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March 18, 2024

Los Angeles City Council
c/o Office of the City Clerk
City Hall, Room 395
Los Angeles, California 90012

Dear Honorable Members:

**REPORT BACK ON RECOMMENDATIONS FOR AN ORDINANCE THAT WOULD DEFINE
ALLOWABLE ELECTRIC VEHICLE CHARGING FOR ALL APPROPRIATE ZONES IN THE
CITY; CF 22-0120-S1**

SUMMARY

On January 27, 2023, the City Council instructed the Department of City Planning, in consultation with the Department of Building and Safety (DBS) and the City Attorney, to provide recommendations for drafting an ordinance to define allowable electric vehicle (EV) charging for all appropriate zones in the city. In addition, City Planning was instructed to report on best practices from other jurisdictions, including recommendations for urban design standards consistent with the Citywide Design Guidelines for pedestrian design, 360-degree design, and climate adaptive design that promote a high-quality pedestrian environment and improve interactions with the public realm.

Currently, the majority of electric vehicle charging stations (EVCS) located or proposed in the City of Los Angeles are accessory to or coupled with a new or existing residential, commercial, industrial, or recreational development, and permitted where parking is allowed. As a result, EVCS projects are required to comply with requirements in the Los Angeles Municipal Code (LAMC) that regulate off-street automobile parking (Section 12.21.A.5) – design provisions that are often applicable, however, have the potential to hinder the development of new EVCSs. Existing parking design requirements for driveways, circulation, lighting, walls, improvements, and landscaping, among others, may have alternative considerations for EVCS access and infrastructure needs that are not appropriately addressed by current LAMC regulations.

While successful efforts are underway by various City departments, including General Services (GSD), Water & Power (LADWP), Recreation and Parks (RAP), Transportation (LADOT), Sanitation (LASAN), and the Bureau of Street Lighting (BSL), to significantly expand the citywide network of EVCSs for residents and visitors, inequities in access to EVCSs continue to be a challenge for renting Angelenos residing in multi-family buildings. The Los Angeles Metropolitan Area has the highest number of registered EVs and the most publicly accessible EVCSs in the country,¹ however, public zero-emission vehicle infrastructure continues to be less available in disadvantaged communities and low-income neighborhoods.

In order to address these challenges with the Zoning Code and progress the City's commitment to converting to zero-emission infrastructure, as explained in the **Goals and Commitments to Zero-Emission Infrastructure** section below, City Planning reviewed existing LAMC regulations for EVCSs and evaluated the current conditions of the EV industry in the City. City Planning also looked to other jurisdictions for precedent, considered EVCS design options, and collected feedback from EV industry partners, EV users, and other City departments. As a result, City Planning proposes the following recommendations:

1. *Instruct the Department of City Planning, in coordination with the Department of Building and Safety and City Attorney, to prepare and present an ordinance to amend Chapters 1 (Current Zoning Code) and 1A (New Zoning Code) of the LAMC to appropriately define electric vehicle (EV) charging as a primary use citywide and include standards for ministerial and discretionary approvals for such use in appropriate zones. Clear performance standards should maintain scalability and flexibility through alternative options, and consider community benefits and Citywide Design Guideline goals.*
2. *Instruct the Department of City Planning to include considerations and recommendations for an equitable expansion of new EVCS development, prioritizing access for renter households and disadvantaged communities, while maintaining multimodal goals.*
3. *Instruct the Department of City Planning, in coordination with the Department of Building and Safety and City Attorney, to report back with recommendations for amendments to Chapters 1 (Current Zoning Code) and 1A (New Zoning Code) of the LAMC to define EV charging as an allowable use for medium and heavy-duty vehicles, including private fleet charging.*

¹ StorageCafe. 2023. "Most EV-Friendly Places in the U.S." <https://www.storagecafe.com/blog/the-best-places-in-the-us-for-electric-vehicles/>.

BACKGROUND

Green Building Code Definitions

In 2010, the City Council adopted *Ordinance No. 181,480* establishing the *Los Angeles Green Building Code (LAGBC)*, which includes the definitions of terms ascribed in the *California Green Building Code (Section 202)*. Applicable terms referenced in this report are listed in Table 1.

Table 1. LAGBC Code Definitions

DEFINITIONS	
Electric Vehicle (EV)	An automotive-type vehicle for on-road use, such as passenger automobiles, buses, trucks, vans, neighborhood electric vehicles, electric motorcycles, and the like, primarily powered by an electric motor that draws current from a rechargeable storage battery, fuel cell, photovoltaic array, or other source of electric current.
Electric Vehicle Charger (EV Charger)	An off-board charging equipment used to charge an EV.
Electric Vehicle Charging Space (EV Space)	A space intended for future installation of EV charging equipment and charging of electric vehicles.
Electric Vehicle Charging Station (EVCS)	One or more EV charging spaces served by EV charger(s) or other charging equipment allowing charging of EV. ²
Electric Vehicle Supply Equipment (EVSE)	The conductors, including the undergrounded, grounded and equipment grounding conductors and the electric vehicle connectors, attachment plugs, and all other fittings, devices, power outlets or apparatus installed specifically for the purpose of transferring energy between the premises wiring and the electric vehicle.

Goals and Commitments to Zero-Emission Infrastructure

In 2019, the City of Los Angeles adopted *LA's Green New Deal (GND)*, one of the world's first city sustainability plans compatible with the goals of the Paris Climate Agreement. In the GND, the City committed to reducing greenhouse gas (GHG) emissions, in part, by increasing the percentage of electric and zero-emission vehicles in the City to 25 percent by 2025; 80 percent by 2035; and 100 percent by 2050.³ Similarly, at the state level, the past decade has progressed EV legislation, Governor's Executive Orders, budgets, and supporting programs to reduce statewide GHG emissions to 40 percent below 1990 levels by 2030.⁴ As directed by Governor

² Amended by [Ordinance No. 187719](#): A parking space served by electric vehicle supply equipment or designed as a future EV charging space shall count as at least one standard automobile parking space only for the purpose of complying with any applicable minimum parking space requirements established by an enforcement agency. See Vehicle Code Section 22511.2 for further details.

³ City of Los Angeles. 2019. "LA's Green New Deal: Sustainable City pLAn." <https://plan.lamayor.org/>.

⁴ State of California. 2016. "SB-32 California Global Warming Solutions Act of 2006: emissions limit." https://leginfo.ca.gov/faces/billNavClient.xhtml?bill_id=201520160SB32.

Newsom's 2020 Executive Order N-79-20,⁵ the State of California requires an increasing number of new vehicle sales to be zero-emission vehicles beginning in 2026 with the goal of achieving 100 percent by 2035.⁶ Moreover, requirements adopted by the California State Legislature, such as Assembly Bills 1236 (2015) and 970 (2021), mandate that jurisdictions adopt ordinances to create streamlined processes for permitting EV charging stations.^{7, 8}

With over 18,000 EV chargers, the City of Los Angeles has more EV chargers than any other state in the US (except California),⁹ and the number of new EV sales is increasing every year. However, achieving the City's ambitious EV goals will require a critical evaluation of the existing conditions to consider how the Zoning Code can be used as a tool to equitably expand citywide EV charging infrastructure.

Current Conditions in Los Angeles

Expansion of EV

The annual sales of EVs, as well as its share among total automobile sales, has steadily increased in Los Angeles over the past five years. In total, there have been more than 242,000 EVs sold in Los Angeles County as of December 2022, according to the California Energy Commission.¹⁰ DWP's EV Master Plan reported more than 96,000 EVs in the City as of July 2022.¹¹ Table 2 shows a summary of EV sales in Los Angeles County since 2017.

Table 2. Annual EV Sales in Los Angeles County¹²

Year	EV Sales	Teslas	Other EV Manuf.	EV Share from Total	Total Auto Sales	Cum. EV Sales
2022	81,136	61,573	19,563	19.0%	504,952	242,549
2021	47,634	35,844	11,790	11.9%	567,585	161,413
2020	26,389	20,902	5,487	7.7%	498,728	113,779
2019	22,082	16,809	5,280	6.3%	606,210	87,390

⁵ State of California. 2020. "Executive Order N-79-20." <https://www.gov.ca.gov/wp-content/uploads/2020/09/9.23.20-EO-N-79-20-Climate.pdf>.

⁶ California Air Resources Board. 2023. "Advanced Clean Cars II." <https://ww2.arb.ca.gov/our-work/programs/advanced-clean-cars-program/advanced-clean-cars-ii>.

⁷ State of California. 2015. "AB-1236 Local ordinances: electric vehicle charging stations." https://leginfo.ca.gov/faces/billTextClient.xhtml?bill_id=201520160AB1236.

⁸ State of California. 2021. "AB-970 Planning and zoning: electric vehicle charging stations: permit application: approval." https://leginfo.ca.gov/faces/billNavClient.xhtml?bill_id=202120220AB970.

⁹ US Department of Energy. 2023. "Alternative Fueling Station Counts by State." <https://afdc.energy.gov/stations/states>.

