 miles per kWh, that is 16,232 miles or a reduction of GHG emission of apparently 12,750 pounds of carbon dioxide.⁸

PROGRESSING

Cities that are in the Progressing scenario have some existing EV infrastructure that needs to be expanded into a more robust network. Existing infrastructure is in areas with some existing EV ownership to ensure usage of the new charging stations and support an increase in EV ownership. Cities in the Progressing scenario may want to prioritize locations that provide a wider accessibility to the public and promote increased usage, specifically types of land use that are high density, such as multi-unit dwellings (MUDs).⁹ EVCS should continue to be focused on high-capacity locations such as shopping centers, restaurant, public services / post offices, civic centers, and theaters for high visibility and growing the EV network. Additionally, EVCS should be located in DACs and lower-income areas to reduce barriers to EV ownership.

Objectives:

- Locate new EVs in high-capacity locations
- Locate new EVs in high density locations
- Prioritize DACs, DVCs, and low-income areas
- Prioritize areas with some EV ownership

Cities in the Progressing scenario are working to build up an EV infrastructure network and locate charging stations in areas that are already seeing a lot of EV ownership and are publicly accessible. Progressing cities scored areas with mid-range current EV ownership (480 -720 battery EV) and (1,169 - 1,752 plug-in EV) the highest possible 10 points. The reasoning is that cities in the Progressing scenario are focusing EV charging stations in areas that are attempting to increase EV usage and capacity for charging. Progressing cities are moving beyond areas that are already have EV charging stations to areas that need increased support. Similarly, in Progressing scenario the assumption is that cities would want to locate new EV charging stations in a mid-range distance (1 - 3 miles) from existing or planned EV charging stations, thus boosting the amount of EV chargers in an area as well as growing the overall geographic network of EV charging stations.

INITIATING

Cities that are in the Initiating scenario have little to no existing EV infrastructure and are looking to create a network. These cities are just getting started with developing an EV charging network within their jurisdiction. These Cities may not have made EV infrastructure a priority due to limited funding and/or minimal demand from their communities. This may result in a “chicken or the egg” scenario where minimal EV ownership has not created a demand for EV infrastructure and private investment may have not focused on these areas due to low forecasted utilization rates. Initiating cities, like cities in the Progressing scenario, also prioritize areas that have high-capacity locations such as shopping centers, restaurant, public services / post offices, civic centers, and theaters to ensure areas of high visibility and use are covered by the network. Initiating cities also prioritize locations that provide accessibility to the public and promotes increased usage, specifically types of land use that are high density, such as multi-

⁸ Teebay, Richard. County of Los Angeles. 2022. Electric Vehicle Charging at County of Los Angeles South Vermont Street Location. California Energy Commission. Publication Number: CEC-600-2022-047.

⁹ J.R. DeShazo (2021) “An Electric Vehicle Charging Station Siting Strategy for the South Coast: Expanding Opportunities in Multi-unit Dwellings and Workplaces,” UCLA Luskin Center for Innovation, Mobile Source Review Committee (MSRC), and Clean Transportation Funding.

unit dwellings (MUDs). Yet, Initiating cities and regions are different from the Expanding cities, in that they are concentrating on placing charging stations in areas with high existing EV ownership to ensure usage of the new charging stations and support an increase in EV ownership. Additionally, these cities may choose to prioritize placing EV charging stations in DACs to increase equity and improve access to EV infrastructure. However, unlike the Progressing and Expanding scenarios, the Initiating scenario would initially focus on areas where the median household income levels are higher. Higher income households are more likely to own EVs or to purchase EVs in the future and locating charging infrastructure in these areas may increase EV usage.

Objectives:

- Locate new EVs in high-capacity locations
- Locate new EVs in high density locations
- Prioritize areas with higher EV ownership

Cities and regions in the Initiating scenario are creating a new EV charging network and are focusing on locations that are high traffic areas (<0.25 mile of major roads, highways, and transportation stations) and likely to have high usage of the charging stations. Conversely, to the Expanding and Progressing cities, initiating cities scored locations with high current EV ownership (961 - 1,200 battery EV) and (2,335 - 2,920 plug-in EV) the highest possible 10 points. The reasoning is that cities in the Initiating scenario are focusing EV charging stations in areas that have high EV ownership and usage, which will have an immediate demand for new EV charging stations.

SCORING

The scoring provides point values for a set of criteria to evaluate how each parcel within a city is rated as a site for potential EV charging stations. Criteria for evaluation range from density levels, demographic information, land use, proximity to high-capacity locations, nearness to employment centers, etc. Full details of the criteria and individual scoring ranges can be found in the next section Evaluation Criteria. Each criterion is given a score of 0, 1, 3, 5, 7, or 10 points, with 1 point representing the lowest score and 10 representing the highest. It was important for a range of scores for the criterion to reflect the variability of EV readiness, as well as geographic and demographic difference, between the various cities. Parcels that received the highest score (10 points) for a particular criterion have attributes that would be optimal for the placement of an EV charging station. An example of a high scoring parcel for a geographic criterion would be located within close proximity to public services such as a library or in areas of high population density, which would receive 7 or 10 points. Parcels were given a score for each criterion and received a total score value. Parcel that received the highest scores are considered the optimal locations for the placement of EV charging stations and are recommended for further site investigation. Parcels with the lowest scoring brackets are suboptimal for placement of EV charging stations in the near-term based on the evaluation criteria but could be sites for future EV charging stations. The breakdown of scoring for individual criterion is outlined in Table 3.

TABLE 3: POINT VALUES FOR SCORING CRITERION

Scoring Criterion	
Level	Points
Highest	10
High	7

Medium	5
Low	3
Lowest	1
Blank or N/A	0

EVALUATION CRITERIA

This section will breakdown and explain each criterion – its relevance for inclusion in the study, the metrics, and the three scoring scenarios. The relevance for the inclusion of each criterion will relate to one or more of the study prioritizations listed above – accessibility, equity, high-capacity, convenience, transit, environment, or employment. The table below outlines the format for how scoring criteria will be presented as well as an explanation for the SCAG Regionwide Standard and Three Scoring Scenarios for Cities. Each of the Three Scoring Scenarios for Cities are scored on the same 0 – 10-point scale, with 10 points as the highest score per each criterion. However, each of the Three Scoring Scenarios for Cities have slightly different prioritizations for various criterion which will be reflected in the scoring columns under each scenario. The differences in scoring and the reasoning behind the variations will be explained per criterion. There are a number of criteria that were applied to the initial draft criteria to the SCAG Regionwide Standard presented in this document. This was the first evaluation of scoring, to the more refined Three Scenarios Scoring for Cities. The proximity distances were lowered to better align with existing SCAG findings on trip distances¹⁰ as well as to reduce the distances users need to travel from charging station to their final destination. Table 4 provides the full list of evaluation criteria and the scoring for each of the scenarios. The explanations for each criterion and the individual scoring are outlined in this section after Table 4.

¹⁰ Southern California Association Governments (2016) "Facts and Figures – SCAG Region," pg, 1. https://scag.ca.gov/sites/main/files/file-attachments/toolbox_countyfacts_scagregionfactsfigures.pdf?1604889126

TABLE 4: EVALUATION CRITERIA AND SCORING FOR SCAG REGIONWIDE STANDARD AND THE THREE SCORING SCENARIOS FOR CITIES

NO.	THEME	CRITERIA	METRIC	SCAG REGIONWIDE STANDARD	EXPANDING CITIES	PROGRESSING CITIES	INITIATING CITIES
		Explanation of data and scoring criteria	Method of measurement	Point scale 0 - 10 (10 being the most beneficial) Highest - 10 points High - 7 points Medium - 5 points Medium/Low - 3 points Low - 1 Point Lowest - 0 Points	Point scale 0 - 10 (10 being the most beneficial) Highest - 10 points High - 7 points Medium - 5 points Medium/Low - 3 points Low - 1 Point Lowest - 0 Points	Point scale 0 - 10 (10 being the most beneficial) Highest - 10 points High - 7 points Medium - 5 points Medium/Low - 3 points Low - 1 Point Lowest - 0 Points	Point scale 0 - 10 (10 being the most beneficial) Highest - 10 points High - 7 points Medium - 5 points Medium/Low - 3 points Low - 1 Point Lowest - 0 Points
				The Regionwide Standard scores maximize scoring potential for high density, low-income, DAC areas. It prioritizes high-capacity locations and prioritize areas with higher EV ownership.	Expanding has substantial investments in EV infrastructure & charging stations. Increasing EV charging network and prioritize DACs, DVCs, and lower-income areas to reduce barriers to EV infrastructure.	Progressing has made some investment in EV infrastructure and looking to build a robust EV charging network. Prioritize areas to increase EV usage, specifically high-density land use such as multi-unit dwellings (MUDs).	Initiating has not yet invested in EV infrastructure and need to create a network. Prioritize areas that have high-capacity locations such as shopping centers, public services, and high-density land use such as multi-unit dwellings (MUDs).
1	Proximity to Existing EV Charging Station	Ideally placement of new EV charging stations should be placed at a distance from existing or planned stations to increase coverage of EV stations throughout the geography and increase overall accessibility to a wider geography.	Distance - Miles	<1 Mile – 1 point 1-3 Miles – 3 points 3-5 Miles – 5 points 5 -7 Miles – 7 points > 7 Miles – 10 points	<0.5 Mile – 1 point 0.5 - 1 Miles – 3 points 1 - 3 Miles – 5 points 3 - 5 Miles – 7 points > 5 Miles – 10 points	<0.5 Mile – 1 point 0.5 - 1 Miles – 5 points 1 - 3 Miles – 10 points 3 - 5 Miles – 7 points > 5 Miles – 3 point	<0.5 Mile – 3 point 0.5 - 1 Miles – 7 points 1 - 3 Miles – 10 points 3 - 5 Miles – 5 points > 5 Miles – 1 point

