

# Strategic Site Selection: Best Practices for Charger Siting

Prepared for:



Webinar 1 of 5 in the EV Charging  
Infrastructure Training Series

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# Trainers



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# Five-Part EV Charging Infrastructure Training Series

## 1. Strategic EV Charger Site Selection

Best practices for EV charger siting in LA County



## 2. Business Models and Financing

EV charging business models, incentives, rebates and financing options



## 3. Regulations, Ordinances, and Implementation

Streamlining EV charging projects by understanding impacts



## 4. Permitting

Best practices to streamline EV charging project permitting



## 5. Site Design, Energization, and Operation

Best practices in EV charging site design



All five recordings and slides will be made available.

# Agenda

1. Site Walk Overview
2. Online Tools
3. Utility Engagement
4. Resiliency
5. Futureproofing
6. ADA Requirements
7. Equity
8. Codes
9. Marketing Opportunities
10. Case Studies
11. Q&A
12. Resources



# 5 Key Project Planning Elements

5. Document Findings and Develop Installation Plan

1. Preliminary Planning



2. On-site Assessment of Electrical Infrastructure and Capacity



3. On-site Evaluation of Location and Accessibility



4. Verify Regulatory Compliance and Permitting



# 5 Key Project Planning Elements

## 1. Preliminary Planning

- Identify project objectives and charger type
- Assemble a team
- Gather existing site plans, regulatory/permitting requirements, and incentive/rebate information
- Determine the quantity of stations, current load, and future load
- Understand resiliency options
- Review utility Hosting Capacity Map and contact utility

## 2. On-site Assessment of Electrical Infrastructure and Capacity

## 3. On-site Evaluation of Location and Accessibility

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# Value of Site Planning

Begin project planning before EV charging design

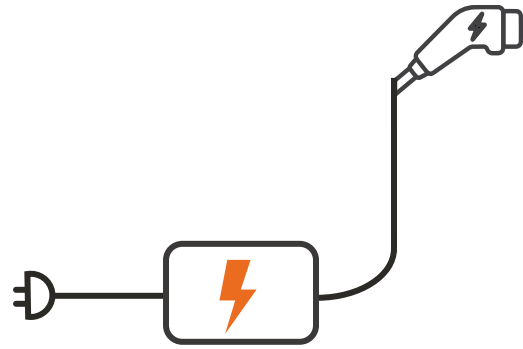
- Site walks are essential for assessing site suitability and identifying potential challenges
  - Identify space constraints, accessibility issues, and maintenance areas
  - Determine available utility power supply
- Planning provides valuable insights for:
  - **Cost Optimization:** Prioritizes the most cost-effective installation locations
  - **Regulatory Compliance:** Determines how to fulfill local regulations and ADA requirements
  - **Security and Safety:** Informs security and lighting features





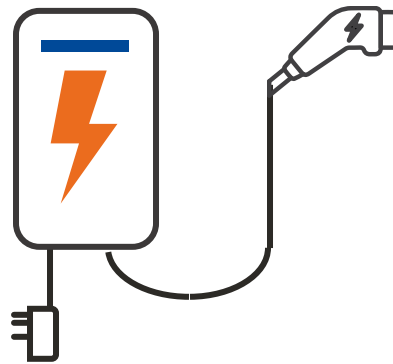
# Charging Station Levels

Understanding the quantity and type of chargers is fundamental to strong site selection. Charger speed depends on the vehicle, site usage patterns and available power supply.



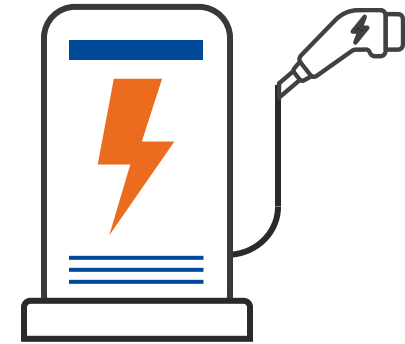
## Level 1 Chargers

- Use a standard 120-volt AC outlet (up to 1.4 kW)
- 4 - 5 miles of range per hour
- Residential properties or where vehicles are parked for extended periods.