¹⁰ CA Energy Commission. 2022. "New ZEV Sales in California." <https://www.energy.ca.gov/data-reports/energy-almanac/zero-emission-vehicle-and-infrastructure-statistics/new-zev-sales>.

¹¹ LADWP. 2022. "C.F. 21-0890 - City of Los Angeles EV Master Plan Updates." https://clkrep.lacity.org/online/docs/2021/21-0890_rpt_DWP_09-13-22.pdf

¹² CA Energy Commission. 2022. "New ZEV Sales in California." <https://www.energy.ca.gov/data-reports/energy-almanac/zero-emission-vehicle-and-infrastructure-statistics/new-zev-sales>.

2018	20,876	14,840	6,036	6.3%	634,240	65,308
2017	11,286	4,375	6,911	4.2%	641,716	44,432

EV Charging Technology

EV charging is determined by several factors, including a vehicle's compatible charging plug and the voltage "level" of the charger. The three most popular types of charging plugs in North America are: J1772 (also referred to as SAE J1772), Combined Charging System Level 1 (CCS1, also referred to as direct current fast charging or DCFC), and Tesla's proprietary plug. An EV can only use a charger that has a compatible plug. Currently, almost all non-Tesla vehicles in North America use the J1772 and/or CCS1 plugs, whereas Tesla vehicles can only connect to Tesla's proprietary plug without an adapter. These plugs can support up to three levels of EV charging: Level 1 (120 volts), Level 2 (240 volts), and "fast charging" (400 volts and higher). Whereas, most Level 1 chargers are found in homes, most Level 2 and fast chargers are found in public or communal areas, such as places of employment, parking lots, and along major corridors. At the time of this report, there is limited compatibility among the three different kinds of EV chargers. However, in June 2023, SAE International, the global association for the automotive industry, announced plans to standardize Tesla's charging connector design as the official North American Charging Standard (NACS).¹³ Once fully realized in the coming years, all EV chargers should be accessible to all EV models. Table 3 shows a summary of the characteristics of each type of charger.

Table 3. Types of EV Chargers

Plug/Port Type	Typical Usage (Public or Private)	Electric Power	Full Recharge Time
J1772 (Level 1, 2 charging)	Level 1: Private (regular power outlet) Level 2: Both	1 kW 7 - 19 kW	40 - 50 hrs 4 - 10 hrs
CCS1 (fast charging)	Public	50 - 350 kW	20 min - 1 hr
Tesla proprietary (Level 1, 2, fast charging)	Level 1: Private (regular power outlet) Level 2: Both Level 3: Public (Supercharger)	1.4 kW 3.7 - 17.2 kW 140 kW	96 hrs 6 - 30 hrs 30 min

According to the Department of Energy, some EVs can only drive up to 100 miles on a full charge, while others can travel up to 400 miles. The total cost to fully charge at a public charging station can vary by operator and the EV's range and battery. Californians pay an average of \$0.30 per kW to use a public J1772 charger for Level 2 charging and \$0.40 to use a public CCS1 charger

¹³ SAE. 2023. "SAE to standardize Tesla NACS charging connector." <https://www.sae.org/news/2023/06/sae-to-standardize-nacs-charging-connector>.

for fast charging.¹⁴ It is estimated to cost about \$12 to fully charge an EV with a 150-mile range and 40-kWh battery costs using a J1772 charger and \$16 using a CCS1 charger. It costs around \$0.25 per kW to charge a Tesla EV using a Tesla Supercharger, which can charge an EV with a 250-mile capacity battery for about \$22.

Geographic Distribution

The rise in EV usage has led to investments in EV charging infrastructure by both private entities and the City. Within the City of Los Angeles, there are over 18,000 total EV chargers – about 18,300 are Level 2 chargers, and 400 are fast chargers.¹⁵ These chargers can be either public or shared privately. Public chargers are typically found in public parking lots, and can be used by anyone. Shared private or restricted chargers are located in private parking lots only available to employees, tenants, visitors, and residents. Examples include workplaces, shopping centers and mixed-use multifamily residences. This count does not include EV chargers utilized in private homes of single-family dwellings and multi-family residential buildings.

Out of 18,000 total EV chargers in the City, the majority (about 14,000 chargers, or 78.6 percent) are for shared private use.¹⁶ Only about 4,000 EV chargers (21.3 percent) are available to the general public. Multiple studies, including one that evaluated California, have found disparities in access to public EVCSs based on race and ethnicity, housing tenure, as well as income. Early EV charging infrastructure development has left gaps in areas with majority Black and Latinx populations.^{17, 18}

City Planning's Geographic Information Systems (GIS) Unit performed a geographic analysis to understand who lives near and has reasonable access to a publicly available EV charger. As a growing majority-minority (71.9 percent non-white) and majority-renter (63.1 percent) city,¹⁹ understanding where early adopters of EVs reside will determine where inequalities surface locally. The analysis also compared EV charger locations to the Department of Housing and Community Development (HCD)'s and the California Tax Credit Allocation Committee (CTCAC)'s Opportunity Maps that define a range of highest to lowest opportunity areas by economic, educational, and health outcomes.²⁰ According to the US Department of Energy, the majority of EV drivers (80 percent) recharge at home, therefore, the analysis reviewed the context of EV charger locations by identifying who lives in an area that has access to EV charging within a half-mile radius (or approximately a comfortable ten-minute walk).

¹⁴ California Air Resources Board. 2021. "Electric Car Charging." <https://driveclean.ca.gov/electric-car-charging>.

¹⁵ LADWP. 2022. "C.F. 21-0890 - City of Los Angeles EV Master Plan Updates." https://clkrep.lacity.org/online/docs/2021/21-0890_rpt_DWP_09-13-22.pdf

¹⁶ LADWP. 2022. "PlugShare EV Chargers from LADWP."

¹⁷ Hsu and Fingerman. 2021. "Public electric vehicle charger access disparities across race and income in California." *Transportation Policy*. <https://doi.org/10.1016/j.tranpol.2020.10.003>.

¹⁸ Carlton and Sultana. 2022. "Electric vehicle charging station accessibility and land use clustering." *Journal of Urban Mobility*. <https://doi.org/10.1016/j.urbmob.2022.100019>.

¹⁹ US Census Bureau. 2022. "QuickFacts: Los Angeles City, California." <https://www.census.gov/quickfacts/losangelescycalifornia>.

²⁰ California Tax Credit Allocation Committee. 2023. "CTCAC/HCD Opportunity Area Maps." <https://www.treasurer.ca.gov/ctcac/opportunity.asp>.

Only about 1,200 (31.3 percent) of the publicly available EV chargers are located within a half mile from a residential property identified by the County Assessor's Office. The remaining 2,700 (68.6 percent) public EV chargers are located beyond about a ten-minute walk from a renter-occupied or an owner-occupied residential property. Additionally, 47.1 percent of the City's residential properties that have access to either a private or public EV charger within walking distance are located in an area classified as high- or highest-resourced, 21.5 percent are located in moderately-resourced areas, 25.4 percent are located in low-resourced areas, and 5.9 percent are located in areas that are classified as highly segregated and highly impoverished (see reference map in **Exhibit A**). The Community Plan Areas (CPAs) with the most public and private EV chargers include Wilshire, Hollywood, Central City/Downtown, West Los Angeles, and Palms - Mar Vista - Del Rey. In contrast, the CPAs with the least amount of EV chargers are the Sunland - Tujunga - Lake View Terrace - Shadow Hills - East La Tuna Canyon, Boyle Heights, Wilmington - Harbor City, and Arleta - Pacoima. These disparities are even greater for renter-occupied residential properties that have less access to EV chargers across the city.

Land Use and Zoning Regulations

Beyond the requirement of EV charging spaces in new developments, the LAMC currently has minimal regulations for EV charging as a use. More specifically, the Zoning Code contains no regulations that restrict accessory EV charging, including no regulations for the number of spaces allowed or required to be designated for EV charging in existing public parking areas, buildings, or any other uses, such as other commercial or residential uses. As such, the significant majority of EVCS have appeared in parking areas as an accessory to another use.

However, more projects are being proposed as standalone projects, to primarily be used for EV charging. These standalone EVCSs are sometimes paired with an amenity or accessory commercial use. This model is already present in other cities that are working on advancing development of their EV charging infrastructure to offer people-centered amenities to users recharging their vehicles, such as coffee shops, restaurants, and convenience stores. As will be discussed, the LAMC currently does not permit EVCSs as a standalone use and existing regulations conflict with many of these proposed projects. Some of the few local examples of EVCS as a primary use are described in the next section.