NO.	THEME	CRITERIA	METRIC	SCAG REGIONWIDE STANDARD	EXPANDING CITIES	PROGRESSING CITIES	INITIATING CITIES
2	EV Charging Stations - Existing and Planned	Ideally placement of new EV charging stations should be placed at a distance from existing or planned stations to increase coverage of EV stations throughout the geography and increase overall accessibility to a wider geography.	Distance - Miles	<1 Mile – 1 point 1-3 Miles – 3 points 3-5 Miles – 5 points 5 -7 Miles – 7 points > 7 Miles – 10 points	<0.5 Mile – 1 point 0.5 - 1 Miles – 3 points 1 - 3 Miles – 5 points 3 - 5 Miles – 7 points > 5 Miles – 10 points	<0.5 Mile – 1 point 0.5 - 1 Miles – 5 points 1- 3 Miles – 10 points 3 - 5 - Miles – 7 points > 5 Miles – 3 point	<0.5 Mile – 3 point 0.5 - 1 Miles – 7 points 1- 3 Miles – 10 points 3- 5 Miles – 5 points > 5 Miles – 1 point
3	California Motor Vehicle Fuel Types Battery Electric Vehicles	Higher number of points in areas with larger numbers of electric vehicles in the zip code. Higher number of EVs in an area need more charging stations and will be in more demand.	CA Motor Vehicle Fuel Types by Zip Code - Number of Battery Electric Vehicles	1 - 240 - 1 points 241 - 480 - 3 points 480 -720 - 5 points 481 - 960 - 7 points 961 - 1,200 - 10 points	1 - 240 - 10 points 241 - 480 - 7 points 480 -720 – 5 points 481 - 960 - 3 points 961 - 1,200 - 1 point	1 - 240 - 1 point 241 - 480 - 5 points 480 -720 – 10 points 481 - 960 - 7 points 961 - 1,200 - 3 points	1 - 240 - 1 point 241 - 480 - 3 points 480 -720 – 5 points 481 - 960 - 7 points 961 - 1,200 - 10 point
4	California Motor Vehicle Fuel Types Plug-In Hybrid Vehicles	Higher number of points in areas with larger numbers of electric vehicles in the zip code. Higher number of EVs in an area need more charging stations and will be in more demand.	CA Motor Vehicle Fuel Types by Zip Code - Number of Plug-In Hybrid Vehicles	1 - 584 - 1 points 585 - 1,168 - 3 points 1,169 - 1,752 - 5 points 1,753 - 2,336 - 7 points 2,335 - 2,920 - 10 points	1 - 584 - 10 points 585 - 1,168 – 7 points 1,169 - 1,752 - 5 points 1,753 - 2,336 - 3 points 2,335 - 2,920 - 1 point	1 - 584 - 1 point 585 - 1,168 – 5 points 1,169 - 1,752 - 10 points 1,753 - 2,336 - 7 points 2,335 - 2,920 - 3 point	1 - 584 - 1 point 585 - 1,168 – 3 points 1,169 - 1,752 - 5 points 1,753 - 2,336 - 7 points 2,335 - 2,920 - 10 points
5	Population Density	Depending on the scenario, areas with the highest population density receive the highest scores. Placement of EV charging stations in these locations would be accessible by the most people.	USA Population density per square mile	0 - 235 - 0 points 236 - 19,852 - 1 point 19,853 - 39,704 - 3 points 39,705 - 59,556 - 5 points 59,557 - 79,408 - 7 points 79,409 - 99,261 - 10 points	0 - 235 - 0 points 236 - 19,852 - 3 points 19,853 - 39,704 - 5 points 39,705 - 59,556 - 10 points 59,557 - 79,408 - 7 points 79,409 - 99,261 - 1 point	0 - 235 - 0 points 236 - 19,852 - 1 point 19,853 - 39,704 - 3 points 39,705 - 59,556 - 5 points 59,557 - 79,408 - 7 points 79,409 - 99,261 - 10 points	0 - 235 - 0 points 236 - 19,852 - 1 point 19,853 - 39,704 - 3 points 39,705 - 59,556 - 5 points 59,557 - 79,408 - 7 points 79,409 - 99,261 - 10 points

NO.	THEME	CRITERIA	METRIC	SCAG REGIONWIDE STANDARD	EXPANDING CITIES	PROGRESSING CITIES	INITIATING CITIES
6	Median Household Income	Measuring the average household income to identify lower income areas. .	Median Household Income data 6-County SCAG Region 2016	>\$150,001 - 0 points \$100,001 - \$150,000 - 1 point \$75, 001 - \$100,000 - 3 points \$50,001 - \$75,000 - 5 points \$25,001 - \$50,000 - 7 points <\$25,000 - 10 points	>\$150,001 - 0 points \$100,001 - \$150,000 - 1 point \$75, 001 - \$100,000 - 3 points \$50,001 - \$75,000 - 5 points \$25,001 - \$50,000 - 7 points <\$25,000 - 10 points	>\$150,001 - 0 points \$100,001 - \$150,000 - 5 point \$75, 001 - \$100,000 - 10 points \$50,001 - \$75,000 - 7 points \$25,001 - \$50,000 - 3 points <\$25,000 - 1 point	>\$150,001 - 10 points \$100,001 - \$150,000 - 7 points \$75, 001 - \$100,000 - 5 points \$50,001 - \$75,000 - 3 points \$25,001 - \$50,000 - 1 point <\$25,000 - 0 points
7	Disadvantaged Communities	Disadvantaged communities designated by CalEPA for the purpose of SB 535. These areas represent the 25% highest scoring census tracts in CalEnviroScreen 3.0, along with other areas with high amounts of pollution and low populations.	SCAG GIS Open Data Portal 2017 Data Percent DAC Score. Scores from 0-100%	<75% - 0 points >75% - 10 points			
8	Low-income community Census Tracts	The poverty rate is at least 20 percent, or the median family income does not exceed 80 percent of statewide median family income. Areas with higher poverty percentages receive higher points to encourage placement of EV charging stations in lower-income areas.	Population % Below Poverty Level, higher the % is higher the poverty level. Scoring is the >20%.	<1.0% - 0 points 1.0 - 4.9% - 1 point 5.0 - 9.9% - 3 points 10.0 - 14.9% - 5 points 15.0 - 19.9% - 7 points 20.0 - 100% - 10 points	<1.0% - 0 points 1.0 - 4.9% - 1 point 5.0 - 9.9% - 3 points 10.0 - 14.9% - 5 points 15.0 - 19.9% - 7 points 20.0 - 100% - 10 points	<1.0% - 1 point 1.0 - 4.9% - 3 points 5.0 - 9.9% - 7 points 10.0 - 14.9% - 10 points 15.0 - 19.9% - 5 points 20.0 - 100% - 0 points	<1.0% - 10 points 1.0 - 4.9% - 7 points 5.0 - 9.9% - 5 points 10.0 - 14.9% - 3 points 15.0 - 19.9% - 1 point 20.0 - 100% - 0 points

NO.	THEME	CRITERIA	METRIC	SCAG REGIONWIDE STANDARD	EXPANDING CITIES	PROGRESSING CITIES	INITIATING CITIES
9	Pollution Burden	Pollution Burden scores are derived from the average percentiles of the seven Exposures indicators (ozone and PM2.5 concentrations, diesel PM emissions, drinking water contaminants, pesticide use, toxic releases from facilities, and traffic density) and the five Environmental Effects indicators (cleanup sites, impaired water bodies, groundwater threats, hazardous waste facilities and generators, and solid waste sites and facilities). Areas with a higher percent have higher scores have a higher pollution burden and would benefit from improved air quality from low or zero-emission vehicles. The areas with higher pollution burden scores receive higher points.	SCAG GIS Open Data Portal 2017 Data. Scores range 0.1-10, with as score of 10 as highest pollution burden.		0 - 1.0 - 0 points 1.0 - 2.0 - 1 points 2.1 - 4.0 - 3 points 4.1 - 6.0 - 5 points 6.1 - 8.0 - 7 points 8.1 - 10.0 - 10 points		
10	Health Impacts - Asthma	Spatially modeled, age-adjusted rate of emergency department (ED) visits for asthma per 10,000 people (averaged over 2011-2013) in percentiles. Areas with a higher percent have higher rates of asthma and would benefit from improved air quality from low or zero-emission vehicles. The areas with higher asthma percentages receive higher points.	SCAG GIS Open Data Portal 2017 Data Percent DAC Score. Scores range from 0-100%, with 100% being the highest asthma score.		0 - 20% - 1 points 21 - 40% - 3 points 41 - 60% - 5 points 61 - 80% - 7 points 81 - 100% - 10 points		

