

EV Charging Infrastructure Training

Part 1: Strategic Site Selection



Los Angeles County hosted a five-part training series on electric vehicle (EV) infrastructure. Part 1: Strategic Site Selection identifies and evaluates ideal charger locations, balancing technical feasibility, regulatory requirements, and community needs. The California Energy Commission funded the series.

Preliminary Planning

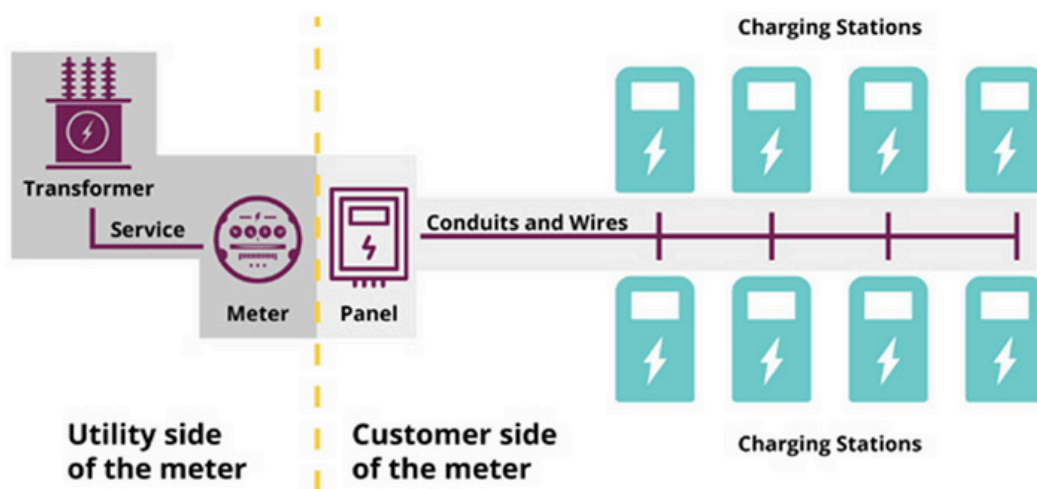
EV charging stations represent a critical public investment in clean transportation. The key to successful deployment lies in selecting the right sites—balancing technical feasibility, regulatory requirements, and community priorities. Strategic site selection helps ensure infrastructure is cost-effective, widely accessible, and aligned with long-term sustainability goals.

Successful EV charger site selection begins with clearly defining objectives (public access, workplace, or fleet charging) and selecting appropriate charger types (Level 2 vs. DC fast charging) based on usage patterns. Essential early steps include assembling a multidisciplinary team of engineers, site owners, and utility liaisons, while gathering existing site plans, regulatory requirements, and available incentive programs like utility rebates.

Critical technical planning involves conducting load assessments to determine current electrical capacity and future expansion needs, understanding resiliency options such as backup power and battery storage, and reviewing utility hosting capacity maps to identify circuit constraints and coordinate with utility providers early to ensure project feasibility and cost-effectiveness.

On-site Assessment of Electrical Infrastructure and Capacity

On-site electrical infrastructure assessment forms a critical foundation for EV charging installations, requiring thorough inspection of existing electrical panels to evaluate service capacity, available panel space, and current load configurations. This assessment must clearly distinguish between utility-owned equipment (transformers, meters, service connections up to the point of delivery) and customer-owned infrastructure (electrical panels, internal wiring, overcurrent protection devices), as this boundary determines responsibility for upgrades, maintenance, and costs.



Source: SCE

On-site Evaluation of Location and Accessibility

On-site evaluation requires identifying optimal charger locations that balance accessibility, safety, and user convenience while ensuring full Americans with Disabilities Act compliance through unobstructed 36-inch-wide access paths, proper slopes ($\leq 1:20$), and correctly positioned controls (34-48 inches high). Prioritize equity and install in underserved communities lacking charging access.



Verify Regulatory Compliance and Permitting

Verifying regulatory compliance and permitting requires ensuring all EV charging installations meet comprehensive code requirements, including the National Electrical Code Article 625, California Building Code (Title 24/CALGreen) standards, and the County of Los Angeles' specific EV-charging ordinances. Obtain proper building permits while complying with local zoning requirements, environmental controls, and stormwater management regulations. Safety compliance involves using UL-listed equipment, proper grounding and bonding, and adequate fire protection measures.

Document Findings and Develop Installation Plan

Comprehensive documentation requires detailed site photos, electrical diagrams, and simplified design drawings that clearly communicate installation requirements, while establishing realistic timelines that incorporate utility coordination, permit approvals, and equipment lead times. Maintain regular stakeholder communication and identify marketing opportunities to promote environmental stewardship, boost community adoption through outreach, and leverage installations for green building credits that show a commitment to clean transportation.

Case Study: Fleet Charging

The LA County Sanitation Districts engaged their local utility, SCE, early on to plan for charging needs and ensure resiliency and reliability. They also needed sufficient capacity to install charging for the number of existing fleet vehicles.



The challenge was to electrify a large portion of their 130 light-duty fleet vehicles to meet greenhouse gas emission reduction goals and consider how they would future-proof the installation as more EVs are added.



Due to the number of miles each EV would drive, with some being able to go a day without a charge, they did not need to install a charger for each car. Their goal was accomplished with:

- 52 light-duty vehicles converted to EVs
- 44 charger ports installed (or 22 dual-port chargers)



Resources

View the five-part training series and get downloadable resources at: isd.lacounty.gov/electric-vehicles-and-charging-stations/.

Questions? Contact the LA County Internal Services Department of Clean Transportation & Energy at evprogram@isd.lacounty.gov.