Local Case Studies

Tesla has several public standalone EVCSs throughout Los Angeles County, including one project currently under construction in the Hollywood Community Plan Area. Approved by a Zoning Administrator in October 2022, this project's primary use is both an EVCS with 28 Superchargers and a restaurant. Once completed, the new EVCS will be located on a busy traffic corridor – Santa Monica Boulevard – situated on a commercial corner that is adjacent to a residential neighborhood. Tesla went through the Conditional Use Permit (CUP) application process with the City in order to increase the hours of operations of the establishment to 24 hours daily and bypass many of the parking lot regulations found in LAMC Sections 12.21 A.5 and 6 (see ZA-2022-3534-CU-WDI). These regulations include setbacks, shading, and landscaping

requirements. In addition to the EV charging spaces and restaurant, this particular EVCS will also offer an outdoor drive-in movie theater.²¹ This is one of the first projects of its kind within the City of Los Angeles.

Tesla currently operates a similar charging station in the City of Santa Monica, which is one of the largest in the world. Opened in February 2022, its Santa Monica EVCS contains 64 Superchargers, solar panels, vending machines, and restrooms. However, it does not contain any additional active commercial uses or components. City Planning staff toured the facility with Tesla staff in May 2023. They explained many of the infrastructural requirements needed to operate the facility, including installing main switchboards (MSB), distribution boards, and transformers (also known as cabinets), in addition to the charging stalls. This equipment requires adequate protection, such as bollards and fencing, around the perimeter and must be accessible to electricians for any repairs. Scaling can vary depending on the size and location of the project, but on average, 16 EV charging spaces requires charging equipment that takes up about 4 regular parking spaces. Site constraints emphasize the need for flexible performance standards that can accommodate challenging space limitations needed for EV charging infrastructure.

City Planning staff also toured EVgo's EVCS under construction on Robertson Boulevard in the Westside region of the City in May 2023. The EVCS, which will consist of 18 CCS1 fast chargers, will be located in a parking area directly adjacent to a gas station. Unlike Tesla's Hollywood or Santa Monica locations, EVgo's EVCS will not contain any buildings, accessory uses, or restrooms. It will consist of various electrical equipment, some located underground, surrounded by about 40 bollards. Since the Robertson EVgo project is located in the Expo Corridor Transit Neighborhood Plan, EVgo staff explained that one difficulty with planning EVCSs is the inconsistency of parking area regulations due to overlays and specific plans. Due to the absence of EVCS-specific zoning regulations in the LAMC, private companies are building these establishments on a case-by-case basis complying with the rules at hand. Oftentimes, this involves modifying proposals to conform with these rules or applying for a CUP to bypass them altogether – processes that require a lot of time and financial resources.

Green Building Code

In contrast to the Zoning Code, the *Los Angeles Green Building Code (LAGBC)* of the LAMC contains requirements for the number of parking spaces dedicated to EV charging for both residential and nonresidential development, which was last amended by *Ordinance No. 187,719* and became effective on January 23, 2023. The *LAGBC* refers to EV chargers as "Electric Vehicle Supply Equipment" or EVSE and an EV-capable parking space as an "EV ready space."

Section 99.04.106 of the *LAGBC* requires all new multi-family residential developments to have a minimum of 30 percent of total parking spaces capable of supporting EV charging in the future with the adequate electrical specifications to support future EV charging. In addition, 25 percent of these parking spaces, and in no case less than one per unit, must be equipped with a charging

²¹ Office of Zoning Administration. 2022. "Case No. ZA-202203534-CU-WDI." <https://planning.lacity.org/pdiscaseinfo/document/MjkyMTk0/1823a02c-5d95-4003-95c4-258347c32f18/pdd>.

receptacle capable of supporting a Level 2 or fast charger. For multi-family residential developments with 20 or more dwelling units or hotel units, 10 percent of total parking spaces must contain a Level 2 or fast charger.

Similarly, Section 99.05.106 of the *LAGBC* requires all new nonresidential building sites to have a minimum of at least 30 percent of total parking spaces, with a minimum of one, to be capable of supporting Level 2 or fast chargers in the future and must have the adequate electrical specifications to support EV chargers. It further requires that 20 percent of total parking spaces be provided with Level 2 or fast chargers, with at least one being a Level 2 charger. The number of required EV capable parking spaces can be reduced by five for every fast charger installed. New nonresidential developments are required to provide EV chargers for 10 percent of the total number of parking spaces, rounded up to the nearest whole number.

Comparing Similar Uses

As previously mentioned, EV charging uses are not allowed as a primary use in any zone and they are only allowed as an accessory use in a permitted parking area of another primary use, such as a commercial use, or public parking areas and buildings. Table 4 below summarizes Uses in the Zoning Code that are most similar to an EVCS.

Table 4. Similar Uses to EVCSs

Use	Definition	Allowed Zones
Parking Area, Public	Any open area other than a street or a private parking area, used for the parking of more than four automobiles.	All P, C, and M zones; by a CUP in A and R
Parking Area, Private	An open area located on the same lot with a dwelling, apartment house, hotel or apartment hotel, for the parking of automobiles of the occupants of such building.	All A, R, C, and M zones
Parking Building	Any garage designed and used primarily for the parking of automobiles.	C1.5, C2, C4, C5, CM, and all P and M Zones if they comply with Section 12.21 A5 and A6
Automotive Fueling and Service Station	A business which dispenses automotive fuel to the public and may provide the following incidental services: tube and tire repairing, battery servicing, automotive lubrication, mechanical adjustments, changing of spark plugs and other similar maintenance activities.	C2, C5, CM, M1, M2, and M3 zones if they comply with Sections 12.14 A.6 and 12.22 A.28; by a CUP in the C4 Zone; and by a Zone Variance in the MR1 and MR2 zones

All new public and private parking areas and garages – including those with EV chargers – must comply with parking lot regulations found in Sections 12.21 A.5 and A.6 of the Zoning Code. These regulations pertain to parking stall and bay dimensions, driveway locations and

dimensions, internal circulation, lighting, striping, setbacks, paving, walls, and landscaping. Establishments that wish to have the charging of EVs as a primary use and operate beyond the parking regulations found in Section 12.21 A.5 and 6 are only permitted through a CUP today.

Gas or fueling stations, on the other hand, are allowed by-right in the zones listed in Table 4 above, if they comply with the regulations of Sections 12.14 A.6 and 12.22 A.28. These sections contain standards pertaining to windows, equipment, fences, signs, landscaping, hours of operation, allowed activities, and administrative requirements. However, EV charging is not considered traditional “automotive fuel,” and therefore does not precisely fall under the definition of a gas station in the current Zoning Code.

New Zoning Code

The New Zoning Code is the first comprehensive update to the Code since 1946, marking a shift towards a hybrid, or modular, zoning approach that supports a wider array of options that reflects the cultural and demographic diversity of Los Angeles. As City Planning updates its 35 Community Plans, new zoning will be developed to implement the policies and goals for the different neighborhoods. The Downtown Community Plan (DTLA 2040) is the first plan area scheduled to apply the new zoning. As proposed in DTLA 2040, the New Zoning Code identifies EVCSs as a “Fueling Station,” categorized under Heavy Commercial as a Motor Vehicle Service. Article 14 of the New Code defines a Fueling Station as, “any motor vehicle services use that sells and dispenses vehicle fuel, including diesel, gasoline, hydrogen, and other alternative fuels. Includes electric vehicle charging station and commercial vehicle fueling. Does not include electric vehicles charging spaces within a parking area serving another use or uses.” In the New Zoning Code, fueling stations are permitted in Commercial-Mixed 3 (CX3), Industrial-Mixed 2 (IX2), and Industrial 1 and 2 (I1 and I2) with standard compliance, as well as in Public Use Districts 1 and 2 (P1 and P2) depending on the most restrictive and permissive zones (Article 5). Additionally, Article 4 redefines the City’s parking requirements, allowing one EV charging space to replace two automobile parking stalls.

As described in the previous section, EV charging as a primary use does not precisely follow the activity levels of a traditional fueling station, therefore, there is opportunity to reassess how EVCSs are defined in the New Code as well. Any proposed policies and regulations to amend the current zoning code should also be reflected in the New Code to ensure consistency citywide. As a growing use, EVCSs have the potential to positively contribute to the livelihood of a community by using the dynamic properties of the New Code to design appropriate provisions to regulate EVCSs in appropriate zones.

Design

Beyond the scope of parking and electrical capacity design requirements, there is opportunity to consider how EVCSs can meaningfully contribute to the fabric of an urban environment, particularly in a context like Los Angeles, where there is a scarcity of vacant land to develop. It is evident in substantial historical development patterns that the Los Angeles region was built and designed around vehicular travel as the primary mode of transportation. The City of Los Angeles

has committed to multimodal design strategies that actively undo decades of car-centric policies and roadway design standards that have not only contributed to the increase in carbon emissions and exacerbation of climate change, but environmental injustices in the forms of dangerous public right-of-ways along Vision Zero High Injury Networks, monotonous building facades lining shadeless sidewalks across long blocks, and unengaging surface-level parking lots – car-centric designs that have ultimately divided our communities.