NO.	THEME	CRITERIA	METRIC	SCAG REGIONWIDE STANDARD	EXPANDING CITIES	PROGRESSING CITIES	INITIATING CITIES
11	High Quality Transit Areas	High Quality Transit Areas (HQTAs) in the SCAG Region for the year 2016, developed for the Final Connect SoCal / 2020-2045 RTP/SCS. SCAG's HQTAs are within one-half mile from a "major transit stops" and a "high-quality transit corridor" and developed based on the language in SB375 and codified in the CA Public Resources Code. Higher points are awarded to locations within a close proximity in miles to HQTAs.	Locations are within or outside a High-Quality Transit Areas (HQTAs)	Within HQTAs - 10 points Outside HQTAs - 0 points			
12	Highways and arterial streets	SCAG on maps of highways and major arterial streets, higher points awarded to locations within a closer proximity to a highways and major arterial streets	Proximity to highways or major streets, distance in miles	>1.0 miles - 1 point 0.75 - 1.0 miles - 3 points 0.5 - 0.75 miles - 5 points 0.25 - 0.5 mile - 7 points <0.25 mile - 10 points	>1.0 miles - 1 point 0.75 - 1.0 miles - 3 points 0.5 - 0.75 miles - 5 points 0.25 - 0.5 mile - 7 points <0.25 mile - 10 points	>1.0 miles - 1 point 0.75 - 1.0 miles - 3 points 0.5 - 0.75 miles - 5 points 0.25 - 0.5 mile - 7 points <0.25 mile - 10 points	>1.0 miles - 1 point 0.75 - 1.0 - 3 miles points 0.5 - 0.75 miles - 5 points 0.25 - 0.5 mile - 7 points <0.25 mile - 10 points
13	MTA Metro stations	Proximity to MTA Stations provides an opportunity to locate an EV charging station with accessibility to public transportation; promoting EV usage in coordination with public transportation. Points awarded to closer proximity in miles to an MTA station.	Proximity to MTA stations, distance in miles	>1.0 miles - 1 point 0.75 - 1.0 miles - 3 points 0.5 - 0.75 miles - 5 points 0.25 - 0.5 mile - 7 points <0.25 mile - 10 points			
14	MTA Metro stations parking lots	MTA Stations with parking lots provides an opportunity to locate an EV charging station at an MTA, promoting EV usage in coordination with public transportation. Points awarded to locations with a parking lot at the station.	MTA station with or without a parking lot	Yes parking lot - 5 points No parking lot - 0 points			

NO.	THEME	CRITERIA	METRIC	SCAG REGIONWIDE STANDARD	EXPANDING CITIES	PROGRESSING CITIES	INITIATING CITIES
15	Metrolink stations	Proximity to Metrolink Stations provides an opportunity to locate an EV charging station with accessibility to public transportation; promoting EV usage in coordination with public transportation. Points awarded to closer proximity in miles to an Metrolink station.	Proximity to Metrolink stations, distance in miles				
							<ul style="list-style-type: none"> >1.0 miles - 1 point 0.75 - 1.0 miles 3 points 0.5 - 0.75 miles - 5 points 0.25 - 0.5 mile - 7 points <0.25 mile - 10 points
16	Railroad Stations: Metrolink and Amtrak	Proximity to co-located Amtrack and Metrolink Stations provides an opportunity to locate an EV charging station with accessibility to public transportation; promoting EV usage in coordination with public transportation. Points awarded to closer proximity in miles to an Metrolink station.	Proximity to Metrolink and Amtrak stations, distance in miles				
							<ul style="list-style-type: none"> >1.0 miles - 1 point 0.75 - 1.0 miles 3 points 0.5 - 0.75 miles - 5 points 0.25 - 0.5 mile - 7 points <0.25 mile - 10 points
17	Airports - SCAG Region	Opportunity to locate an EV charging station within closer proximity to an airport; promoting EV usage in coordination with a larger travel system, rideshare, etc. Higher points awarded for closer proximity in miles to an airport.	Proximity to airports, distance in miles				
							<ul style="list-style-type: none"> >4.1 miles - 1 points 3.1 - 4.0 miles 3 points 2.1 - 3.0 miles - 5 points 1.1 - 2.0 miles - 7 points <1 mile - 10 points
18	LA City-owned and other parking lots	Locating an EV charging station in City-owned parking lots may provide higher accessibility to the public to use the EV charging stations. Higher points awarded to locations that are city owned and operated. +C18	Parking lot types				
							<ul style="list-style-type: none"> Other/blank – 0 points (excluded from analysis) Other high capacity locations – 1 points Private Parking Facility – 3 points Public Owned - Private Operated – 5 points Public Parking Facility & Operated – 7 points MUD – 10 points

NO.	THEME	CRITERIA	METRIC	SCAG REGIONWIDE STANDARD	EXPANDING CITIES	PROGRESSING CITIES	INITIATING CITIES
19	LA City-owned parking lots convenience	Locating an EV charging station in City-owned parking lots may provide higher accessibility to the public to use the EV charging stations. Higher points awarded to locations in proximity to high capacity locations (shopping centers, restaurant, public services / post offices, civic centers, and theaters)	Parking Proximity			No/blank – 0 points Yes Located near HCL - 5 points	
20	Park & Ride Lots: LA County	Locating EV Charging Stations at Park & Ride parking lots provides an opportunity to locate an EV charging station at major transportation hubs, promoting EV usage in coordination with public transportation. Points awarded to locations at a Park & Ride location.	Location of a Park & Ride parking lot			Yes Park & Ride - 5 points No Park & Ride - 0 points	
21	Employment Locations	Employment locations for 2016 by ESRI's Info Group. Locating EV charging stations in close proximity to large employers / employment centers will promote use of EVs for commuting. Points awarded for proximity to large employers / employment centers, where large employers have 200 or more employees.	Distance from large employers (200 or more employees)			>1.0 miles - 1 point 0.75 - 1.0 miles - 3 points 0.5 - 0.75 miles - 5 points 0.25 - 0.5 mile - 7 points <0.25 mile - 10 points	

NO.	THEME	CRITERIA	METRIC	SCAG REGIONWIDE STANDARD	EXPANDING CITIES	PROGRESSING CITIES	INITIATING CITIES
22	PEV Propensity To Purchase (point features)	This spatial layer focuses on MUD properties and provides a score for ranking MUD parcels in the South Coast Air Basin according to the relative demand of building residents for PEV ownership, assuming barriers to chargers are removed. The score accounts for (a) the historical adoption rate of PEVs in each census tract, (b) the likelihood that PEVs are likely to belong to households of different income groups, and (c) the likelihood that those income groups are likely to live in a home of a certain value. The score is based on the average value of the unit within the MUD. Final scores are not weighted by the size of the MUD (i.e., the total number of units). The higher the PEV Propensity to Purchase score the more likely the residents are likely to purchase a PEV and would benefit from include EV infrastructure.	PEV Propensity to Purchase Score (prpnst_0 - 10 score)	0 - 0.9 - 0 points 1.0 - 2.0 - 1 points 2.1 - 4.0 - 3 points 4.1 - 6.0 - 5 points 6.1 - 8.0 - 7 points 8.1 - 10.0 - 10 points	0 - 0.9 - 0 points 1.0 - 2.0 - 3 points 2.1 - 4.0 - 7 points 4.1 - 6.0 - 10 points 6.1 - 8.0 - 5 points 8.1 - 10.0 - 1 point	0 - 0.9 - 0 points 1.0 - 2.0 - 1 point 2.1 - 4.0 - 3 points 4.1 - 6.0 - 5 points 6.1 - 8.0 - 7 points 8.1 - 10.0 - 10 points	0 - 0.9 - 0 points 1.0 - 2.0 - 1 point 2.1 - 4.0 - 3 points 4.1 - 6.0 - 5 points 6.1 - 8.0 - 7 points 8.1 - 10.0 - 10 points
23	PEV_AMDestinations_Registrations_poly_scag	Regional Model and shows the arrival locations and densities of PEVs during peak morning hours. The morning peak period represents weekday trips that occur between 6 and 9 a.m. and the mid-day period 9 a.m. and 3 p.m. Higher destinations sums indicate a higher number of vehicles at the destination and the larger benefit of installing an EV charging station at the destination.	PEV AM Destinations Registration AM Sums score range 0 - 238.51	0 - 1.0 - 0 points 1.1 - 47.0 - 1 points 47.1 - 95.0 - 3 points 95.1 - 142.0 - 5 points 142.1 - 189.0 - 7 points 189.1 - 238.51 - 10 points			

NO.	THEME	CRITERIA	METRIC	SCAG REGIONWIDE STANDARD	EXPANDING CITIES	PROGRESSING CITIES	INITIATING CITIES
24	PEV_PMDestinations_Registrations_poly_scag	Regional Model and shows the arrival locations and densities of PEVs during peak evening hours. The evening peak period 3 p.m. to 7 p.m. Higher destinations sums indicate a higher number of vehicles at the destination and the larger benefit of installing an EV charging station at the destination.	PEV PM Destinations Registration MID Sums score range 0 - 251.17			2 - 1.0 - 0 points 1.1 - 50.0 - 1 points 50.1 - 100.0 - 3 points 100.1 - 150.0 - 5 points 150.1 - 200.0 - 7 points 200.1 - 251.17 - 10 points	
25	Land Use Classification	Types of land use that provide wider accessibility to the public and promotes increased usage. Types of land use that are accessible to the public or have large traffic volumes will have higher scores. Land uses that are considered inaccessible to the general public, low accessibility, or privately owned and operated will receive lower points. Locations will only receive a score for their specific land use category.	Single Family Residential	1111 High Density Single Family Residential (9 or more DUs/ac) - 7 points 1112 Medium Density Single Family Residential (3-8 DUs/ac) - 7 points	1111 High Density Single Family Residential (9 or more DUs/ac) - 7 points 1112 Medium Density Single Family Residential (3-8 DUs/ac) - 7 points	1111 High Density Single Family Residential (9 or more DUs/ac) - 7 points 1112 Medium Density Single Family Residential (3-8 DUs/ac) - 7 points	1111 High Density Single Family Residential (9 or more DUs/ac) - 7 points 1112 Medium Density Single Family Residential (3-8 DUs/ac) - 7 points

