

# Tracking California Cities' Readiness for an Equitable EV Transition

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California state policymakers have initiated a transition to [solely zero-emission vehicle sales by 2035](#). While the private market and higher income families have done a robust job developing at-home charging infrastructure and demonstrating a demand for these vehicles thus far, proactive local government planning is imperative to ensuring a smooth, effective, and equitable transition across all income levels. Californians who do not own dedicated off-street parking and/or lack the capital to install charging equipment will need access to affordable, thoughtfully distributed public charging infrastructure.

Cities can pursue multiple avenues to ensure an equitable EV transition through planning, policy, direct investment, and more. For example, cities can include EV-related strategies in their climate action plans, develop stand-alone EV action plans including equity-focused strategies, craft city-level map frameworks to identify where priority communities would benefit most from investment, or implement equity-focused EV pilot programs to better serve the needs of diverse communities in accessing zero-emission infrastructure.

To gain understanding of California cities' readiness for the transition, we have begun tracking progress across these and a number of other relevant categories related to city-level, equity-focused EV policy efforts. The goal of this analysis is to identify examples and trends in leadership while also tracking strategies cities can improve on and where the state can potentially step in to provide assistance.

Taking a categorical approach to readiness—asking “yes/no” questions about whether a city has adopted a particular plan or taken a particular action—provides some insight into how California cities are attempting to ensure an equitable transition, but this is a challenging assessment to make. For example, adoption of an equity-focused EV action plan may or may not indicate a successful, timely, and truly equitable application of EV infrastructure and equitable access to private and shared mobility, but it is readily comparable across cities. Moreover, planning and policy actions do not equal investment and implementation on the ground. However, with the information we can gather, the following categories begin to paint a picture of whether cities are getting ready for an equitable transition.

## Readiness Categories

1. Has the city **formally adopted a climate action plan** (i.e., city council adoption or equivalent) and does that plan **include some actions related to EVs and charging infrastructure**? This question examines whether cities are cognizant of the role EVs will

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play in addressing climate change and whether they have taken the first steps to consider how EV policy can be locally implemented as part of broader climate efforts.

2. **Does the city have some sort of EV readiness plan or EV roadmap (typically an agency-side analysis or needs assessment, not a formally adopted action plan)?** This indicates whether a city has taken further steps to examine feasibility of implementing EV, roadblocks and funding sources, or gaps in knowledge for how to develop this infrastructure. This is key to a city showing focus in developing a plan that fits local conditions and has a higher likelihood of implementation.
3. Has the city **formally adopted an EV or ZEV action plan?** This indicates whether the city council or equivalent has formally adopted a plan focused on EV-related strategies with the support support of city leadership. This can also be a proxy to indicate whether city resources will be used to accomplish the plan and whether the city is actively looking for funding.
4. Does that EV action plan include **actions specifically focused on equity and meeting the needs of underserved communities?** This question asks whether cities are consciously pursuing an equitable approach to developing greater EV capacity and infrastructure.
5. Does the city have some sort of **locally specific environmental justice mapping tool** or CalEnviroScreen equivalent? Cities that have considered the specific needs of lower-income and disadvantaged communities within their jurisdiction and sought to identify those populations with further detail than state-level tools will be better positioned to target policy and investment. ([CalEnviroScreen](#) is a California state tool that assesses community environmental risk based on a suite of pollution burden and demographic criteria, with a score of 100 representing the greatest community environmental vulnerability. Some cities have begun to expand on the platform with locally tailored criteria.)
6. Has GoBiz identified the city as permit "**streamlined**" pursuant to **AB 1236/SB 970** requirements? The Governor's Office of Business and Economic Development (GO-Biz) developed a set of [seven criteria](#) to identify whether cities streamlined their electric vehicle charging station permitting process pursuant to AB 1236 and SB 970. This is a key step in ensuring that cities can develop charging station infrastructure in a timely and efficient manner.
7. Does the city have its own **municipal electric utility?** This criterion indicates the potential for a city to streamline its electric vehicle initiatives by working with its own local municipal utility instead of developing programs through a larger, less locally knowledgeable investor-owned utility.
8. Has the city done a **pilot program/installation project?** This criterion tracks whether a city has taken any steps to put its EV plans into action or test out the feasibility of implementing EV infrastructure. Small and large programs count, regardless of their proportion to the cities' total population. This causes variation in determining whether the city is proportionately and vigorously pursuing an EV transition.
9. Have they done a **pilot investment into an equitable EV program?** This tracks whether cities are proactively pursuing strategies that cater to disadvantaged communities, where access to electric vehicles and infrastructure may not be attainable without subsidized programs and programs targeted towards supporting community needs.