In 2019, the City Planning Commission adopted City Planning’s Urban Design Studio’s *Citywide Design Guidelines* that established three design principles to create a more vibrant, livable, walkable, and sustainable city:

1. **Pedestrian-First Design** focuses on design strategies that create human-scale spaces in response to how people actually engage with their surroundings, by prioritizing active street frontages, clear paths of pedestrian travel, legible wayfinding, and enhanced connectivity.
2. **360 Degree Design** focuses on design techniques that equally consider all sides of a building’s use of materials, massing, articulation, and scale.
3. **Climate-Adapted Design** responds to Los Angeles’ exceptional Mediterranean climate as well as rapidly changing climatic conditions, by reducing the need for imported water, supporting the local habitat and watershed, and limiting greenhouse gas emissions.

Balancing these design principles with the City’s need for more EV infrastructure is the goal of any future set of design and development standards for EVCSs and was explicitly expressed in the motion initiating this report. With these overarching principles in mind, it is the intent of City Planning to develop an objective set of performance standards that can be administered through a by-right approval process in the appropriate zones, with clear processes for requesting relief or deviations.

Precedent from Other Cities

As highlighted in the *Electric Vehicle Charging Station Permitting Guidebook* published by the California Governor’s Office of Business and Economic Development, accessory EV charging is an imperative pathway for the installation of new EV charging spaces. With state-mandated requirements to streamline permits for EVCSs included in AB 1236, the majority of California cities sufficiently utilize the accessory land use model for increasing EVCS installations by coupling the activity with new developments. However, a few cities experiencing similar EVCS infrastructure development limitations and challenges have utilized their zoning code and adopted legislation that allows EVCSs as a primary use to simplify and clarify the permitting process for larger EVCS projects. In 2022, the City and County of San Francisco (SF) adopted a citywide ordinance amending the SF Zoning Code to define an “Electric Vehicle Charging Location (EVCL)” and “Fleet Charging” as a primary use in appropriate zones, including ministerial approval processes with standard compliance, and discretionary approval alternatives. Additionally, SF designed a pathway for existing automotive uses to transition to EVCLs without additional review. The City of San Jose (SJ) permits EVCSs that are accessory or incidental to an on-site primary use in commercial, industrial, and the downtown zoning districts. Defined as a vehicle related use,

similar to that of a fuel or gas service station, SJ differentiates EVCS projects between (1) without an incidental service and (2) with an incidental service. However, both EVCS uses are restricted to predominantly commercial areas, a policy that limits access to larger, standalone public EV charging hubs in SJ. More information about EVCS zoning policies for SF and SJ can be reviewed in **Exhibit B**.

OUTREACH

As part of the preliminary research conducted for this report, City Planning completed two (2) workshops in June 2023 to inform and validate findings and recommendations.

The first workshop hosted by City Planning was an in-person meeting at the La Kretz Innovation Campus with EV charging station providers in the City of Los Angeles. The Los Angeles EV Industry Workshop was an opportunity for providers to share with City Planning staff about their experience developing EV charging projects. The discussion focused on the existing permitting process and considerations for performance standards if EV charging was defined as a standalone use. Across all departments, EV charging station providers expressed inefficiencies and delays in obtaining clearances. Deviation from a standard parking lot design and minimum necessary EV charging equipment, such as increasing electrical capacity beyond 400 amps and installing a solar canopy, adds significant time and cost to the project. In addition, the industry partners stressed the importance of developing design and operating standards that provided a clear pathway for approvals, yet maintained flexibility of options to scale standards based on site capacity and neighborhood needs. Attendance included twelve (12) representatives from BP Pulse Fleet, ChargePoint, EVCS, EVgo, FLO, PowerFlex, Tesla, Volta, and Voltera.

The second workshop invited community members and EV user groups to share their experience using EV charging stations in the City of Los Angeles. Nine (9) attendees participated in the Los Angeles EV Community Groups Workshop, representing Citizens Climate Lobby (San Fernando Valley and Mid-City), Inland Empire EV Association, Los Angeles Business Council, Neighborhood Council Sustainability Alliance, and Plug In America, as well as two (2) planners from the Los Angeles County Department of Regional Planning. When asked what an ideal public EV charging station could look like, participants suggested amenities like a playground or public space, locally-owned cafe or restaurant, free WiFi, overhead shade with trees or solar PV canopies, restrooms, regular maintenance of facilities and EV chargers, and proximity to residential areas. All participants expressed the dire need for more EV chargers across the city, and supported a by-right, ministerial approval process with appropriate standards for industrial, commercial and residential zones.

DISCUSSION

Understanding the context of EV charging in the City described in the previous sections gleans solutions for expanding this much needed infrastructure. As an industry still in its infancy, the City has an opportunity to consider policies that can shape the adoption of EV and the expansion of

public EV charging to ensure equitable access while addressing the industry's development challenges. Furthermore, amendments to the LAMC must align with the purposes, intent, and provisions of the General Plan. While increasing EV usage would curtail GHG emissions, provisions in the City's General Plan commit to achieving a transportation system that balances the needs of all modes of transportation. Recognizing that the development of the LA region is heavily influenced by a reliance on vehicular use, many of the General Plan's objectives and policies prioritize the expansion of alternative modes of transportation and have contending implications with the expansion of EV infrastructure.

LA's Green New Deal, the City's Sustainability Plan updated in 2019, offers guidance for the City's transition to renewable energy and includes annual progress reports on the adoption and installation of infrastructure for zero emission vehicles.²² Simultaneously, the *Framework Element* generally supports the reduction of vehicular trips, VMT, and air pollution by improving public and active transportation infrastructure across the city (Objective 3.2).²³ As part of the *Mobility Plan 2035*, the City committed to designing balanced transportation systems that include complete street policies and standards. Complete Street Networks layer roadway systems that prioritize certain modes yet continue to accommodate streets that are safe, comfortable, and convenient for people of all mode types (Policy 1.2). Additionally, EV charging zoning should include considerations for locating along Pedestrian, Neighborhood, Transit, Bicycle, and Vehicle Enhanced Networks, as well as various street classifications, as identified in the *Mobility Plan 2035* (Chapter 2).²⁴ The *Plan for a Healthy Los Angeles* encourages energy efficient building design that includes EV charging, and also supports efforts to reduce vehicle use through land use planning in order to address air pollution that disproportionately impacts low income people of color.²⁵ Lastly, it is important to consider that parking and vacant lots that can be easily converted to EVCSs, also have the potential to be developed into affordable housing. The City's *Housing Element* identifies adequate sites for housing (Chapter 4) that includes the development potential for vacant and underutilized lots,²⁶ presenting a competing priority for the development of scarce, viable land, particularly in High Opportunity Areas and near multimodal transit corridors.

As one of the largest EV markets in the country, EVCS providers are eager to support the City with achieving its climate action goals by building the infrastructure needed to support EV adoption. Defining EV charging as an allowable primary use in the Zoning Code would facilitate a clear process for stand-alone EV charging projects. However, a Planning clearance is just one approval of many that an EVCS developer needs to obtain prior to breaking ground. Developers begin their project with DBS, and generally complete their clearance summary worksheet with approvals from City Planning, LADWP, LADOT, and BOE. Clarifying provisions in the Zoning

²² City of Los Angeles. 2019. *LA's Green New Deal*. <https://plan.lamayor.org/>.

²³ City of Los Angeles. "Chapter 3: Land Use." <https://planning.lacity.org/cwd/frmwk/chapters/03/031.htm>.

²⁴ City of Los Angeles. 2016. *Mobility Plan 2035*. https://planning.lacity.org/odocument/523f2a95-9d72-41d7-aba5-1972f84c1d36/Mobility_Plan_2035.pdf.

²⁵ City of Los Angeles. 2021. *Plan for a Healthy Los Angeles*. https://planning.lacity.org/odocument/2442d4df-34b3-4683-8eb9-b5ea1182782b/Plan_for_a_Healthy_Los_Angeles.pdf

²⁶ City of Los Angeles. 2021. *2021-2029 Housing Element*. [https://planning.lacity.org/odocument/f5ac3c70-3f89-44c4-a05c-58f93d32c426/Chapter_4_Adequate_Sites_for_Housing_\(Adopted\).pdf](https://planning.lacity.org/odocument/f5ac3c70-3f89-44c4-a05c-58f93d32c426/Chapter_4_Adequate_Sites_for_Housing_(Adopted).pdf)

Code for this use is just one of many policy and program efforts necessary to increase EV adoption by Angelenos.

Defining EV Charging in the Zoning Code

As discussed in the **Current Conditions** section of this report, EV charging manifests in a variety of ways, and as such, an ordinance should define each different scenario. Once defined and use typologies are established, zoning decisions can be determined for each EV charging use, as well as the appropriate development, operational, and design standards.

Primary vs. Accessory

Given the existing conditions of EVCS as a use today, the Zoning Code should include a definition for an “Electric Vehicle Charging Space” in Section 12.03 to allow for both the City and applicants to distinguish EV charging spaces from regular automobile parking spaces. More than one EV charging space that is incidental to another use constitutes an “Accessory Electric Vehicle Charging Station” which should also be defined. Additional provisions regulating accessory EVCSs should not be created to avoid further zoning review and allow projects to continue incorporating EV charging spaces into their designs.²⁷ EV charging is already required in new residential and commercial development by the *Green Building Code*. These policies would facilitate the installation of EV charging spaces in multi-family developments and places of employment – two of the most convenient places that EV users can recharge their cars.