NO.	THEME	CRITERIA	METRIC	SCAG REGIONWIDE STANDARD	EXPANDING CITIES	PROGRESSING CITIES	INITIATING CITIES
26	Land Use Classification	Types of land use that provide wider accessibility to the public and promotes increased usage. Types of land use that are accessible to the public or have large traffic volumes will have higher scores. Land uses that are considered inaccessible to the general public, low accessibility, or privately owned and operated will receive lower points. Locations will only receive a score for their specific land use category.	Multi-Family Residential	1120 Multi-Family Residential - 10 points 1121 Mixed Multi-Family Residential - 10 points 1122 Duplexes, Triplexes and 2- or 3-Unit Condominiums and Townhouses - 7 points 1123 Low-Rise Apartments, Condominiums, and Townhouses - 7 points 1124 Medium-Rise Apartments and Condominiums - 10 points 1125 High-Rise Apartments and Condominiums - 10 points 1131 Trailer Parks and Mobile Home Courts, High-Density - 5 points	1120 Multi-Family Residential - 10 points 1121 Mixed Multi-Family Residential - 10 points 1122 Duplexes, Triplexes and 2- or 3-Unit Condominiums and Townhouses - 7 points 1123 Low-Rise Apartments, Condominiums, and Townhouses - 7 points 1124 Medium-Rise Apartments and Condominiums - 10 points 1125 High-Rise Apartments and Condominiums - 10 points 1131 Trailer Parks and Mobile Home Courts, High-Density - 5 points	1120 Multi-Family Residential - 10 points 1121 Mixed Multi-Family Residential - 10 points 1122 Duplexes, Triplexes and 2- or 3-Unit Condominiums and Townhouses - 7 points 1123 Low-Rise Apartments, Condominiums, and Townhouses - 7 points 1124 Medium-Rise Apartments and Condominiums - 10 points 1125 High-Rise Apartments and Condominiums - 10 points 1131 Trailer Parks and Mobile Home Courts, High-Density - 5 points	1120 Multi-Family Residential - 10 points 1121 Mixed Multi-Family Residential - 10 points 1122 Duplexes, Triplexes and 2- or 3-Unit Condominiums and Townhouses - 7 points 1123 Low-Rise Apartments, Condominiums, and Townhouses - 7 points 1124 Medium-Rise Apartments and Condominiums - 10 points 1125 High-Rise Apartments and Condominiums - 10 points 1131 Trailer Parks and Mobile Home Courts, High-Density - 5 points
27	Land Use Classification	Types of land use that provide wider accessibility to the public and promotes increased usage. Types of land use that are accessible to the public or have large traffic volumes will have higher scores. Land uses that are considered inaccessible to the general public, low accessibility, or privately owned and operated will receive lower points. Locations will only receive a score for their specific land use category.	Mixed Residential	1140 Mixed Residential - 10 points 1100 Residential - 5 points	1140 Mixed Residential - 10 points 1100 Residential - 5 points	1140 Mixed Residential - 10 points 1100 Residential - 5 points	1140 Mixed Residential - 10 points 1100 Residential - 5 points

NO.	THEME	CRITERIA	METRIC	SCAG REGIONWIDE STANDARD	EXPANDING CITIES	PROGRESSING CITIES	INITIATING CITIES
28	Land Use Classification	Types of land use that provide wider accessibility to the public and promotes increased usage. Types of land use that are accessible to the public or have large traffic volumes will have higher scores. Land uses that are considered inaccessible to the general public, low accessibility, or privately owned and operated will receive lower points. Locations will only receive a score for their specific land use category.	General Office	1210 General Office Use - 5 points 1211 Low- and Medium-Rise Major Office Use - 5 points 1212 High-Rise Major Office Use - 10 points 1213 Skyscrapers - 10 points	1210 General Office Use - 5 points 1211 Low- and Medium-Rise Major Office Use - 5 points 1212 High-Rise Major Office Use - 10 points 1213 Skyscrapers - 10 points	1210 General Office Use - 5 points 1211 Low- and Medium-Rise Major Office Use - 5 points 1212 High-Rise Major Office Use - 10 points 1213 Skyscrapers - 10 points	1210 General Office Use - 5 points 1211 Low- and Medium-Rise Major Office Use - 5 points 1212 High-Rise Major Office Use - 10 points 1213 Skyscrapers - 10 points
29	Land Use Classification	Types of land use that provide wider accessibility to the public and promotes increased usage. Types of land use that are accessible to the public or have large traffic volumes will have higher scores. Land uses that are considered inaccessible to the general public, low accessibility, or privately owned and operated will receive lower points. Locations will only receive a score for their specific land use category.	Commercial Services	1200 Commercial and Services - 7 points 1220 Retail Stores and Commercial Services - 10 points 1221 Regional Shopping Center - 10 points 1222 Retail Centers (Non-Strip With Contiguous Interconnected Off-Street Parking) - 10 points 1223 Retail Strip Development - 10 points 1230 Other Commercial - 5 points 1232 Commercial Recreation - 5 points 1233 Hotels and Motels - 3 points	1200 Commercial and Services - 7 points 1220 Retail Stores and Commercial Services - 10 points 1221 Regional Shopping Center - 10 points 1222 Retail Centers (Non-Strip With Contiguous Interconnected Off-Street Parking) - 10 points 1223 Retail Strip Development - 10 points 1230 Other Commercial - 5 points 1232 Commercial Recreation - 5 points 1233 Hotels and Motels - 7 points	1200 Commercial and Services - 7 points 1220 Retail Stores and Commercial Services - 10 points 1221 Regional Shopping Center - 10 points 1222 Retail Centers (Non-Strip With Contiguous Interconnected Off-Street Parking) - 10 points 1223 Retail Strip Development - 10 points 1230 Other Commercial - 5 points 1232 Commercial Recreation - 5 points 1233 Hotels and Motels - 7 points	1200 Commercial and Services - 7 points 1220 Retail Stores and Commercial Services - 10 points 1221 Regional Shopping Center - 10 points 1222 Retail Centers (Non-Strip With Contiguous Interconnected Off-Street Parking) - 10 points 1223 Retail Strip Development - 10 points 1230 Other Commercial - 5 points 1232 Commercial Recreation - 5 points 1233 Hotels and Motels - 7 points

NO.	THEME	CRITERIA	METRIC	SCAG REGIONWIDE STANDARD	EXPANDING CITIES	PROGRESSING CITIES	INITIATING CITIES
30	Land Use Classification	Types of land use that provide wider accessibility to the public and promotes increased usage. Types of land use that are accessible to the public or have large traffic volumes will have higher scores. Land uses that are considered inaccessible to the general public, low accessibility, or privately owned and operated will receive lower points. Locations will only receive a score for their specific land use category.	Facilities	1240 Public Facilities - 7 points 1241 Government Offices - 7 points 1242 Police and Sheriff Stations - 3 point 1243 Fire Stations - 3 point 1244 Major Medical Health Care Facilities - 7 points 1245 Religious Facilities - 0 points 1246 Other Public Facilities - 7 points 1247 Public Parking Facilities - 10 points 1250 Special Use Facilities - 3 points 1251 Correctional Facilities - 5 points 1252 Special Care Facilities - 7 points 1253 Other Special Use Facilities - 5 points	1240 Public Facilities - 7 points 1241 Government Offices - 7 points 1242 Police and Sheriff Stations - 3 point 1243 Fire Stations - 3 point 1244 Major Medical Health Care Facilities - 7 points 1245 Religious Facilities - 7 points 1246 Other Public Facilities - 10 points 1247 Public Parking Facilities - 10 points 1250 Special Use Facilities - 3 points 1251 Correctional Facilities - 5 points 1252 Special Care Facilities - 7 points 1253 Other Special Use Facilities - 5 points	1240 Public Facilities - 7 points 1241 Government Offices - 7 points 1242 Police and Sheriff Stations - 3 point 1243 Fire Stations - 3 point 1244 Major Medical Health Care Facilities - 7 points 1245 Religious Facilities - 7 points 1246 Other Public Facilities - 10 points 1247 Public Parking Facilities - 10 points 1250 Special Use Facilities - 3 points 1251 Correctional Facilities - 5 points 1252 Special Care Facilities - 7 points 1253 Other Special Use Facilities - 5 points	1240 Public Facilities - 7 points 1241 Government Offices - 7 points 1242 Police and Sheriff Stations - 3 point 1243 Fire Stations - 3 point 1244 Major Medical Health Care Facilities - 7 points 1245 Religious Facilities - 7 points 1246 Other Public Facilities - 10 points 1247 Public Parking Facilities - 10 points 1250 Special Use Facilities - 3 points 1251 Correctional Facilities - 5 points 1252 Special Care Facilities - 7 points 1253 Other Special Use Facilities - 5 points
31	Land Use Classification	Types of land use that provide wider accessibility to the public and promotes increased usage. Types of land use that are accessible to the public or have large traffic volumes will have higher scores. Land uses that are considered inaccessible to the general public, low accessibility, or privately owned and operated will receive lower points. Locations will only receive a score for their specific land use category.	Education	1260 Educational Institutions - 7 points 1261 Pre-Schools/Day Care Centers - 7 points 1262 Elementary Schools - 7 points 1263 Junior or Intermediate High Schools - 7 points 1264 Senior High Schools - 10 points 1265 Colleges and Universities - 10 points 1266 Trade Schools and Professional Training Facilities - 10 points	1260 Educational Institutions - 7 points 1261 Pre-Schools/Day Care Centers - 7 points 1262 Elementary Schools - 7 points 1263 Junior or Intermediate High Schools - 7 points 1264 Senior High Schools - 10 points 1265 Colleges and Universities - 10 points 1266 Trade Schools and Professional Training Facilities - 10 points	1260 Educational Institutions - 7 points 1261 Pre-Schools/Day Care Centers - 7 points 1262 Elementary Schools - 7 points 1263 Junior or Intermediate High Schools - 7 points 1264 Senior High Schools - 10 points 1265 Colleges and Universities - 10 points 1266 Trade Schools and Professional Training Facilities - 10 points	1260 Educational Institutions - 7 points 1261 Pre-Schools/Day Care Centers - 7 points 1262 Elementary Schools - 7 points 1263 Junior or Intermediate High Schools - 7 points 1264 Senior High Schools - 10 points 1265 Colleges and Universities - 10 points 1266 Trade Schools and Professional Training Facilities - 10 points