## Level 2 Chargers

- 208 - 240 volt AC power outlet or hard-wired (up to 19 kW)
- 15 - 45 miles of range per hour
- Residential and commercial properties, workplaces, and public locations where vehicles are parked for a few hours.



## DC Fast Chargers

- 50 - 350 kW DC power
- Up to 175 miles of range in 20-30 minutes
- High-traffic areas like shopping centers, highways, and fleet depots.



# Online Tools Identify Charging Capacity

Accurately assessing demand is critical to successful charger deployment.

## Southern California Edison's Hosting Capacity Map

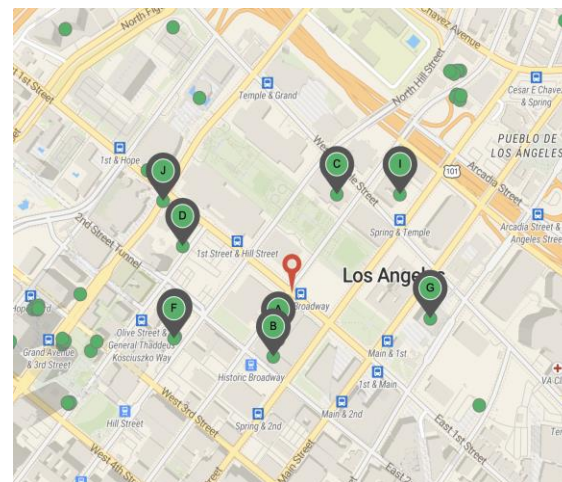
Distribution circuit capacity, permitting checklists, codes



SCE Hosting Capacity Map, link in Resources

## Dept. of Energy Charger Locator Map

Knowing the density of nearby public chargers helps determine helps prevent overspending on unnecessary infrastructure.



DOE Charger Locator Map, link in Resources

Make data-driven decisions on where to install new chargers to maximize utilization, minimize costs, and meet project timelines.

# Utility Engagement

Early utility collaboration ensures adequate power supply and infrastructure support. Key considerations include:

## Power Supply Assessment

Evaluating whether the existing electrical infrastructure can support additional chargers.



## Prevents Delays

Utilities can inform your project and energization timeline.



## Incentives

Many utilities offer EV charging infrastructure incentives.



Contact the site's utility early in the process to understand timeline, power and cost impacts.



# Resiliency Planning

Incorporating innovative solutions enhances resiliency and contributes to sustainability goals.

## Mobile Charging Solutions

Provides operational flexibility for locations with fluctuating demand.

## Battery Storage

Discharge energy storage during peak times or outages to improve reliability

## Solar

Can reduce environmental impact

Resiliency components can reduce energy bills while adding complexity and potentially overall project cost. A design professional can inform about the benefits and costs during planning.



# Futureproofing Considerations



Planning is essential to accommodate growing EV adoption and technological advancements:



**Capacity Upgrades:** Design electrical infrastructure to handle increased power demands as more charges are added. Each component adds up (e.g., electrical trenching, landscaping). Do this once to reduce cost later.



**Charger Expansion:** Select sites that allow for easily adding more chargers without significant modifications.



**Technological Advancements:** Staying informed about emerging technologies to integrate new features seamlessly.

Futureproofing ensures that your charging infrastructure remains relevant and efficient over time.

# 5 Key Project Planning Elements

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2. On-site Assessment of Electrical Infrastructure and Capacity

Inspect existing electrical panels. Understand the components of utility equipment vs. customer equipment.



