



EV CHARGING PLAYBOOK

by  ampUp

EV CHARGING BASICS

As the number of electric vehicles (EVs) on the road steadily increases, more and more drivers are looking for accessible charging options at home, work and in their communities.

There are three levels of charging for EVs today:

Level 1 - All EVs come equipped with a plug for standard 120-volt outlets.

Level 2 - Requires 240-volt outlet and an installed charging unit.

DC Fast Charging (DCFC) - Requires 400-volt or higher for fast-charging.

Charge range depends on the car battery, type of charger, charger kilowattage, and time charging. Typically, a Level 2 charger is ideal for cars that will be parked for a few hours, like at workplace or home. DCFC is better for quick and effective charges while on the go.

BENEFITS OF COMMUNITY CHARGING



Workplace & University

- Coordinate charging based on your work schedule with AmpUp Reservations
- Notifications to employees when plugs are available
- Automate management of different user types and pricing (staff, students, visitors)
- Earn revenue during off-peak hours to offset costs
- Ongoing sustainability, utilization and revenue reports



Utility & Governments

- Set dynamic pricing such as time-of-use rates
- Schedule load management for demand response events
- Manage multiple charging sites in one place
- Detailed reports on station usage, energy use by location



Retail

- Attract customers with reservable storefront charging
- Entice customers with discounted charging coupons
- Offer employee and guest access
- Offset network and energy costs with public charging



Multi-Unit Dwelling

- Intuitive platform makes for hassle free charging
- Reservations create charging certainty for tenants & helps organize who charges when & for how long
- Notifications to tenants when plugs are available
- Set unique time or energy based pricing for different groups



Fleet

- Load scheduling for energy optimization
- No app needed, RFID charge authentication
- Fleet telematics integration
- Dedicated access
- Ongoing reports of station usage & mobility trends



Hospitality

- Reservable and dedicated charging as an amenity to hotel guests
- Provide guest and public pricing or expiration codes
- Tie RFID access to stations with room key



PROJECT CONSIDERATIONS

AmpUp makes sure that our features cover all your EV charging needs.

HARDWARE

Networked Stations

Today, EV drivers use networked stations to schedule, authenticate, and pay for their charging sessions in a convenient and familiar way. Networked stations also provide important data for maintenance.

Open Charge Point Protocol (OCPP)

OCPP is a protocol that offers a gold standard of customer choice and charge station control. Charge stations that are OCPP-compliant allow for seamless communication between charging hardware, software, and consumers.

Other Features to Consider

Current: 7.2 and 7.7kW of power are most common in Level 2 chargers.

Cord Length: longer cords give more flexibility. 25 feet is recommended.

Size : consider the site dimensions and size of the unit(s).

Connectivity: smart chargers with WiFi or Cellular connectivity allow hosts to monitor energy usage and drivers to schedule sessions.

SOFTWARE

Hardware-Agnostic

Is your software and networking provider compatible with multiple hardware companies? Make sure a station upgrade or vendor switch is easy with the correct hardware-agnostic software.

Net-Zero Cost

Does your software allow for custom pricing and accessibility to the public? Site hosts are earning money for sharing their stations, helping offset ongoing network costs to achieve.

Reporting

Do you need insights to your charging community, such as station usage, electricity consumption, and revenue? Ensure your software provides these metrics and more to keep you most informed.



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COSTS TO CONSIDER

Some core costs associated with owning and operating charge stations include:

- **Charge station hardware costs** including unit costs, accessories, warranty packages.
- **Installation costs** including labor and materials for connecting stations to electrical service, permitting and inspection, and engineering review and drawings.
- **Operations & maintenance costs** including electricity consumption and demand charges, network subscription, billing transaction costs, preventative and corrective maintenance and repair.

COMMUNITY NEEDS

- Who are the various user groups? Public, private, or semi-private users?
- How many EV drivers are in or projected to be in the community?
- How many parking spaces can you dedicate to EV charging?

AmpUp provides turnkey charging solutions for communities of all shapes and sizes.

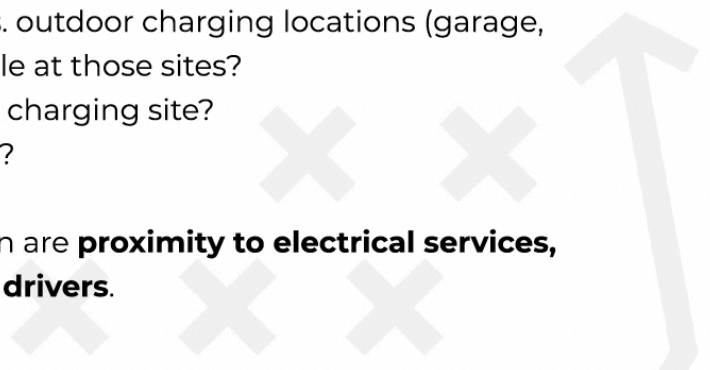
GRANTS, REBATES, & INCENTIVES

Many states, cities, and local utility providers offer incentives for commercial and residential charging stations such as tax credits, rebates, grants, and loans. These incentives can help **cover costs of charge station equipment, installation, and networking fees**. AmpUp and our many regional partners can help you navigate available incentive programs that you may be eligible for.

SITE SELECTION

- What site options are available for indoor vs. outdoor charging locations (garage, parking lot, curbside, etc.)? Is power available at those sites?
- What is the proximity from electrical box to charging site?
- Are parking spaces assigned or unassigned?

The main factors for determining site location are **proximity to electrical services, availability of voltage, and accessibility for drivers**.





EV CHARGING PROJECT CHECKLIST

AmpUp can help design the right solutions for your community needs.



ASSESS COMMUNITY NEEDS & EV DEMAND

Survey employees, residents and/or guests to understand the total power needs for charging all current and potential EV drivers.



ASSESS SITE ELECTRICAL CAPACITY

Identify existing electrical panels accessible to parking, voltage of existing panels, and degree of access capacity. Make upgrades or service additions as needed.



DECIDE ON EV CHARGING SITE

Charging should be close to a power source to keep installation costs low and in a place where drivers are most likely to park.



SELECT HARDWARE & SOFTWARE SERVICES

Contact AmpUp to help you design the right combination of hardware & software solutions to fit your community needs.



CONTACT ELECTRICAL INSTALLER

Installers can help with obtaining the correct permitting and make-ready infrastructure from the utility. AmpUp can help you find a UL-certified electrician for your installation.



GET SET UP WITH SOFTWARE SERVICES

While the installer conducts on-site evaluation and installation, AmpUp will work with you to set up your scheduling, pricing, and other community services and train you on the easy-to-use charging management dashboard.

CONTACT AMPUP



www.ampup.io



info@ampup.io



833-692-6787