NO.	THEME	CRITERIA	METRIC	SCAG REGIONWIDE STANDARD	EXPANDING CITIES	PROGRESSING CITIES	INITIATING CITIES
32	Land Use Classification	Types of land use that provide wider accessibility to the public and promotes increased usage. Types of land use that are accessible to the public or have large traffic volumes will have higher scores. Land uses that are considered inaccessible to the general public, low accessibility, or privately owned and operated will receive lower points. Locations will only receive a score for their specific land use category.	Transportation, Communications, and Utilities	1400 Transportation, Communications, and Utilities - 3 points 1410 Transportation - 7 points 1411 Airports - 7 points 1412 Railroads - 7 points 1413 Freeways and Major Roads - 7 points 1414 Park-and-Ride Lots - 10 points 1415 Bus Terminals and Yards - 7 points 1416 Truck Terminals - 0 points 1417 Harbor Facilities - 3 points 1440 Maintenance Yards - 0 point 1441 Bus Yards - 0 point 1450 Mixed Transportation - 5 point 1460 Mixed Transportation and Utility - 3 point	1400 Transportation, Communications, and Utilities - 3 points 1410 Transportation - 7 points 1411 Airports - 7 points 1412 Railroads - 7 points 1413 Freeways and Major Roads - 7 points 1414 Park-and-Ride Lots - 10 points 1415 Bus Terminals and Yards - 7 points 1416 Truck Terminals - 0 points 1417 Harbor Facilities - 3 points 1440 Maintenance Yards - 0 point 1441 Bus Yards - 0 point 1450 Mixed Transportation - 5 point 1460 Mixed Transportation and Utility - 3 point	1400 Transportation, Communications, and Utilities - 3 points 1410 Transportation - 7 points 1411 Airports - 7 points 1412 Railroads - 7 points 1413 Freeways and Major Roads - 7 points 1414 Park-and-Ride Lots - 10 points 1415 Bus Terminals and Yards - 7 points 1416 Truck Terminals - 0 points 1417 Harbor Facilities - 3 points 1440 Maintenance Yards - 0 point 1441 Bus Yards - 0 point 1450 Mixed Transportation - 5 point 1460 Mixed Transportation and Utility - 3 point	1400 Transportation, Communications, and Utilities - 3 points 1410 Transportation - 7 points 1411 Airports - 7 points 1412 Railroads - 7 points 1413 Freeways and Major Roads - 7 points 1414 Park-and-Ride Lots - 10 points 1415 Bus Terminals and Yards - 7 points 1416 Truck Terminals - 0 points 1417 Harbor Facilities - 3 points 1440 Maintenance Yards - 0 point 1441 Bus Yards - 0 point 1450 Mixed Transportation - 5 point 1460 Mixed Transportation and Utility - 3 point
33	Land Use Classification	Types of land use that provide wider accessibility to the public and promotes increased usage. Types of land use that are accessible to the public or have large traffic volumes will have higher scores. Land uses that are considered inaccessible to the general public, low accessibility, or privately owned and operated will receive lower points. Locations will only receive a score for their specific land use category.	Mixed Commercial and Industrial	1500 Mixed Commercial and Industrial - 3 points	1500 Mixed Commercial and Industrial - 3 points	1500 Mixed Commercial and Industrial - 3 points	1500 Mixed Commercial and Industrial - 3 points

NO.	THEME	CRITERIA	METRIC	SCAG REGIONWIDE STANDARD	EXPANDING CITIES	PROGRESSING CITIES	INITIATING CITIES
34	Land Use Classification	Types of land use that provide wider accessibility to the public and promotes increased usage. Types of land use that are accessible to the public or have large traffic volumes will have higher scores. Land uses that are considered inaccessible to the general public, low accessibility, or privately owned and operated will receive lower points. Locations will only receive a score for their specific land use category.	Mixed Residential and Commercial	1600 Mixed Residential and Commercial - 10 points 1610 Residential-Oriented Residential/Commercial Mixed Use - 10 points 1620 Commercial-Oriented Residential/Commercial Mixed Use - 10 points	1600 Mixed Residential and Commercial - 10 points 1610 Residential-Oriented Residential/Commercial Mixed Use - 10 points 1620 Commercial-Oriented Residential/Commercial Mixed Use - 10 points	1600 Mixed Residential and Commercial - 10 points 1610 Residential-Oriented Residential/Commercial Mixed Use - 10 points 1620 Commercial-Oriented Residential/Commercial Mixed Use - 10 points	1600 Mixed Residential and Commercial - 10 points 1610 Residential-Oriented Residential/Commercial Mixed Use - 10 points 1620 Commercial-Oriented Residential/Commercial Mixed Use - 10 points
35	Land Use Classification	Types of land use that provide wider accessibility to the public and promotes increased usage. Types of land use that are accessible to the public or have large traffic volumes will have higher scores. Land uses that are considered inaccessible to the general public, low accessibility, or privately owned and operated will receive lower points. Locations will only receive a score for their specific land use category.	Open Space and Recreation	1800 Open Space and Recreation - 7 points 1810 Golf Courses - 3 points 1820 Local Parks and Recreation - 7 points 1830 Regional Parks and Recreation - 5 points 1840 Cemeteries - 3 points 1850 Wildlife Preserves and Sanctuaries - 3 points 1860 Specimen Gardens and Arboreta - 3 points 1870 Beach Parks - 7 points 1880 Other Open Space and Recreation - 3 points	1800 Open Space and Recreation - 7 points 1810 Golf Courses - 7 points 1820 Local Parks and Recreation - 7 points 1830 Regional Parks and Recreation - 5 points 1840 Cemeteries - 3 points 1850 Wildlife Preserves and Sanctuaries - 3 points 1860 Specimen Gardens and Arboreta - 3 points 1870 Beach Parks - 7 points 1880 Other Open Space and Recreation - 3 points	1800 Open Space and Recreation - 7 points 1810 Golf Courses - 7 points 1820 Local Parks and Recreation - 7 points 1830 Regional Parks and Recreation - 5 points 1840 Cemeteries - 3 points 1850 Wildlife Preserves and Sanctuaries - 3 points 1860 Specimen Gardens and Arboreta - 3 points 1870 Beach Parks - 7 points 1880 Other Open Space and Recreation - 3 points	1800 Open Space and Recreation - 7 points 1810 Golf Courses - 7 points 1820 Local Parks and Recreation - 7 points 1830 Regional Parks and Recreation - 5 points 1840 Cemeteries - 3 points 1850 Wildlife Preserves and Sanctuaries - 3 points 1860 Specimen Gardens and Arboreta - 3 points 1870 Beach Parks - 7 points 1880 Other Open Space and Recreation - 3 points

NO.	THEME	CRITERIA	METRIC	SCAG REGIONWIDE STANDARD	EXPANDING CITIES	PROGRESSING CITIES	INITIATING CITIES
36	Streamlined Permitting	<p>Areas with streamlined permits for EVs charging stations will have an easier time installing EV charging stations. Cities in the progressing category can prioritize areas with streamlined permitting as they will reduce the barriers to installing new chargers into existing EV network. Higher points are awarded to areas with a streamlined permitting process.</p> <p>Green – City or County is EVCS Permit Ready, charging infrastructure permitting is streamlined Yellow – City or County EVCS permit streamlining is in progress, or partially complete Red – City or County is not streamlined for EVCS permitting</p>	<p>Permitting process: Green – streamlined Yellow – in process Red – not streamlined</p>			<p>Green Permitting – 10 points Yellow Permitting – 5 points Red Permitting – 1 point</p>	

BREAKDOWN OF EVALUATION CRITERIA

This next section discusses each of the evaluation criteria in more depth and detail. The section explains the relevance of each criterion and the metrics. The scoring for each criterion is also discussed, as well as the differences in the scoring criteria for each of the Three Scenarios.