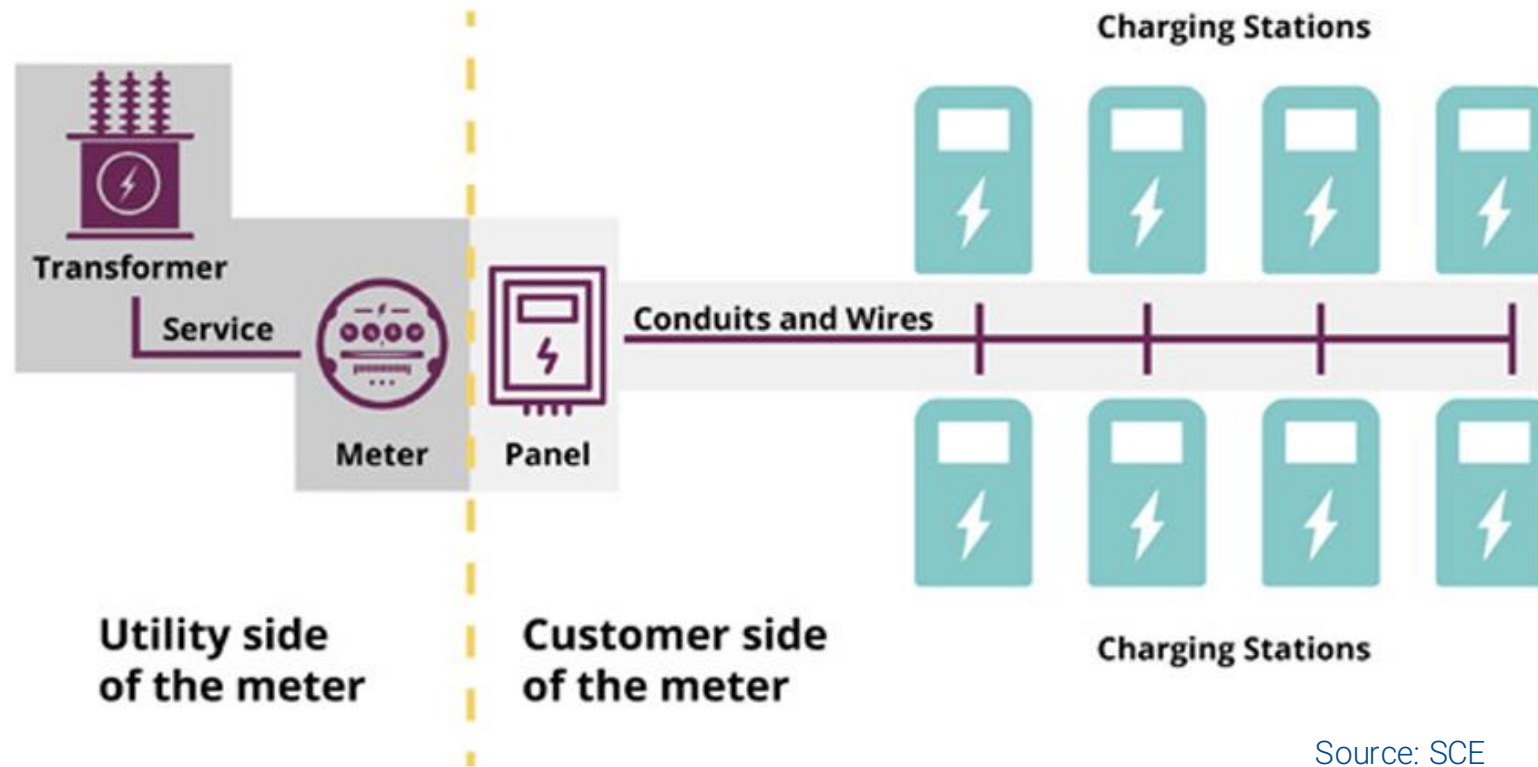
3. On-site Evaluation of Location and Accessibility



4. Verify Regulatory Compliance and Permitting



# Assess Electrical Infrastructure and Capacity



Most of the time, a new charging installation will require a new service because there is not enough capacity on the existing panel(s).

# 5 Key Project Planning Elements

5. Document Findings and Develop Installation Plan

## 3. On-site Evaluation of Location and Accessibility

Look for optimal locations, space allocation, ADA compliance, equity, and environmental considerations.

## 1. Preliminary Planning

## 4. Verify Regulatory Compliance and Permitting

## 2. On-site Assessment of Electrical Infrastructure and Capacity

# ADA Access and Path Considerations

Accessibility is not just a legal requirement but a moral imperative. It's crucial to ensure compliance with the Americans with Disabilities Act (ADA).

- **Accessible Pathways**

The route from the parking space to the charger must be smooth, obstacle-free, and ADA compliant.

- **Charger Placement**

Position chargers in locations easily reachable for all users, including those with mobility challenges.

By prioritizing accessibility, EV charging is inclusive and user-friendly for everyone.



# Equity Considerations in Charging Installations



New and used EV prices are coming down. Equitable access to EV charging is critical for inclusive community development.



