# SITE SELECTION GUIDE FOR EV CHARGING STATIONS

**Considering an electric vehicle (EV) charging station installation?**
This guide will help determine if to recommend an EV charging station for a particular location.
*More information on why these factors contribute to a good EV charging site is found on the other side.*

## CATALYZING EV CHARGING STATION DEPLOYMENT

A desire, need, or requirement for EV charging can justify the installation of a station.

| | *Yes / No* |
|---|---|
| Are there mandates or requirements set by the state, regional, or local government requiring EV charging or alternate fuel vehicle technology use? | |
| Are there EV drivers who regularly park at this location? | |
| Have there been requests for EV charging by employees, patrons, or visitors? | |
| Would enhancing sustainability or portraying a "green" image be beneficial to the site host? | |

*Answering "yes" to any of these questions indicates a potential need and benefit for installing EV charging stations.*

## PARKING DEMOGRAPHICS

Alternative current (AC) Level 1 stations provide 2-5 miles of electric range per hour of charging, AC Level 2 stations provide 10-20 miles of electric range per hour of charging, and direct current fast charging (DCFC) can charge over 50 miles in less than one hour. Station costs increase significantly with faster charging capabilities.

| | *Yes / No* |
|---|---|
| Is the average parking event more than two hours? | |
| Does the proposed site location have excess parking spaces available? | |

*An AC Level 2 station is suitable if answering "yes" to both of these questions, otherwise DCFC is likely needed.*
*In locations where vehicles park for extended periods of 8 hours or more, AC Level 1 stations could be considered.*

## SITE CHARACTERISTICS

Charging stations at workplaces, higher education, medical campuses, larger retail centers (malls), and multi-use lots are typically used more often.

| | *Yes / No* |
|---|---|
| Is there parking within 200 feet of the electrical panel and no major obstructions to run power to the station? | |
| Is sufficient power available (120V-20A for AC Level 1, 240V-40A for AC Level 2, 480V-80A for DCFC)? | |

*Answering "no" to either of these questions will likely result in costly installations.*

## OTHER CONSIDERATIONS

Many factors influence the installation costs, as well as the expected use of the station by EV drivers.

| | *Yes / No* |
|---|---|
| Is the parking space covered and does it have lights? | |
| Can electrical power be run to the station without crossing an impervious surface (sidewalk or pavement)? | |
| Can the station be placed where it does not impact snow removal or other parking lot maintenance? | |
| Can EV drivers access the station 24 hours a day and 7 days a week without a permit or fee to park? | |

*Answering "no" to any of these questions will likely increase the cost of installation or decrease utilization by EV drivers.*

# INFLUENCING FACTORS AFFECTING EV CHARGING

| | |
|---|---|
| **LOCAL AND REGIONAL POLICY** | Local or regional governments may establish requirements for new developments to include EV charging stations. Facilitating more EV use can help to achieve the sustainability goals of the local Comprehensive Plan and improve local air quality. EV charging stations support Climate Smart and Clean Energy Community Initiatives. |
| **GO GREEN** | New developments can use EV charging stations to achieve higher LEED levels or other green building certifications. It also conveys an interest in sustainability. |
| **EMBRACE THIS EVOLVING MODE OF TRANSPORTATION** | A network of charging stations will make travel easier for local EV drivers and attract EV tourists. There are a growing number of EV drivers in most NY communities: www.nyserda.ny.gov/Researchers-and-Policymakers/Electric-Vehicles/Tools/Electric-Vehicle-Registration-Map **By 2017 there were 16,600 EVs registered in New York** |
| **LOCATION MATTERS** | EVs are typically found in clusters with neighbors or colleagues that have similar demographics. EV charging stations have been most used at workplaces, higher education, medical campuses, larger retail centers (malls), and multi-use lots. |
| **PARKING AVAILABILITY** | Large parking lots that are regularly used will most likely have some EVs that often use the charging station. However, if parking lots are always full, but end up with vacant EV charging spaces, it can be irritating for non-EV drivers. |
| **STATION PLACEMENT** | An EV charging station in prime parking spaces provides good visibility, but could also draw attention to when it is not being used or the special treatment given to EV drivers. Comply with ADA requirements by leaving sufficient passageways on sidewalks when installing stations and consider its potential impact on snow removal or maintenance. |
| **INSTALLATION COSTS** | Installation costs can be equal to, or even greater than, the station hardware. Wall mounted stations near the electrical room of a building are least expensive to install. A pedestal station in a parking lot that requires an electrical run under or through pavement will be more expensive. Electrical upgrades also add significant cost. |
| **EQUIPMENT SELECTION** | DCFC are costly and intended to mimic conventional vehicle refueling at a convenient store where they can charge numerous EVs per day. In parking lots, AC Level 2 stations are used for charging durations between 2 and 6 hours. AC Level 1 stations may be considered for longer term parking situations. Networked stations track use and allow payments, but require the host site to pay for a subscription. |
| **SIGNAGE AND MANAGEMENT** | Signage should be used to clearly make parking spaces for "EV Charging Only", which can be enforced by regulations that ticket or tow non-EVs that park there. Networked stations that can impose fees for EVs parked in these spaces excessively long will help encourage EV drivers to move after fully charging so another EV can charge. |
| **PREPARING FOR FUTURE STATIONS** | When renovating a parking lot, encourage the installation of one 1½" rigid conduit for each potential dual-port EV charging station. New electrical panels that service parking lots should include additional capacity for future EV charging station installations. |

**For more information visit:** www.nyserda.ny.gov/Researchers-and-Policymakers/Electric-Vehicles/Info/Charging-Station-Hosts

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