VEHICLES AND EXISTING EV INFRASTRUCTURE

The Proximity to Existing EV Charging Station and EV Charging Stations - Existing and Planned criteria evaluates a parcel's proximity in miles to an existing EV charging station or a planned location for a station. Ideally a city would want to place new EV charging stations at a distance from existing or planned stations to increase coverage of EV stations throughout the geography and increase overall accessibility to a wider geography. This analysis does not consider increasing the number of charging ports that already exist at a given parcel.

- For this criterion the Regionwide Standard intended to maximize geographic coverage for new EV charging stations and has a larger proximity distance from existing and planned EV stations. The largest number of points were awarded to parcels >7 miles from an existing or planned EV station and the least number of points for parcels <1 mile from an existing or planned EV station. Proximity distances were decreased from 0.5 to 5 miles in the additional Three Scoring Scenarios based on feedback.
- For cities in the Expanding scenario the further the parcel from the existing EV chargers the more points, to expand the coverage of their EV infrastructure to areas where EV stations are absent or gaps in the geographic coverage.¹¹
- Progressing and Initiating scenarios still need to increase the density of coverage in certain areas as well as expand their network, as a result the highest points are awarded to mid-range distances 1 – 3 miles from existing EV charging stations.

The criteria for California Motor Vehicle Fuel Types Battery Electric Vehicles and the California Motor Vehicle Fuel Types Plug-In Hybrid Vehicles measures the number of electric vehicles (battery & plug-in hybrid) registered in California by zip code in January 2020, the most recent available at the time of this study. This indicates the number of EVs registered in certain zip codes and the potential need for installing EV stations. Overall, the higher number of EVs in an area, the higher the need for more charging stations and likelihood EV charging stations be utilized.

- The Regionwide Standard aligns with scoring the areas with the most amount of existing EV ownership the most points. Areas with high EV ownership will have an existing need for EV infrastructure and would warrant the addition of new EV charging stations.
- This is the case for the Progressing and Initiating scenarios, which are working to increase usage of existing EV charging stations and want to locate new EV charging stations in areas of high demand. As a result, the zip codes with the highest number of EV ownership scores the highest number of points.
- The Expanding scenario, however, is intending to expand into geographic areas that currently do not have any EV charging stations and may have lower current EV ownership. Increasing the EV infrastructure in these areas is intended to reduce obstacles to EV ownership and decrease gaps in the EV infrastructure network. Thus, the points for the Expanding scenario are reversed providing the highest point value to the areas with the lowest amount of EV ownership.

¹¹ California Energy Commission (2021) "Zero-Emissions Infrastructure Gap," 2021–2023 Investment Plan Update for the Clean Transportation Program, Commission Report, CEC-600-2021-038-CMF.

COMMUNITIES AND DEMOGRAPHICS

The Population Density criterion measures the areas with the highest density populations, based on the US Census 2010 data, the most recent available at the time of this study. The average population density in California is 235 people per square mile. In the certain urban areas, such as Los Angeles there is a much higher density average. Population density is an important criterion, to support the accessibility and high-capacity priorities of the study, focusing on placing new EV charging stations in areas with high density for increased accessibility and use.

- The Regionwide Standard scoring support the increase of new EV charging stations in locations of high population density, assuming it would maximize the accessibility of the station to a large number of people.
- The scoring for the Progressing and Initiating scenarios reflects the objective to provide the highest scoring to areas with the highest density, such that one charging station is accessible to a greater number of local EV drivers.
- Cities under the Expanding scenario generally already have EV charging stations located in the highest density areas and should grow the network into areas of slightly lower density that do not already have EV charging stations. As a result, the Expanding scenario places the highest point value to the mid-range density and lower points to areas of very high and very low density.

Median Household Income is an important criterion for supporting the accessibility and equity prioritizations of the study. The purpose of the study is to support the increase of EV charging stations into lower income areas. According to the US Census Bureau in 2020 the median household income for the US was \$67,521 in and the poverty level for a family of four was \$26,496. Using the SCAG 2016 Median Household Income data for 6-County Region the scale for income for median income ranged from \$25,000 - \$150,000. EV ownership is concentrated in the upper annual income brackets of \$100,000-\$150,000 and up¹².

- The Regionwide Standard scoring aligns with placing new EV charging stations in the areas of lowest income, prioritizing areas that need the new EV infrastructure.
- For the Progressing and Initiating scenarios the highest scores were awarded to the mid-range median income brackets. The Progressing and Initiating scenarios want to prioritize areas that are in the mid-range because these areas will have incomes high enough to purchase or lease EVs and install home charging stations but will benefit from public investment in EV charging infrastructure.
- The Expanding scenario scores the lower median income brackets with the highest number of points, prioritizing areas that entirely need public investment for creating EV infrastructure.

¹² International Council on Clean Transportation (2021). "When might lower-income drivers benefit from electric vehicles? Quantifying the economic equity implication of electric vehicle adoption", Working Paper 2021-06, accessed January 31, 2022 website <https://theicct.org/publication/when-might-lower-income-drivers-benefit-from-electric-vehicles-quantifying-the-economic-equity-implications-of-electric-vehicle-adoption/>

Disadvantaged Communities (DACs)¹³, as defined in CalEnviroScreen 3.0 (updated June 2018),¹⁴ is also an important criterion for supporting the accessibility and equity prioritizations of the study. One of the purposes of this study is to support EV charging stations in areas that have been historically underserved by the EV market. DACs are census tracts with, among other variables, high poverty rates, pollution burdens and population sensitivities. Installing EV charging stations in DACs will reduce common barriers to EV adoption including perceived higher total cost of ownership (TCO) for EVs, range anxiety, and the ability to reliably charge the vehicle. A large portion of the population of this study is low income and located in DACs and have specific needs to reduce the barriers to EV adoption. This criterion used the CalEnviroScreen 3.0 and SCAG GIS Open Data Portal 2017 Data Percent DAC Score, areas range from 0-100%, with 100% being the highest DAC value. Areas with higher DAC percentages and are higher disadvantaged communities received higher points. For this study the areas that are the highest scoring DACs 75%, and above for all of the scenarios were awarded the highest point value to increase support for building EV charging stations in DACs.¹⁵

The Low-income community Census Tracts criterion, similar to the Median Household income criterion, is an important for supporting the accessibility and equity prioritizations of the study. One purpose of the study is to support the increase of EV charging stations into lower income areas. According to the 2012-2016 American Community Survey values used to determine if a community is considered a low-income community as defined by Code Section 45D(e), the poverty rate is at least 20%, or the median family income does not exceed 80% of statewide median family income. Criteria highlights the poverty rate, the median family income, and the state family income.

- In the Regionwide Standard and the Expanding scenario score areas with the highest poverty percentages (20% - 100% of the population living below the poverty line) the highest points to encourage placement of EV charging stations in lower-income areas.
- The Progressing scenario, which assumes cities are still in the development stages of EV infrastructure attributes the mid-level poverty percentages with the highest scores to support areas that have incomes high enough for purchasing EVs, but that would necessarily attract private investment. The Initiating scenario awards the highest points to the areas with lower percentages of poverty, which have higher incomes and are likely to have higher EV ownership to utilize the initial investment in new EV infrastructure.

Pollution Burden scores for each census tract are derived from the average percentiles of the seven Exposures indicators (ozone and PM2.5 concentrations, diesel PM emissions, drinking water contaminants, pesticide use, toxic releases from facilities, and traffic density) and the five Environmental Effects indicators (cleanup sites, impaired water bodies, groundwater threats, hazardous waste facilities and generators, and solid waste sites and facilities) for the area. Areas with a higher percentage on these environmental indicators have a higher pollution burden, which includes particulate matter, emissions, and air pollution

¹³ California Office of Environmental Health Hazard Assessment (2017) "SB 535 Disadvantaged Communities," Disadvantaged Community Designation (Updated June 2017), accessed January 20, 2022 website <https://oehha.ca.gov/calenviroscreen/sb535>

¹⁴ California Office of Environmental Health Hazard Assessment (2018) CalEnviroScreen 3.0, <https://oehha.ca.gov/calenviroscreen/report/calenviroscreen-30>

¹⁵ California Environmental Protection Agency (2021) "California Climate Investments to Benefit Disadvantaged Communities," Accessed January 20, 2022 <http://calepa.ca.gov/EnvJustice/GHGInvest/>

from vehicle traffic. As one of the objectives of this study and the state of California¹⁶ is to reduce emissions and pollution from vehicles and encourage the use of electric vehicles, these areas would benefit from improved air quality from low or zero-emission vehicles. In addition to the CalEnviroScreen 3.0 data this criterion also used the SCAG GIS Open Data Portal 2017 data. Areas with a pollution burden have scores that range from 0.1-10, with a score of 10 as highest pollution burden. The areas with the highest pollution burden scores receive the most points for all of the scenarios.

The criterion Health Impacts – Asthma is used to measure adverse health conditions caused by pollution, specifically relevant to this study are pollution from particulate matter, emissions, and air pollution from vehicle traffic. This data used the CalEnviroScreen 3.0 health impact data, which measures the health impacts in areas with high amounts of pollution and low populations. The data age-adjusted rate of emergency department (ED) visits for asthma per 10,000 people (averaged over 2011-2013) in percentiles. Areas with a higher percent have higher rates of asthma and would benefit from improved air quality from low or zero-emission vehicles. Similar to the pollution burden criterion, areas with the highest asthma percentages receive higher points in the evaluation scoring for all Three Scoring Scenarios.