Contrarily, at the time of this report, the City Planning considers standalone EVCS projects on a case-by-case basis. As such, defining “Electric Vehicle Charging Station” or EVCS in the Zoning Code is also recommended to provide clarification to City departments and project applicants. Another consideration for defining EVCSs with charging as a primary use concerns on-site amenities. The length of time a driver will spend at an EVCS is significantly greater than that of a gas station, by up to 40 minutes. As a result, some of these EVCSs may benefit from including an amenity or accessory use, such as restrooms, vending machines, or even restaurants and coffee shops. Additional standards for EVCSs with an amenity should address the maximum size and intensity of the amenity to ensure that EV charging is still the primary use. Additional regulations could include restricting allowable commercial uses, to ensure that they are compatible with its surrounding community, especially when adjacent to residential areas. See Table 5 for a list of the three types of EV charging a land use ordinance should define.

Table 5. Potential Primary vs Accessory EV Charging Station Definitions

Potential Definitions	
Electric Vehicle Charging Space	An automobile space equipped with an EV charger.

²⁷ CA Governor's Office of Business and Economic. 2023. “Electric Vehicle Charging Station Permitting Guidebook.” <https://business.ca.gov/wp-content/uploads/2019/12/GoBIZ-EVCharging-Guidebook.pdf>

Accessory Electric Vehicle Charging Station (EVCS) or Electric Vehicle Charging Station (EVCS), Accessory	More than one EV charging space incidental to another use.
Electric Vehicle Charging Station (EVCS)	A location with more than one electric vehicle charging space served by an electric vehicle charger or other charging equipment allowing charging of electric vehicles, which may include an amenity. The amenity is intended to accommodate EV users and should incorporate additional requirements and standards to address any land use impacts.

AB 1236 Compliance

AB 1236 requires cities to develop an expedited, streamlined permitting process for all EV charging installations, restricting cities from enforcing unreasonable permitting barriers, with review limited to public health and safety issues. Any ordinance that the City adopts regarding EV charging must comply with AB 1236. The City currently allows EV charging spaces to be installed by-right anywhere parking is allowed, with necessary building and electrical permits. As mentioned in the ***Primary vs. Accessory*** section, an ordinance should not change these procedures other than establishing clear definitions for these uses. Furthermore, an ordinance could contain a by-right or administrative pathway for approvals for standalone EVCSs with and without amenities, containing objective performance, development, and design standards intended to protect the health and safety of the surrounding community.

However, AB 1236 does not explicitly require cities to ignore zoning requirements in order to comply with its provisions. In essence, the City is able to restrict the placement of EVCSs in certain areas, such as in residential and agricultural zones. Standalone EVCSs may pose different or expanded impacts on matters of health and safety, as well as land use impacts, including increased vehicle trips and noise. An ordinance could limit EV charging to certain zones, such as commercial, industrial, and parking zones. In cases where an applicant wishes to build an EVCS in a residential or agricultural zone, they could be provided the opportunity to apply for discretionary approval, similar to public parking areas today.

Different Types of EV Charging Needs

Aside from distinguishing between primary and accessory uses, another consideration when incorporating EV charging uses in the Zoning Code are the several types of EVs, each with different infrastructure needs and considerations. Each vehicle type requires a different set of resources and exists in distinct contexts throughout the City. These differences are important to highlight because there are unique health, safety, and land use impacts associated with each type that an ordinance should account for.

As the primary focus of this report, the most common vehicle type to utilize public EVCSs are passenger or light duty vehicles. Furthermore, based on staff's outreach and research, this vehicle type has the most dire need for EV charging infrastructure and, at the time of this report, has the

most existing or proposed projects in the pipeline by private EV charger operators. Additionally, as the State's electrification mandates require the adoption of EV within the coming years, private companies, and operators of fleet, commercial, and freight vehicles will need EV charging infrastructure as well. Some of these projects are already being proposed in the industrial parts of the City. Table 5 provides a breakdown of the different types of EVCSs serving various vehicles by weight and class that exist or are planned in the City.

Table 6. Types of EVs by Weight/Class

Types of EVs		
Light Duty (Class 1-2)	Less than 10,000 lbs	Regular sedans and vehicles owned and used by most people.
Medium Duty (Class 3-6)	10,001 to 26,000 lbs	Larger vehicles such as vans and trucks, primarily used for a service, such as deliveries.
Heavy Duty (Class 7-8)	More than 26,001 lbs	Semi-trailer trucks, primarily used to carry freight and cargo.

EVCSs that primarily serve medium and heavy-duty EVs may be closed to the public, given that they are primarily used by private companies to charge their fleet vehicles, and they are more industrial in nature. As such, they would not be compatible near residential areas or commercial corridors and are better suited in the commercial and manufacturing zones. Specifically for heavy-duty vehicles, many of the City's existing freight fueling stations are found in the Harbor Gateway Community Plan Area, therefore, many, if not all, are expected to convert to EVCSs in the near future.

Given City Council direction, staff primarily evaluated the potential impacts of EV charging for light-duty, or passenger vehicles. Staff can consider these different EV charging needs in an ordinance; however, additional time and resources may be required to fully analyze the impacts and propose viable recommendations associated with EV charging for medium and heavy-duty vehicles. City Planning emphasizes the importance of researching and incorporating EV charging regulations for all vehicle types, considering the State mandated goals and the rapid rise in the conversion to varying types of EV.

Design Standards to Consider

To develop an objective set of design standards for EVCSs, what must first be considered are the essential components of an EVCS and the context within which a facility should fit. An EVCS needs to sufficiently accommodate vehicular access and internal circulation, space for individual charging stalls and ground-mounted equipment cabinets. This is a use that has extensive spatial constraints and is by its very nature a use that will be almost entirely devoted to circulating and staging motor vehicles. This runs counter to the broader objective of reprioritizing pedestrians in the built environment of cities, as well as mitigating against urban heat island effects. This poses

a number of regulatory and design challenges that will require a well-considered set of standards that uphold the City's long-range priorities for the built environment, while accommodating a use that will help facilitate the transition away from fossil fuels.

To consider the perspective of a pedestrian in Los Angeles, an EVCS is at the very least, an unengaging paved surface area of stationary vehicles, and at worst, a series of driveway lanes that must be vigilantly crossed to avoid vehicle-pedestrian conflicts. The City is working to address these issues through design standards being brought forth by the City's New Zoning Code (Chapter 1A) and new community plans that will require new developments to provide a strong frontage presence along most major streets. Additionally, the New Zoning Code introduces clear and consistent vehicle access standards intended to limit excessively wide and frequent curb cuts for driveways that diminish visibility and the pedestrian experience of the public realm. Applying a reasonable set of standards that require EVCSs provide an appropriate amount of street frontage while limiting vehicle access points to the minimum necessary would ensure that future facilities are well integrated into a cohesive pedestrian-oriented environment.

In addition to enhancing the pedestrian experience, standards should also enhance the user experience. As an example, a requirement for an active street frontage could be met by providing an on-site amenity in the form of a small retail shop or cafe that could be patronized by users waiting for a charge, as well as the general public. Landscaping around the perimeter of the site would help shade and cool the mostly hardscape site while improving the aesthetics of the site for users. In a residential context, a small landscaped parklet in lieu of an active street fronting use could provide a place for site users and neighborhood residents to enjoy some respite from the hardscape of the city.

Any such set of standards needs to be carefully calibrated and scaled to ensure that the EV charging facility can operate efficiently by serving its users at a high capacity. It is at the physical margins of the site, the street frontage and the site's perimeter, where any set of designs would be focused. Successfully calibrated, a limited but essential set of design and development standards will ensure that both the project and the surrounding environment are enhanced. In a City as large and diverse as Los Angeles there will always be exceptions to any rules, therefore a clear pathway towards standard relief that considers hardship or alternative compliance should be tied to the set of standards that are ultimately developed.

Work Program Resources

Should the City Council adopt the recommendations presented in this report, City Planning will proceed to complete the research, ordinance writing, public outreach, public hearings, coordination with other departments, and environmental review necessary to define and permit a new EV charging use citywide. To support the expansive scope of such a citywide code amendment, City Planning may need additional resources to fulfill the work program. Without the requested resources, this work program will commence and be completed on a typical legislative code amendment timeline unless other policy priorities take precedent.