10. Has the city developed a plan to **electrify the city fleet**? This demonstrates whether the city is pursuing EVs among the vehicles it has direct control over. This can help initially bring an EV market and charging infrastructure to a city.
11. Does the city host a state **Transformative Climate Communities (TCC) program project that includes an EV or e-mobility component**? The [TCC Program](#) seeks to empower communities most impacted by pollution to have funding and autonomy for choosing strategies that reduce local pollution. Winning a TCC grant and Selecting EV strategies as a part of the program will indicate a city's willingness to assertively pursue EV strategies and allocate available funding accordingly.

### Top-Ranking Cities

For each of the 11 categories, we researched existing city plans and programs and scored cities on a simplified "yes/no" basis to develop a score between 0 and 11. To date we have analyzed the state's 27 most populous cities (those over 175,000 residents) and have identified an initial group of leader cities across the categories: Sacramento (9 points out of 11), Los Angeles (8), and Oakland (7), and Stockton (7). We discuss these cities and a few preliminary trends below; the full ranking matrix is attached as an appendix.

1. **Sacramento (Population: 528,000, Median Income: \$80,000, CalEnviroScreen Average Score: 55.9)**

Sacramento is the state capital and the sixth largest city in California. It was awarded a grant from the California Energy Commission for EV transition planning and implementation. It developed two phases of an [EV Blueprint](#), one to plan and another to implement the funds. There are several equitable strategies that have been carried out through this program. EV chargers have been installed at 15 different community centers, libraries, and regional parks. Additionally, the city has begun a pilot program with the Sacramento Air Quality Management District (SMAQMD) to place rentable electric vehicles at a local library with affordable rates which increases access to mobility for lower income households. The city has also adopted an [EV Strategy](#) which seeks strategies such as transitioning its fleet to EV, and as of 2020, the city had [transitioned](#) 12% of its light duty fleet vehicles. It is possible a key part of Sacramento's progress and leadership thus far has been due to receiving grants from the state, but as their 2017 EV Strategy plan indicates, the city has been focused on EV strategies like transitioning their fleet for over a decade.

2. **Los Angeles (Population: 3.8 million, Median Income: \$76,000, CalEnviroScreen Average Score: 70.4)**

Los Angeles is California's largest city and has historically struggled with air quality issues from industry and vehicles. In the city's 2019 [Climate Action Plan](#), former Mayor Garcetti acknowledges the urgency of acting on climate change, and the city acknowledges electric vehicles as a key part of that goal. Los Angeles scores "yes" in eight of 11 categories, demonstrating the city has begun multiple initiatives to equitably transition to electric vehicles, but it is unclear if these categorical questions indicate a transition that is reflective of the large

scale of change Los Angeles will need. Notably, the city is still in its planning phase as it is [developing](#) an EV Master Plan and has explored equity focused EV strategies as a part of their [LA 100](#) study. This master plan announces initiatives like converting the city's entire [fleet](#) of over 10,000 vehicles. The city has also begun to launch equity-centered [pilot projects](#) like installing charging stations at Lancaster Library and launching an [EV car-share program](#). However, projects like these are small compared to the amount of public charging infrastructure that will be needed to sustain equitable and affordable access to chargers.