TRAVEL AND TRANSPORTATION

High Quality Transit Areas (HQTAs) for this study are from the SCAG Region for the year 2016, the most recent data available. The definitions and criteria for the Final Connect SoCal 2020-2045 RTP / SCS Study. The RTP/SCS Study notes that areas of HQTAs or “centers and nodes along corridors can play a pivotal role in supporting compact development that is less reliant on single-occupancy vehicles...[they] are corridor-focused Priority Growth Areas within one half mile of an existing or planned fixed guideway transit stop or a bus transit corridor where buses pick up passengers at a frequency of every 15 minutes (or less) during peak commuting hours.”¹⁷ The High Quality Transit Areas criterion support this study’s prioritization of placing EV charging stations in areas of accessibility, convenience, and transit. The scoring for this criterion promoted placing new EV charging stations in close proximity to HQTAs across all of the Three Scoring Scenarios. Locations were either awarded a full 10 points for being located within a HQTA or zero points for located outside a HQTA.

Highways and Arterial Streets criterion measures a particular location’s proximity to the SCAG maps of highways and major arterial streets. “Our region’s arterials and local road system accounts for more than 80 percent of the total road network and they carry a majority of overall traffic.”¹⁸ Promoting the placement of EV charging stations in locations near highways and major arterial streets aligns with the prioritization of this study for accessibility and convenience. Placing EV charging stations in areas that are accessible to all people and are in high trafficked areas will not only encourage the use of the EV charging stations. Locations that are in closer proximity to highways and major arterial streets (<0.25 miles) received the most points, while locations that are further (> 1.0 mile) received the least number of points. A distance of <0.25 miles was chosen as the closest distances as SCAG notes, “the majority of trips in the SCAG region less than ¼ mile are walking trips (67%) but walking declines rapidly beyond ¼ mile. [In the

¹⁶ California Environmental Protection Agency (2021) “California Climate Investments to Benefit Disadvantaged Communities,” Accessed January 20, 2022 <http://calepa.ca.gov/EnvJustice/GHGInvest/>

¹⁷ Southern California Association Governments (2019) “Connect SoCal: 2020–2045 Regional Transportation Plan/Sustainable Communities Strategy,” Chapter 3, pg. 50-51.

¹⁸ Southern California Association Governments (2019) “Connect SoCal: 2020–2045 Regional Transportation Plan/Sustainable Communities Strategy,” Chapter 3, pg. 72.

SCAG region] 49% of all walking trips are less than ¼ mile and 83% less than ½ mile.”¹⁹ Thus, this study wanted to identify locations that fit with SCAG’s findings supporting walking 0.25 miles or less as the highest scoring. Additionally, it was assumed that EV drivers would be less interested in charge their vehicles at distances of > 1.0 miles from their final destination. The scoring for this criterion was the same across all the scenarios, because promoting accessibility and convenience is a priority regardless of a city’s stage of readiness.

MTA Metro Stations criterion focuses on locating new EV charging stations in close proximity to MTA Stations. Prioritizing locating new EV charging stations in close proximity to Metro stations aligns with the accessibility, convenience, and transit qualities requested by SCAG, cities, and the stakeholders. It provides an opportunity to locate an EV charging stations near to public transportation, thus promoting EV usage in coordination with public transportation. Locations that are in closer proximity in miles (<0.25 miles) to an MTA station received the most points, while locations that are further (> 1.0 mile) received the least number of points. The proximity distance in miles was chosen based on the SCAG finding of a majority of trips being ¼ of a mile, outlined in the previous criterion. The scoring for this criterion was the same across all the scenarios, because promoting accessibility, convenience, and transit are priorities regardless of a city’s stage of readiness.

In addition to locating EV charging stations in close proximity to MTA Metro stations, this study also wanted to emphasize MTA Metro Stations with parking lots. In alignment with locating EV charging stations in close proximity to MTA Metro Stations, this criterion promotes locating an EV charging station at stations with parking lots. MTA Metro Stations with parking lots promote “park and ride” usage for riders of public transit, promoting EV usage in coordination with public transportation. Points awarded to locations with a parking lot at the station. If locations were next to an MTA Metro station with a parking lot, they receive 5 points if they are located next to an MTA Metro station without a parking lot, they received zero points. The scoring for this criterion was the same across all the scenarios.

The evaluation criteria Metrolink Stations and Railroad Stations: Metrolink and Amtrak supports this study’s accessibility, convenience, and transit qualities. Metrolink and Amtrak stations are heavy rail stations that transport riders between cities throughout the SCAG region. Encouraging EV drivers to park and charge their vehicles at a Metrolink or Amtrak station can not only reduce traffic congestion between cities, but also reduces range anxiety and promote use of public transportation. Within the SCAG region some Metrolink and Amtrak train stations are co-located, in this analysis each station was only scored once to avoid double counting of co-located stations. For these criteria locations that are in closer proximity in miles (<0.25 miles) to a Metrolink or Amtrak station received the most points (10 points), while locations that are further (> 1.0 mile) received the least number of points (1 point). The proximity distance in miles was chosen based on the SCAG finding of a majority of trips being ¼ of a mile, outlined in the previous criterion. The scoring for this criterion was the same across all the scenarios, because promoting accessibility, convenience, and transit are priorities regardless of a city’s stage of readiness.

The Airports - SCAG Region criterion focuses on placing EV charging stations in close proximity to airports. Similar to placing EV charging stations near MTA, Metrolink, and Amtrak stations; locating EV charging stations provides the opportunity to promote EV usage in coordination with a larger travel system, promoting convenience and connection to transit. Distinctive from the rail stations, which focuses on short term parking, placing EV charging stations near airports is intended to support pick-up and drop-off of passengers and rideshare usage. Taxis, rideshare drivers, or individuals could charge their

¹⁹ Southern California Association Governments (2016) “Facts and Figures – SCAG Region,” pg, 1.

https://scag.ca.gov/sites/main/files/file-attachments/toolbox_countyfacts_scagregionfactsfigures.pdf?1604889126

vehicles before or after picking-up or dropping off passengers. The EV charging locations would be located near airports, but not on airport property or in parking facilities. The highest points are awarded for closer proximity (<1 mile) to an airport and least number of points for further distances (>4.1 miles) from the airport. A distance of a one mile was chosen as to enable EV drivers to be close enough to the airport to quickly pick up passengers, but also be an equitable distance from the flow of airport traffic and transport. The scoring for this criterion was the same across all the scenarios, this criterion also may not apply to all cities in the SCAG region as some may not have airports within their jurisdiction.

PARKING LOTS & EMPLOYMENT

Placing EV charging stations at existing LA City-owned and other parking lots provides higher accessibility to the public to use the EV charging stations as well as reduce installation challenges for cities. Higher points were awarded to locations that are city owned and operated as well as locations at multi-use dwellings (MUDs). Scoring for each of the parking lot types are listed below, locating EV charging stations at privately owned or operated parking lots does not necessarily reduce accessibility or convenience for EV owners. However, Cities may have limited influence or ability to install EVCS at these locations. The scores for the parking are the same across all the scenarios:

- Other/blank – 0 points (excluded from analysis)
- Other high-capacity locations – 1 point
- Private Parking Facility – 3 points
- Public Owned - Private Operated – 5 points
- Public Parking Facility & Operated – 10 points
- MUD – 10 points

Additional parking criterion used in this study included LA City-owned parking lots convenience and Park & Ride Lots: LA County

Locating an EV charging station in City-owned parking lots and designated Park & Ride parking lots provides higher public accessibility as well as the opportunity to locate an EV charging station at major transportation hubs, promoting EV usage in coordination with public transportation. Highest points (5 points) were awarded to locations in proximity to high-capacity locations (shopping centers, restaurant, public services / post offices, civic centers, and theaters) and zero points were awarded for locations not located near high-capacity locations. Similarly, 5 points were awarded to locations at a Park & Ride location and zero points for non-Park & Ride locations. These criteria cover parking lots and locations in Los Angeles City and County only, this is due to limited availability of data. The scores for the parking are the same across all the scenarios.

Employment locations data is from the 2016 ESRI's Information Group of businesses. The data shows the location and number of employees at each employment location. Locating EV charging stations in close proximity to large employers or employment centers is a priority of this study. The intent is to place EV charging stations near employment centers to promote use of EVs for employee commuting. Higher points were awarded for locations in closer proximity (<0.25 miles) to large employers or employment centers, where large employers have 200 or more employees. Locations that are located further from the large employment locations (>1 mile) were awarded less points. The distance of <0.25 miles as the closest proximity and highest points was chosen for this criterion to align with the proximity distance to transit stations, which is supported by SCAG's findings. The scoring for proximity to employment centers is consistent across all the scenarios.