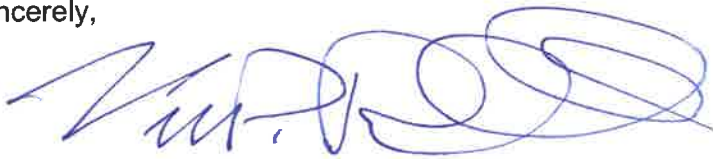
RECOMMENDATIONS

In sum, defining EVCSs as a primary use in the Current Zoning Code and in the New Zoning Code with pedestrian and community-serving performance standards for each appropriate zone has the potential to increase EV adoption and move our city towards reaching our zero emission goals. To address inhibitions in the LAMC for this use, City Planning recommends the following:

1. *Instruct the Department of City Planning, in coordination with the Department of Building and Safety and City Attorney, to prepare and present an ordinance to amend Chapters 1 (Current Zoning Code) and 1A (New Zoning Code) of the LAMC to appropriately define electric vehicle (EV) charging as a primary use citywide and include standards for ministerial and discretionary approvals for such use in appropriate zones. Clear performance standards should maintain scalability and flexibility through alternative options, and consider community benefits and Citywide Design Guideline goals.*
2. *Instruct the Department of City Planning to include considerations and recommendations for an equitable expansion of new EVCS development, prioritizing access for renter households and disadvantaged communities, while maintaining multimodal goals.*
3. *Instruct the Department of City Planning, in coordination with the Department of Building and Safety and City Attorney, to report back with recommendations for amendments to Chapters 1 (Current Zoning Code) and 1A (New Zoning Code) of the LAMC to define EV charging as an allowable use for medium and heavy-duty vehicles, including private fleet charging.*

Questions or comments concerning the matters discussed in this report may be referred to Tyler Curry, Planning Assistant, at tyler.currie@lacity.org.

Sincerely,



VINCENT P. BERTONI, AICP
Director of Planning

VPB:AV:hsc:nc:bk:rja

ENCLOSURES

A – Map of Percentage of Residential Properties within a Half Mile from an EV Charger by Opportunity Category

B – Precedent from Other Cities

EXHIBIT A – MAP OF EV CHARGERS AND CTCAC OPPORTUNITY CATEGORIES

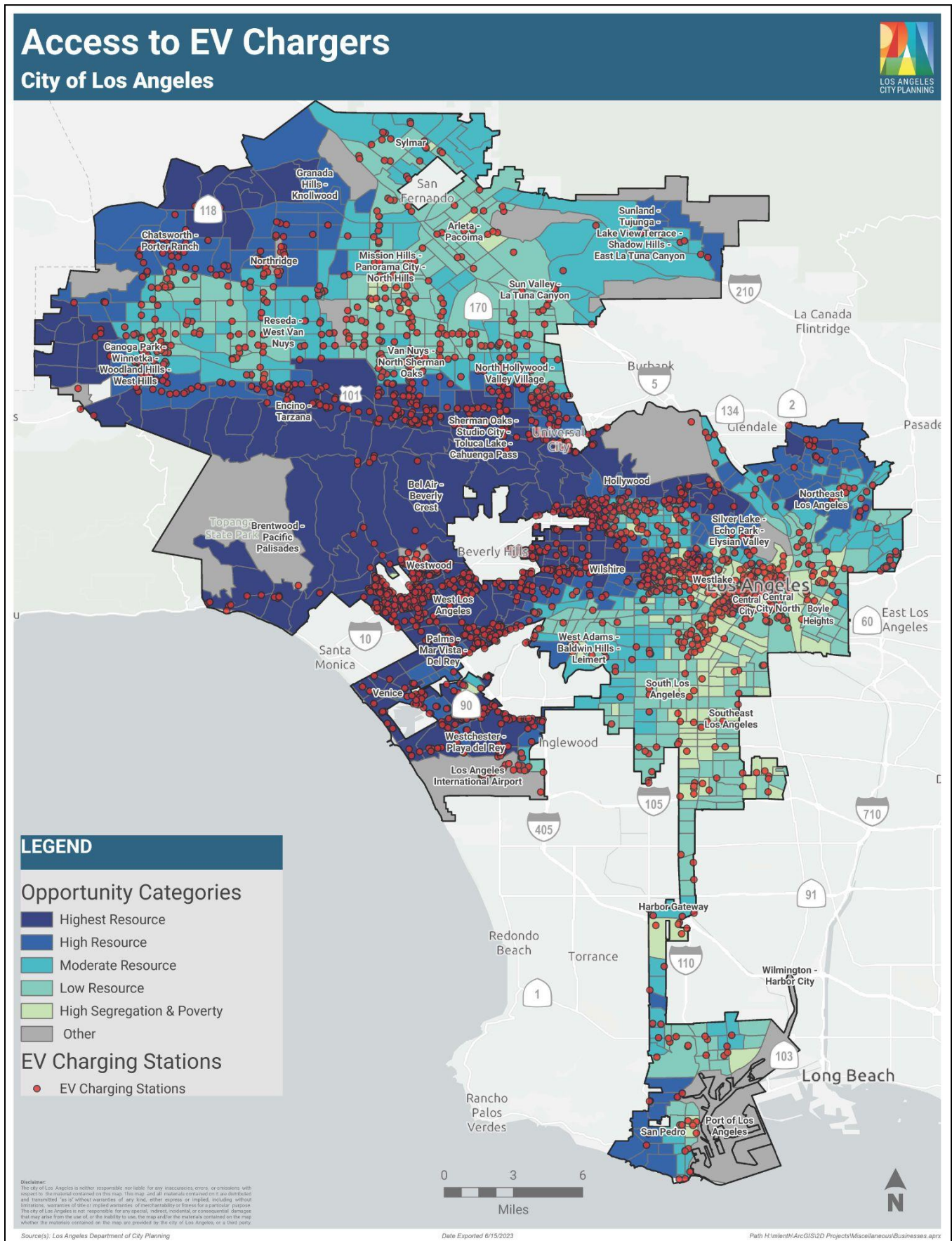


EXHIBIT B – PRECEDENT FROM OTHER CITIES

San Francisco

Existing Conditions and Findings

Existing conditions of climate change impacting San Franciscans' public health and alarming rates of GHG emissions produced by the local transportation sector have mobilized the City and County of San Francisco (SF) to lead a citywide ordinance for the creation of a robust and accessible Electric Vehicle Charging Station (EVCS) network for passenger and fleet drivers. Due to Governor Newsom's *Executive Order N-79-20*, California cities are required to transition away from a gasoline-dependent vehicle economy and offer new sales of EV by 2035. SF ambitiously aims to meet Governor Newsom's *Executive Order N-79-20* goal by 2030. According to a 2017 study, the SF transportation sector accounted for 46 percent of all GHG emissions in the city, while 71 percent of those emissions were from privately owned vehicles and trucks.¹ The International Council on Clean Transportation's (ICCT) published a SF case report stating that EV charging infrastructure must be scaled from 800 public chargers in 2019 to 2,000 by 2025, and over 5,000 by 2030 to meet expected demand when Newsom's Executive Order is in effect. The study projected 6.1 times more charging capacity needed than in 2019 for a projected 178,421 light duty EVs registered by 2030.² Pressure from these findings pushed SF to adopt *Ordinance No. 190-22* in 2022, to amend the SF Municipal Code to include new definitions for EV charging projects, create a by-right permitting process for the conversion of automotive service stations to "Electric Vehicle Charging Locations (EVCL)," and the implementation of citywide mobilization strategies for EV adoption.

EV Adoption and Infrastructure Ordinance

Ordinance No. 190-22 established an expedited approval process for the expansion of publicly accessible EV charging infrastructure in SF. Prior to the code amendment, EV charging was not defined in SF's Planning Code, and EV charging station entitlements were processed by the Zoning Administrator on a case-by-case basis using guidelines for auto service centers such as gas stations and auto repair shops that provide oil changes, minor auto repairs, and/or other incidental services to the primary sale of motor fuel. This designation resulted in a stringent and prolonged permitting process marked by bureaucratic delays that the City claimed could be circumvented for EV charging projects due to their less impactful nature compared to gas stations.

Thus, the definition for "Automotive Uses" in the SF Planning Code was expanded to include "Electric Vehicle Charging Location (EVCL)" as a retail use and "Fleet Charging" as a non-retail use. An EVCL offers more than one public EV charging space (e.g. equivalent to a parking

¹ City and County of San Francisco. 2019. "SF Environment Executive Summary: EV Roadmap."
https://sfenvironment.org/sites/default/files/fliers/files/sfe_tr_ev-roadmap_summary.pdf

² International Council on Clean Transportation (ICCT). 2020. "City Charging Infrastructure Needs to reach 100% electric Vehicles: The Case of San Francisco."
<https://theicct.org/publication/city-charging-infrastructure-needs-to-reach-100-electric-vehicles-the-case-of-san-francisco/>

space, supplied by an EV charger and or other related equipment) as a primary use and may offer incidental services for charging patrons. Whereas, “Fleet Charging” is defined as one or more EV charging spaces for private parties in accordance with a legal contract or agreement. Fleet charging locations do not allow for an ancillary use to the primary use and prohibits charging services to the general public. Clearly defining EVCLs and establishing zones for permitted use created a direct and seamless approval pathway to convert existing automotive uses and service stations to EVCS (Section 102 of the SFMC).³

EV Permitting By Zone

By redefining EVCLs as an automotive use, the most significant and permissive zoning policy adopted by SF’s *Ordinance No. 190-22* allows for the conversion of all automotive uses to EVCLs, including retail or non-retail automotive uses. Automotive uses, regardless of the underlying zoning district, are principally permitted to convert to EV charging plazas or hubs, providing a clear approval process that reduces delays and expands opportunities to deploy public EVCS in SF.