3. Oakland (Population: 431,000, Median Income: \$93,000, CalEnviroScreen Average Score: 53.8)

Oakland is the only city analyzed that has checked all boxes across the 5 planning categories. This includes a Climate Action Plan with EV Strategies, an EV readiness plan, an adopted EV Action Plan, including equitable strategies in an EV Action Plan, and developing a locally specific equity map. While the city is miles ahead in the planning department, this has not yet translated to much implementation, such as equity focused pilot programs or a plan for the city's fleet and shared mobility vehicles. The city has begun a [pilot program](#) implementing charging stations near a higher-income residential area and park, Lake Merritt.

4. Stockton (Population: 322,000, Median Income: \$76,000, CalEnviroScreen Average Score: 74.4)

Stockton has focused its EV planning on developing strategies within larger efforts for equitable climate and sustainability planning. While it has no specific EV Action Plan, it does have strategies in its Climate Action Plan and Sustainable Neighbors Plan. The [Sustainable Neighbors Plan](#) focuses on disadvantaged communities and includes EV strategies with a local equity-focused priority map. This plan addresses EVs as a tool amongst a wider goal to support disadvantaged communities. For example, in the transportation section, the city developed a program to increase safety of bike lanes and walking routes for children to get to school. The city has also identified transportation strategies like autonomous electric vehicle shuttles, electric powered buses, and electric vehicle car share. The city has already begun implementing the carshare program by partnering with [Miocar](#) to place EVs in downtown Stockton and near underserved neighborhoods with historical mobility challenges.

## Trends

Of the cities studied so far, only eight scored at or above halfway (5 out of 11). There does not appear to be a consistent trend behind which cities have taken the most steps toward readiness; for example, the population of these eight cities ranges from 221,000 to 3.8 million and they all have a mix of high and low average CalEnviroScreen scores. The top three highest median household income cities (San Francisco, San Jose, and Fremont, ranging from \$133,000 to \$162,000) of the 27 studied all have scores below 5 out of 11. Among the five next highest median income cities (ranging from \$106,000 to \$123,000), three cities scored above five. And the top four cities identified in this analysis all have a median household income below \$100,000. This indicates that a city's median income is not necessarily a driving force in its readiness to implement an equitable EV transition, or that the municipal governments of

higher-income cities have not consistently put much focus on ensuring that the EV transition is equitable. It may also reflect these areas' higher-income residents' status as early adopters of EV technology, with less need for deliberate city planning. But equity-focused policy will be necessary to ensure access for all residents by 2035.

Of the top four cities in this ranking, three sit within the top 10 counties with the [highest](#) number of Level 2 public and shared private electric vehicle chargers. Only the city of Stockton has managed to score highly despite a stark difference in the amount of chargers available county-wide. For example, San Joaquin County (home to Stockton) has 566 Level 2 chargers, whereas the next-lowest county from the top four group, Sacramento (home to Sacramento), has 1,794. Furthermore, while the city of Sacramento has scored the highest in this ranking, the county has the 9th highest number of DC Fast chargers and 8th highest number of Level 2 chargers. While county-level charger availability relates to a range of factors from total population and EV ownership to location of key highway corridors, the disparities indicate that California cities' EV planning is not necessarily correlated with the number of EV chargers available within a region. This seems to suggest that city plans for determining how vigorously to pursue the EV transition are very separate from county-level plans and early-stage private investment patterns.

So far most California cities are not ready to ensure an equitable EV transition according to these criteria. If California is to meet its 2035 EV goal while serving the mobility needs of all residents, its cities will need more support to develop comprehensive EV Action Plans with clear equity goals and funding for implementation.