EV PURCHASING & TRAVEL PATTERNS

The criterion of PEV Propensity To Purchase is a spatial layer focuses on MUD properties and provides a score for ranking MUD parcels in the South Coast Air Basin according to the relative demand of building

residents for PEV ownership, assuming barriers to chargers are removed. The score accounts for: 1) the historical adoption rate of PEVs in each census tract, 2) the likelihood that PEVs are likely to belong to households of different income groups, and 3) the likelihood that those income groups are likely to live in a home of a certain value. The score is based on the average value of the unit within the MUD. Final scores are not weighted by the size of the MUD (i.e., the total number of units). The higher the PEV Propensity to Purchase score the more likely the residents are likely to purchase a PEV and would benefit from include EV infrastructure. This criterion builds on the criteria of existing EV and plug-in ownership as it shows propensity to purchase EVs and relates to the importance of reducing the barriers and promoting EV ownership. The propensity to purchase may overlap with some geographic locations that already have EV ownership, but this data is more expansive and represents areas that may not currently have a lot EV ownership to support locating EVCS in areas that will need new infrastructure. Scores for this criterion differ between the Three Scoring Scenarios.

- The Expanding scenario assumes that cities have already installed a number of EV charging stations in areas with higher EV ownership and PEV propensity to purchase. The Expanding cities are interested in installing new EV charging stations in areas that currently have lower PEV propensity to purchase. Thus, the scoring for this criterion for Expanding cities awards a higher number of points for the lowest PEV score (0 - 0.9) and a lower number of points for the highest PEV score (8.1 - 10.0).
- Conversely, the Regionwide Standard, Progressing and Initiating scenario assumes that cities are still working to develop a network of EV charging stations and are interested in placing new EV charging stations in areas of higher EV ownership and PEV propensity to purchase. Thus, the scoring for this criterion for Progressing and Initiating cities awards a higher number of points for the higher PEV score (8.1 - 10.0) and a lower number of points for the lowest PEV score (0 - 0.9).

The criterion PEV_AMDestinations_Registrations_poly_scag and PEV_PMDestinations_Registrations_poly_scag is based on the dataset from the outputs of the SCAG Regional Travel Demand Model And 2012 Model Validation. In this trip-based model, the SCAG model segments the demand models (auto ownership, trip generation, trip distribution, and mode choice) into two time periods - peak and off-peak.²⁰ It also shows the arrival locations and densities of PEVs during peak morning hours. Using surveys of household travel behavior, SCAG's travel demand model estimates the number of trips from home to work, school, and other destinations by time of day. The morning peak period represents weekday trips that occur between 6:00 and 9:00 a.m. (i.e., commutes to work), the mid-day period off-peak represents weekday trips that occur between 9 a.m. and 3 p.m. (i.e., trips to run errands), and the evening peak period for weekday trips 3:00 PM to 7:00 (i.e., evening commutes) PM in the evening. ²¹ Locations that received high destination scores indicate locations in the AM or PM that had a high volume of vehicles at a particular destination. These criteria support the objectives of this study to locate new EV charging stations in locations that promote accessibility, convenience, and high-capacity; where the largest number of EV drivers can access and use the charging stations. Higher destinations sums indicate a higher number of vehicles at the destination and the larger benefit of installing an EV charging station at the destination. As a result, locations with the highest range of AM scores for destinations (189.1 - 238.51) and the highest range of scores for the PM destinations (200.1 - 251.17) were

²⁰ Southern California Association of Governments (2016) "SCAG Regional Travel Demand Model And 2012 Model Validation," March 2016, pg. 3-12.

²¹ Southern California Association of Governments (2016) "SCAG Regional Travel Demand Model And 2012 Model Validation," March 2016, pg. 3-12.

awarded the most points. Conversely, the locations with the lowest AM scores (0 - 1.0) and the lowest PM scores (2 - 1.0) were awarded the lowest points. The scoring for these criteria is consistent across all the scenarios, because all cities would be focused on serving high vehicle volume destinations.

PERMITTING

The Streamlined Permitting criterion evaluates whether locations are in cities that have a streamlined permitting process in place for installing EVs charging stations per AB 1236 as of December 2021. This criterion supports the placement of EV charging stations in Cities that have already have a streamlined permitting process, which reduces barriers to installing EV charging stations. The types of permitting categories are listed below. The highest number of points are awarded to areas with a streamlined permitting process (Green) and the lowest number of points are awarded to areas without a streamlined permitting process (Red). The scoring for this criterion is consistent across all the scenarios. A streamlined process is not necessarily an indication of the speed of the process, additionally it should be noted that some Cities process EVCS permits quickly even if they are not formally compliant with AB 1236.

- Green – City or County is EVCS Permit Ready, charging infrastructure permitting is streamlined
- Yellow – City or County EVCS permit streamlining is in progress, or partially complete
- Red – City or County is not streamlined for EVCS permitting

LAND USE

The Land Use Classification criteria is a large section of the evaluation criteria. Land use classifications are numerous and vary depending on the city and county. This study endeavored to cover all types of potential land use classifications, but allows that some cities within the SCAG region that may have slightly different names or classifications for land types. For ease of use and analysis the Land Use Classification criteria has been broken down into the following categories:

- Single Family Residential – land use with single-family homes of high or medium density
- Multi-Family Residential – land use containing multi-family homes, including apartments and mobile homes
- Mixed Residential – land use that is mixed of residential and other undesignated uses.
- General Office – land use for offices, includes low and medium rise offices as well as skyscrapers
- Commercial Services – land use includes commercial services, shopping centers, retail centers, hotels, motels, etc.
- Facilities – land use classification includes public / government offices, fire department, police department, religious facilities, etc.
- Education – land use includes all education facilities off all grade levels from pre-school / day care to universities and trade schools
- Transportation, Communications, and Utilities – category includes a wide variety of land uses including rail stations, airports, harbors, major road/highways, bus yards, park and ride lots, mixed transportation, etc.
- Mixed Commercial and Industrial – land use that has combined uses for commercial and industrial spaces, typically manufacturing and wholesalers
- Mixed Residential and Commercial – land use that includes mixed use development, such as building that combine commercial services on certain floors and residential spaces on others
- Open Space and Recreation – land use classification covers outdoor areas including golf courses, parks, cemeteries, wildlife preserves, gardens, beach parks, etc.

The land use criteria evaluate the different land use categories for locations that provide higher accessibility, convenience, and high-capacity to the public facilities, high-capacity areas, and promotes increased EV charging. Types of land use that are accessible to the public, have higher traffic volumes, and

are high-capacity locations (e.g., shopping centers, rail stations, etc.) were awarded higher scores (5, 7, or 10 points). Land uses that are considered inaccessible to the general public, low accessibility, or privately owned and operated (e.g., military bases, industrial, etc.) received lower points (3, 1, or 0 points). Considering each location will only have one land use designation, it only receives one score for its specific land use category. For example, if a location is in an area designated as "Mixed Residential" land use it would be awarded 10 points but would not receive any other points under the other residential land use categories (i.e., "High Density Single Family Residential," "Multi-Family Residential," etc.). The scoring for all of the land use classifications is primarily the same across all of the scenarios. The scoring for a few land use classifications were altered from the Regionwide Standard to the other Three Scenarios based on SCAG, stakeholder, and community feedback, these included:

- In the Regionwide Standard, Religious Facilities were scored lower, because it was assumed that these locations would have a lower frequency of usage and could be considered private or limited access. The feedback suggested that Religious Facilities should be scored higher, because religious and cultural institutions are important in increasing exposure to EVs and people can charge their vehicles while they are at religious services or community events.
- Fire Stations were also considered low scoring in the Regionwide Standard. The assumption was that these locations did not have a lot of visitors or parking needs at these locations. Stakeholders commented that there new EV medium-duty fleet options are becoming available for Fire and Police Facilities and that these locations warranted a slightly higher score.

The analysis for all the scoring criteria will be processed by GIS down to the parcel level. Due to the large volume of data processed and computing power available certain land use types were excluded to make the analysis more manageable. This most notably includes excluding low-density single family residential (2 or less DUs/ac) land use types as single-family homes can more easily install a charger on-site reducing the need for public charging. Other land use types were excluded as they were not a priority for this study, including but not limited to: Single Family Residential, Mobile Home Courts and Subdivisions, Low-Density, Military Installations, Vacant Area, and Air Field, Former Base (Built-up Area), Motion Picture and Television Studio Lots, Packing Houses and Grain Elevator, Heavy Industrial, Mineral Extraction - Oil and Gas, and Wholesaling and Warehousing.

SUMMARY

The methodology for creating the scoring criteria incorporated industry standards, research, regulations, as well as reflected the comments and feedback from SCAG, cities, stakeholders, and community members. The criteria chosen support installing new EV charging stations in areas that promote accessibility, equity, high-capacity, convenience, transit, environment, and employment qualities. The SCAG Regionwide Standard Scenario reflects SCAG’s regionwide goals for increasing access to electric vehicles to areas the private market may not address on its own. Stakeholders in this study underscored the need for an analytical approach that understands the different challenges and opportunities of each city, and that helps equip and inform each jurisdiction with the data and tools necessary to reach their EV infrastructure goals. The Regionwide Standard scoring was then tailored to reflect various stages of EV readiness of the various SCAG member cities and regions with the Three Scoring Scenarios. Cities and regions are able to select the scoring scenario (Expanding, Progressing, or Initiating) that best reflects their current state and use the scoring to identify locations for installing new EV charging stations. The highest scoring locations represent the optimal locations for installing new EV charging stations. These highest scoring locations can then progress to on-site evaluations for strategic placement.

The outputs of the analysis can be used by a variety of stakeholders to better inform future EV infrastructure. Cities can use the results to inform their decision-making process and determine which of their publicly owned sites might be suitable for EVCS. Cities can also use the results as part of targeted outreach efforts or to coordinate public-private partnerships to better direct private investment in EVCS.



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