In addition, EVCLs are principally permitted in SF’s shopping center areas, also known as Community Business (C-2) Districts; as well as Mixed Use (MUG, MUO, MUR, UMU) Districts; Production, Distribution and Repair (PDR) Districts; Industrial (M-1, M-2, SALI) Districts; and a few other neighborhood-specific mixed use and commercial districts. As previously mentioned, certain Neighborhood Commercial Districts (NCDs) allow for the conversion of an existing automotive use to an EVCL through a by-right process with compliance. Moreover, respecting the design standards of existing NCDs, such as Mission Bernal, Taraval Street and, Inner Taraval Street, EVCLs are permitted as a principal use when developed inside an enclosed building; otherwise a conditional use permit is required. EVCLs proposed in Downtown Commercial (C-3) Districts are also subject to approval by the Planning Commission as a conditional use. Similarly, Residential-Commercial (RC), and some Residential Mixed Use and Neighborhood Commercial (NC-1, NC-2, NC-3 and NC-S) Districts require conditional approval.

As a non-retail automotive use, fleet charging is principally permitted in Industrial Districts (M-1 and M-2). Fleet charging is also allowed through conditional approval in Residential-Commercial (RC), Community Business (C-2), Downtown Commercial (C-3), some Neighborhood Commercial (NC-2, NC-3 and other specific NCD), as well as some Production, Distribution and Repair (PDR) Districts. Fleet charging is required to be in an enclosed building when located in Mixed Use (MUG, MUO, MUR, UMU) Districts, Service/Arts/Light Industrial (SALI) District, and a few other mixed use districts.

Both EVCLs and fleet charging in SF are restricted from all Residential Housing (RH), Residential Mixed (RM), Residential Transit Oriented (RTO), and Residential Enclave Districts (RED). Fleet charging is also not permitted in certain Mixed Use Districts. However, since a

³ City and County of San Francisco. “Section 102. Definitions.” *San Francisco Planning Code*. https://codelibrary.amlegal.com/codes/san_francisco/latest/sf_planning/0-0-0-17783

change of use is not applicable, any existing automotive uses in any zone have the ability to transition to an EVCL without going through the conditional use authorization approval process.⁴

Other EV Policies & Programs

The ICCT analysis projected that over 90% of the total chargers needed by 2030 will be home chargers. Roughly 70% of SF residents live in multi-unit housing, many without home charging access, and will have to rely on public charging. The City's ordinance sought to address EV charging insecurity faced by low-income households and renters whose road anxiety may prevent their transition to EV ownership. The City seeks to replicate the ease and time efficiency of traditional gas station experiences through the incorporation of fast charging public plazas with readily-accessible Level 2 (240 volts), DC fast chargers (or Superchargers), and workplace chargers to meet EV charging demand. After weighing many concerns, including "accessibility requirements, equity concerns, ownership and maintenance of the charging stations, public safety, enforcement policies, and other uses of the curb such as parklets and loading zones," EV curbside charging is presently not allowed in SF.⁵ The SF Municipal Transportation Agency (MTA) released its Curbside Management Strategy with two recommendations for EV curbside charging: (1) promote the conversion of off-street parking spaces to EVCSs including private and City-owned lots, garages, and other spaces and (2) allow curbside charging in limited circumstances using a newly developed criteria and thorough evaluation of a site.

In an effort to push the private sector to meet expected EV charging demand, the City amended the Environment and Police Code to require commercial parking lots and garages with more than 100 parking spaces to install EV charging equipment and enforce compliance for existing and future lot and garage permits. Effective January 1, 2023, *Ordinance No. 244-19* requires a commercial parking lot or garage with more than 100 parking spaces to provide Level 2 EVCSs to at least 10% of the parking spaces designated for vehicles; no more than 200 parking spaces are designated for Level 2 EVCSs.⁶ A developer and or owner of a commercial lot or garage, can opt out of the Level 2 charging requirement and install fast charging stations contingent on the number of total parking spaces available on their property (refer to Table 1 below). For instance, a commercial parking garage with over 750 parking spaces (Tier 2) can opt out of the 10% Level 2 EVCS installation by installing at least three fast charging stations.

Table 1. Fast Charging Installation Requirement for Commercial Parking Lot or Garage

	Parking Space No. Requirement	No. of Required Chargers and Type
Tier 1	101-749	At least 2 Fast Charging Stations
Tier 2	750-999	At least 3 Fast Charging Stations

⁴ City and County of San Francisco. *San Francisco Planning Code*. "Article 2: Use Districts."

https://codelibrary.amlegal.com/codes/san_francisco/latest/sf_planning/0-0-0-19790

⁵ SF Environment. "Subject: Public Inquiries for Installing Private Curbside Charging Infrastructure."

https://www.sfmta.com/sites/default/files/reports-and-documents/2021/06/curbside_memo-011121.pdf

⁶ City of San Francisco. Ordinance No. 244-19. <https://sfbos.org/sites/default/files/o0244-19.pdf>

Tier 3	1000-1249	At least 4 Fast Charging Stations
Tier 4	1250-1499	At least 5 Fast Charging Stations

Another factor that may impact future installation of EVCLs is a 2018 ordinance passed by the Board of Supervisors, to eliminate parking requirements for all uses across SF.⁷ The Ordinance eliminated triggers for minimum parking requirements and updated the maximum parking ratios for each use.⁸ EVCLs and EVCS parking requirements were not explicitly mentioned in the ordinance.

Conclusion

Similarly to the experience in Los Angeles, San Franciscans identified three major issues stymying EV adoption: EV costs, lack of EV infrastructure, and anticipated range anxiety. All three concerns are part of a larger equity discussion addressed, in part, by the EV-related ordinances and strategic citywide mobilization to meet aggressive zero-emission goals. SF's *Ordinance No. 244-19* defined EVCLs and fleet charging as a primary use in appropriate zones, including by-right approval processes with standard compliance, and discretionary approval alternatives, to clarify and streamline the development of EV charging projects. Additionally, SF designed a pathway for existing automotive uses in all zones to transition to EVCLs without additional review. This attachment (Exhibit B) is submitted as part City Planning's Staff Report for CF 22-0120-S1, discussing the City of LA's opportunities to follow suit by defining EV charging infrastructure, and considering the potential for developing a pathway for converting existing automotive uses into EVCS in the LAMC to address common challenges to that of SF.

San Jose

Existing Conditions and Findings

To address existing effects of climate change in accordance with the international Paris Agreement, the San Jose (SJ) City Council adopted the *Climate Smart San Jose (CSSJ)*, an ambitious and comprehensive climate action plan consisting of nine key strategies.⁹ Some of the negative impacts of decades of poor environmental practices include increased asthma rates, higher costs in energy bills, increased exposure to extreme heat and air pollution – all disproportionately experienced by historically disadvantaged, low-income neighborhoods.¹⁰ Building on the effective policies in the CSSJ, the citywide goal of zero emission by 2030 was adopted in 2021 through the written framework of the *Pathway to Carbon Neutrality by 2030* ("*Pathway*"). This progressive Citywide framework has informed four acceleration strategies to implement within the next two fiscal years: (1) the electrification of the car economy, (2) the

⁷ Angelis, Chloe. 2019. "San Francisco Eliminates Parking Requirements Citywide."
<https://www.reubenlaw.com/san-francisco-eliminates-parking-requirements-citywide/>

⁸ City of San Francisco. Ordinance No. 311-18.
<https://sfgov.legistar.com/View.ashx?M=F&ID=6950192&GUID=EB1A5961-EEB1-4F4D-8863-90C0466ACDA2>

⁹ City of San Jose. 2018. *Climate Smart San Jose (CSSJ)*.
<https://www.sanjoseca.gov/home/showpublisheddocument/32171/636705720690400000>

¹⁰ City of San Jose. 2021. *Resolution No. 80284*.
<https://www.sanjoseca.gov/home/showpublisheddocument/81390/637783661846800000>

reduction of VMT in the transportation sector, (3) the transition to an all-electric building infrastructure for all newly constructed and existing buildings, and (4) the transition to a 100% carbon-neutral power source to operate the City in lieu of the existing natural gas-dependent energy source.¹¹

As a city bounded by the Hayward and San Andreas faults and already experiencing impacts of climate change, SJ has taken proactive and preventive measures to prioritize its residents' wellbeing. SJ's reliance on gas-powered energy in their buildings and appliances pose a great threat to public safety, especially after a seismic event. The transition to an electrical power source reduces the risk of disaster scenarios such as disrupted communication, fires and explosions ignited by gas, intense damage to public works infrastructure, hindered disaster management response, and other disaster threats. While acknowledging the necessity for risk aversion of destructive seismic aftermath and reducing GHG emissions, the City introduced *Ordinance No. 30311*.