## Multifamily Communities

Install chargers in apartment complexes to serve residents without dedicated parking access

Addressing equity ensures all community members benefit from the transition to electric mobility.

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## Multifamily Communities

Install chargers in apartment complexes to serve residents without dedicated parking access



## Workplaces and Fleets

Provide charging solutions for employees and fleet vehicles to support a diverse workforce.

Addressing equity ensures all community members benefit from the transition to electric mobility.

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## Multifamily Communities

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## Workplaces and Fleets

Provide charging solutions for employees and fleet vehicles to support a diverse workforce.



## Public Locations

Ensuring public charging stations are accessible in underserved neighborhoods to bridge the equity gap.

Addressing equity ensures all community members benefit from the transition to electric mobility.

# 5 Key Project Planning Elements

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## 4. Verify Regulatory Compliance and Permitting

Ensure installation complies with all relevant code, permit, environmental, and safety requirements.



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# Codes and Standards

Contact your local authority having jurisdiction to determine the codes required for your project location.

## EV Charging Codes

### LA County: EV Charging Code and Permitting Checklist

<https://dpw.lacounty.gov/bsd/lib/fp/Electrical/Article%2085%20-%20Electric%20Vehicle%20Charging%20Station%20and%20Checklist.pdf>

### LA County: Plan Review List

[https://dpw.lacounty.gov/bsd/lib/fp/Building/Title%2024%20Disabled%20Access/2023%20Code%20Version/2023%20LACBC%20-%20Accessibility%20Suppl%20No%2010\\_Electric%20Vehicle%20Charging%20Station.pdf](https://dpw.lacounty.gov/bsd/lib/fp/Building/Title%2024%20Disabled%20Access/2023%20Code%20Version/2023%20LACBC%20-%20Accessibility%20Suppl%20No%2010_Electric%20Vehicle%20Charging%20Station.pdf)

### CalGreen: Codes and Standards for EV Charging

[https://calgreeninfo.com/content/resources?resource\\_topic=70#resourceDisplay](https://calgreeninfo.com/content/resources?resource_topic=70#resourceDisplay)

### NACS Code Standardization [https://www.sae.org/news/press-](https://www.sae.org/news/press-room/2023/06/sae-international-announces-standard-for-nacs-connector)

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In preparation for site design Include photos, diagrams, timeline, and utility and stakeholder communication. Consider marketing opportunities.

# Sustainability Marketing Opportunities



## **Green Certifications**

Highlight EV chargers as part of green building certifications to enhance the property value.

Effective sustainability messaging can strengthen your organization's reputation and support broader environmental goals.

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Educate and engage the community on your sustainability efforts.

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Highlight EV chargers as part of green building certifications to enhance the property value.



## Community Engagement

Educate and engage the community on your sustainability efforts.



## Workplaces and Fleets

Showcase your commitment to sustainability to attract environmentally conscious customers, employees, and tenants.

Effective sustainability messaging can strengthen your organization's reputation and support broader environmental goals.

# Sustainability Marketing Opportunities



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## Workplaces and Fleets

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## Use Case Example

Market apartments to residents wanting to live in a greener community. EV charging improves their return on net operating income.

Effective sustainability messaging can strengthen your organization's reputation and support broader environmental goals.

# Case Studies

# Case Study: Public Charging



**Local Business District:** Installed Level 2 and DC fast chargers with solar panels and battery storage to enhance resiliency and sustainability.

**Challenges:** Increasing EV charging demand and electricity grid reliability concerns

## Installation Solution:

- Level 2 chargers for long-duration parking, such as employee or visitor vehicles
- DC fast chargers for drivers needing quick charges
- Solar panels on parking structures (with planning for adjacent rooftops)
- Battery energy storage to store surplus solar energy, increase reliable charging, reduce peak demand charges, and ride through grid outages.

**Outcome:** Projected 20% increase in EV adoption

# Case Study: Multifamily Charging



**Apartment Community:** Installed accessible chargers with ADA-compliant pathways to create equitable access for all residents

## Challenges:

- Limited parking availability and electrical capacity
- No additional parking spaces for dedicated EV charging

## Solution:

- Repurposed spaces for into shared-use EV charging spots.
- Installed reservation system with charging time limits to optimize parking stalls
- Hosted workshops to raise awareness.