City	Region (In CA 4th Climate Assessment)	Population (2022 US Census est.)	Avg. Cal Enviro Screen Percentile	Median Household Income (2022 US Census est.)	Adopted CAP w/ EV strategies	EV action plan/ readiness plan/ blueprint/ roadmap	Adopted EV action plan	EV action plan equity strategies/ focus	Local equity map/ prioritization	GO-Biz Streamlined	Does the city have a municipal electric utility?	Has the city done a pilot program/ installation project?	Has the city done an equity-focused pilot?	Does the city have a fleet electrification plan?	TCC project w/ EV component	Overall Score
Los Angeles	Los Angeles	3,822,238	70.4	\$76,135	Y	N	N	Y	Y	N	Y	Y	Y	Y	Y	8
San Diego	San Diego	1,381,162	36.2	\$100,010	Y	N	N	N	Y	Y	Y	N	Y	Y	N	6
San Jose	San Francisco	971,233	35.8	\$133,835	N	Y	N	N	N	Y	N	Y	Y	N	N	4
San Francisco	San Francisco	808,437	32	\$136,692	Y	Y	N	N	Y	Y	N	N	N	N	N	4
Fresno	San Joaquin	545,567	73.8	\$64,196	N	Y	N	N	N	Y	N	Y	Y	Y	Y	6
Sacramento	Sacramento	528,001	55.9	\$80,254	N	Y	Y	Y	Y	Y	Y	Y	Y	Y	N	9
Long Beach	Los Angeles	451,307	66.6	\$80,493	Y	N	N	N	N	Y	N	Y	N	N	N	3
Oakland	San Francisco	430,553	53.8	\$93,146	Y	Y	Y	Y	Y	Y	N	Y	N	N	N	7
Bakersfield	San Joaquin	410,647	62.7	\$72,017	N	N	N	N	N	Y	N	Y	N	N	N	2
Anaheim	Los Angeles	344,461	65.8	\$85,133	N	N	N	N	N	Y	Y	N	N	N	N	2
Stockton	San Joaquin	321,819	74.4	\$76,231	Y	N	N	Y	Y	Y	N	Y	Y	Y	N	7
Riverside	Los Angeles	320,764	67.4	\$81,228	Y	N	N	N	N	Y	Y	N	Y	Y	N	4
Irvine	Los Angeles	313,685	31.3	\$123,003	N	Y	Y	N	N	Y	N	Y	N	Y	N	5
Santa Ana	Los Angeles	308,189	71.5	\$79,351	Y	N	N	N	N	Y	N	Y	N	N	N	3
Chula Vista	San Diego	279,170	52.1	\$101,190	Y	N	N	N	N	Y	N	Y	N	Y	N	4
Fremont	San Francisco	223,871	26.8	\$162,336	Y	N	N	N	N	Y	N	Y	N	N	N	3
Santa Clarita	Los Angeles	221,345	33.4	\$111,236	Y	Y	N	Y	Y	Y	N	N	N	N	N	5
San Bernardino	Los Angeles	220,328	81	\$62,801	N	N	N	N	N	N	N	Y	N	Y	N	2
Modesto	San Joaquin	218,069	67	\$73,275	N	N	N	N	N	Y	N	N	N	N	N	1
Fontana	Los Angeles	212,475	68.2	\$93,581	N	N	N	N	N	Y	N	N	N	N	N	1
Moreno Valley	Los Angeles	211,924	60.3	\$86,909	Y	N	N	N	N	Y	N	Y	N	N	N	3
Oxnard	Los Angeles	200,415	56.4	\$84,941	Y	N	N	N	Y	Y	N	N	N	Y	N	4
Huntington Beach	Los Angeles	194,310	30	\$111,122	N	N	N	N	N	Y	N	N	N	N	N	1
Glendale	Los Angeles	189,221	68.8	\$77,483	N	N	N	N	N	Y	Y	Y	N	N	N	3
Ontario	Los Angeles	179,061	79.7	\$79,192	Y	N	N	N	N	Y	N	Y	N	N	N	3
Elk Grove	Sacramento	177,558	30.5	\$106,572	Y	N	N	N	N	Y	Y	Y	N	Y	N	4
Santa Rosa	San Francisco	177,181	30.2	\$95,403	Y	N	N	N	N	Y	N	Y	Y	N	N	4