EV Adoption and Infrastructure Ordinance

In SJ's packaged *Ordinance No. 30311*, the City aims to amend the municipal code, specifically the technical code section, by integrating and reforming portions of the *California Green Building Standards Code* and *California Building Energy Efficiency Standards* for "more restrictive standards than the California Codes...to prevent or minimize structural damage resulting from local conditions."¹² For the interests of EV charging infrastructure, the amendment creates a reach code – a building code that exceeds state minimum requirements for energy use in its design and construction – to promote EV charging accessibility and EV adoption.¹³ In alignment with CSSJ goals, the Ordinance also ensures the transition and incorporation of solar power capacity and electrification in buildings and other projects.

Differing from San Francisco, the City of San Jose created comprehensive EV-related definitions in the code that include certain amperes and volt dedication. For instance, an "Electric Vehicle Ready Space" is defined as a "parking space that is provided with one 40-amp, 208/240-volt dedicated branch circuit for electric vehicle supply equipment that is terminated at a receptacle, junction box or EVSE within the parking space."¹⁴ The other definitions are included in Table 2 below. The reach code mandates requirements for immediate and eventual installation of EV charging in new residential and nonresidential construction projects. The installation costs of EV chargers is notably inexpensive during the construction phase versus as a retrofit.¹⁵

¹¹ City of San Jose. 2022. *Pathway to Carbon Neutrality by 2030*.

<https://www.sanjoseca.gov/home/showpublisheddocument/93082/638065452005070000>

¹² City of San Jose. 2019. *Ordinance No. 30311*.

<https://www.sanjoseca.gov/home/showpublisheddocument/44078/637082139871830000>

¹³ Delforge and Stamas. 2019. "San Jose's Proposed Building 'Reach Code,' Explained."

<https://www.nrdc.org/bio/pierre-delforge/san-joses-proposed-building-reach-code-explained>

¹⁴ City of San Jose. 2019. *Ordinance No. 30311*.

<https://www.sanjoseca.gov/home/showpublisheddocument/44078/637082139871830000>

¹⁵ Pike, Kido, and Goldsmith. 2019. "Driving Plug-in Electric Vehicle Adoption with Green Building Codes. Forth Webinar."

<https://www.slideshare.net/eimnline742/drivingpluginelectric-vehicle-adoption-with-green-building-codes-by-ed-pike-cassidee-kido-and-hannah-goldsmith>

Table 2. EV-Related Definitions in Ordinance No. 30311

DEFINITIONS	
Electric Vehicle Load Management System	A system designed to allocate charging capacity among multiple electric vehicle supply equipment.
Electric Vehicle Capable Space	A designated parking space that is provided with conduit sized for a 40-amp, 208/240-volt dedicated branch circuit from a building electrical service panel to the parking space and sufficient physical space in the same building electrical service panel to accommodate a 40-amp dual-pole circuit breaker.
Electric Vehicle Ready Space	A parking space that is provided with one 40- amp, 208/240-volt dedicated branch circuit for electric vehicle supply equipment that is terminated at a receptacle, junction box or electric vehicle supply equipment within the parking space.
Electric Vehicle Supply Equipment (EVSE) Space	A parking space with electric vehicle supply equipment capable of supplying current at 32 amps at 208/240 volts.

Section 24.10.300 Electrical Vehicle (EV) Charging Stations of the San Jose Municipal Code (SJMC) sets nonresidential mandatory measures to facilitate EV charging space allocation in a parking lot. For instance, 10% of the total number of parking spaces are expected to be EVSE spaces – charging spaces with equipment capable of offering 32 amps at 208/240 volts. 40% of the parking spaces within the same lot are expected for EV Capable Spaces. The remaining parking spaces can be converted to an EVCS or simply left unequipped. Exceptions to these mandates are reviewed on a case-by-case basis for project sites where there is insufficient electrical supply and or where design requirements may adversely impact the construction cost of the project.

EV Permitting By Zone

Defined as a vehicle related use by SJ's Zoning Code, EVCSs can take the form of the following three scenarios across various zones:

1. Charge station has no incidental service;
2. Charge station offers an incidental service; and
3. Charge stations are an incidental service to a primary use.

EVCSs with no incidental service or repair are permitted in Commercial General (CG), Combined Industrial/Commercial (CIC), and Downtown Primary Commercial (DC) Zoning Districts. Additionally, an EVCS project that is accessory or incidental to an on-site primary use that is proposed in any Commercial, Industrial, and Downtown Zoning District is also permitted.

Similarly, EVCSs with an incidental service or repair are also permitted in the aforementioned Zoning Districts, but incidental services must be non-invasive and conducted in an enclosed building.

A standalone EVCS is allowed in Commercial Pedestrian (CP), Commercial Neighborhood (CN), Public/Quasi-Public (PQP), and Industrial Park (IP) Zoning Districts with conditional use approval. EVCS with an incidental service or repair are only allowed with a conditional use permit in CN and PQP Districts. Unless included as part of new development EV requirements, EVCSs as a standalone use are prohibited from open space and agricultural areas, Residential (R-1, R-2, R-M, R-MH), Transit Employment Centers (TEC), Commercial Office (CO), Light Industrial (LI), Heavy Industrial (HI), as well as pedestrian-oriented areas like Main Street (MS-G and MS-C) Zoning Districts.¹⁶

Other EV Policies & Programs

According to data collected by the California Energy Commission, a majority of GHG emissions in SJ in 2019 was produced by 43 percent of passenger vehicles.¹⁷ This percentage exceeds the on-road emissions produced by heavy-duty trucks (20 percent), light-duty trucks (22 percent), Medium-duty trucks (13 percent), buses (2 percent), and motorcycles and motor homes (1 percent). By the end of 2021, nearly 35,000 of 720,000 registered vehicles (5 percent) in SJ were hybrid or fully electric. Since 2016, EV ownership rates have averaged to 27 percent, year over year. However, if ownership rates continue at this pace, SJ will only have reached 42 percent EV adoption by 2030. As a result of these findings, SJ must push the growth rate by 38 percent year over year to meet their 2030 goal. Consequently, the City would need to provide nearly 62,000 public charging stations to accommodate an estimated 720,000 EV supported by the following publicly-accessible chargers: 60,000 (58 percent) Level 2 chargers at employment sites and 2,000 (42 percent) fast chargers in public facilities. The City of San Jose has a steep implementation and adjustment period ahead of itself as only 1,826 EV chargers are publicly available as of April 2022.

In December 2019, the *Electric Mobility Roadmap* was introduced to Council as an all-encompassing and two-year strategic electrification plan for multimodal transportation and fleet vehicles. In efforts to reduce range anxiety and create a robust charging infrastructure network, six nonresidential charging place types were identified: private, public, private workplace, public workplace, fast charging ports, and Tesla's charging points. These charging ports are either Level 2 (240 volts) or fast chargers (480 volt and higher). The report recognizes the need to equitably support the 31 percent of SJ's multi-family housing stock that face numerous challenges that inhibit EV installation. These challenges include nominal space for EV infrastructure, scarce parking spaces, the high costs of EV, and the high costs of installation and maintenance of EVCS. In comparison, 64 percent of the City's single-family housing stock

¹⁶ City of San Jose. *San Jose Zoning Code*. "Title 20: Zoning."

https://library.municode.com/ca/san_jose/codes/code_of_ordinances?nodeId=TIT20ZO

¹⁷ City of San Jose. 2022. *Pathway to Carbon Neutrality by 2030*.

<https://www.sanjoseca.gov/home/showpublisheddocument/93082/638065452005070000>

is expected to experience easy installation and accessibility to home charging stations.¹⁸ Thus, the reach code prioritizes EV installation during the construction phase of residential and non-residential project sites by incorporating planned expansion of EV charging spaces.

Conclusion

The *Electric Mobility Roadmap* is part of SJ's larger five-year *Emerging Mobility Action Plan* that prioritizes vehicle electrification, automation (self-driving vehicles), and shared mobility with an emphasis on equity. Also experiencing similar challenges and pressures to achieve zero-emission goals as LA and SF, SJ was an early adopter for devising a streamlined process to allow EVCS development across the city. However, SJ's zoning policies are less permissive than that of SF, limiting the by-right approval process for standalone EVCS with or without an incidental service or repair to predominantly commercial areas. Despite a clear differentiation between the three types of charging station scenarios, SJ defines EVCS as a vehicular use, associated with gas or fuel service stations, a policy that limits access to larger, standalone public EV charging hubs.

¹⁸ City of San Jose. 2020. "Memo: Electric Mobility Strategy Update."
<https://sanjose.legistar.com/View.ashx?M=F&ID=7965077&GUID=6055F811-99D3-4052-BF9E-6B999ABFF7D0>