**Outcomes:** 25% increase in EV adoption in the first year and strong resident support

# Case Study: Fleet Charging



**LA County Sanitation Districts:**  
Engaged SCE early to plan for charging needs and reliable fleet operations

**Challenge:** Electrify vehicles in fleet to meet greenhouse gas emission reduction goals

## **Solution:**

- 130 passenger vehicles in fleet
- 52 converted to EV
- 44 ports installed

Read more at:

<https://energized.edison.com/stories/charge-ready-helps-electrify-la-county-sanitation-districts-service-fleet>



# Resources and Q&A

# Resources

## Hosting Capacity Maps

SCE <https://drpep.sce.com/drpep/>

LADWP

<https://www.arcgis.com/apps/webappviewer/index.html?id=290be9aa52694ef39bf3088940079f62>

## MHD Charging Installation Guide

CA Go Biz <https://business.ca.gov/wp-content/uploads/2021/05/Big-ZEV-Charger-Permit-Flyer.pdf>

## Charger Locator and Maps

Dept. of Energy <https://afdc.energy.gov/stations#/find/nearest>

Plugshare <https://www.plugshare.com/>

## Technical Assistance

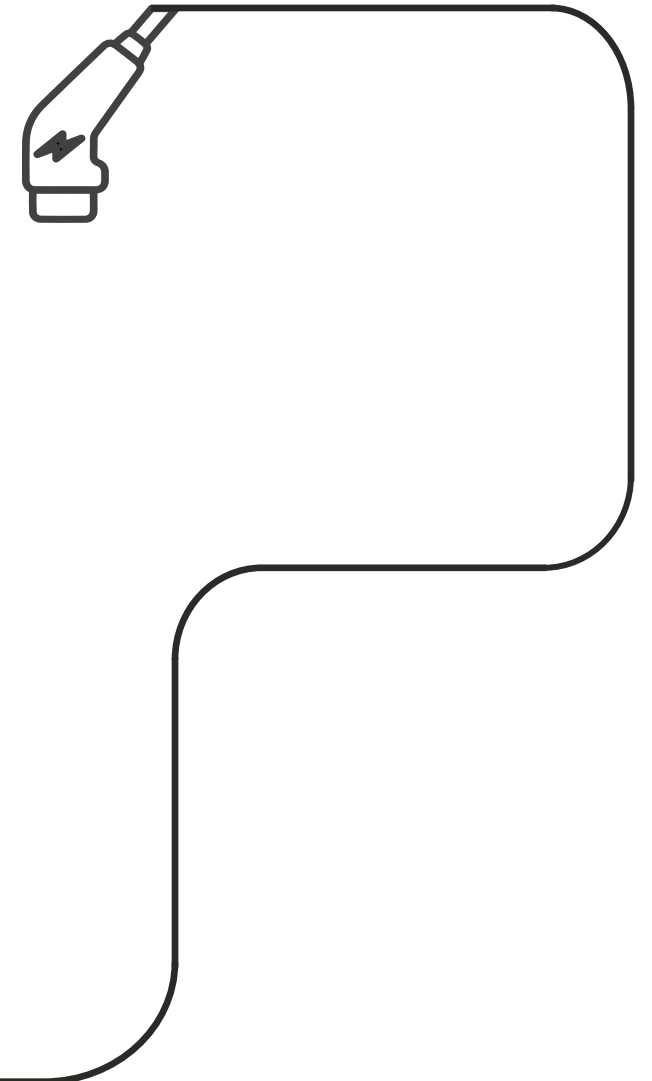
Joint Office <https://driveelectric.gov/technical-assistance>

CalEVIP <https://calevip.org/technical-assistance>

SCE <https://cloud.sce.com/teas>

# Questions & Answers

- Type your questions in the Q&A
- Today's recording and slides will be available at:  
<https://isd.lacounty.gov/electric-vehicles-and-charging-stations/>
- Register for Training Series Webinars Parts 2-5
  - Business Models and Financing (February 25)
  - Regulations, Ordinances, and Implementation (April 3)
  - Permitting (April 23)
  - Site Design, Energization, and Operation (May 15)



# Thank You!

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