

Enable Effective EV Charging at Low Cost

As more and more drivers begin to adopt electric vehicles (EV), installing EV charging stations can increase the value of a parking lot. Long-dwell parking locations are ideal for low-cost EV charging station strategies.

Long-Dwell Parking

Long-dwell parking refers to locations where vehicles are parked for six or more hours.

This typically includes:

- Long-term airport parking
- Multifamily dwellings (e.g., condos and apartments)
- Park-and-ride commuter parking
- Workplaces
- Hotels
- Parking garages that serve daily or overnight drivers

Visit nyserdera.ny.gov/Charge-Ready-NY for info on incentives and more details on low-cost installation best practices

Electric Vehicle Charging Stations for Long-Dwell Parking Lots

Level 1

Low-power charging option
Power requirement: 120V, 1.4kW
Charging rate: 2-5 miles per hour

*Level 1 charging stations can use standard three-pronged outlets



Level 2

Low- to medium-power charging option
Power requirement: 240V, 3.3-7kW
Charging rate: 10-25 miles per hour

*Level 2 charging stations may require an electrical upgrade



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INSTALLING NEW ELECTRIC VEHICLE (EV) CHARGING STATIONS AT LONG-DWELL PARKING LOTS

Tips to Enable Effective EV Charging at Low Cost



LOW-COST STRATEGIES TO MAXIMIZE EV CHARGING STATIONS UTILIZATION

STRATEGY 1:

Install Low-Power Charging Stations

Level 1 charging stations are a low-power option that take 8-12 hours to fully charge an EV and do not require upgrades to electrical infrastructure. Low-power (3.3kW) AC Level 2 charging stations provide more charge for customers who park for shorter durations and are unlikely to require significant upgrades to electrical infrastructure.

STRATEGY 2:

Control With Automated Load Management System

Install a load management system to control charging power across all charging ports and determine the most effective way to distribute power at any given time. Automated load management systems may help avoid costly electrical infrastructure upgrades by sharing available power with all charging ports without increasing the maximum load. This may allow site owners to install additional chargers in the future.

STRATEGY 3:

Optimize Location and Implement Plug Switching Policies

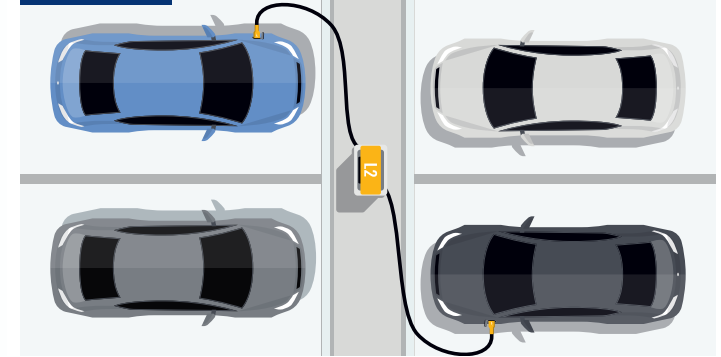
Place EV charging stations in locations where a single charging port cable can be accessed by multiple spaces. Implement policies that ensure access to charging ports, such as establishing a maximum charging time, requiring EV drivers to move their cars once their vehicle is fully charged or allowing parking attendants to move fully charged cars.

A. Workplace

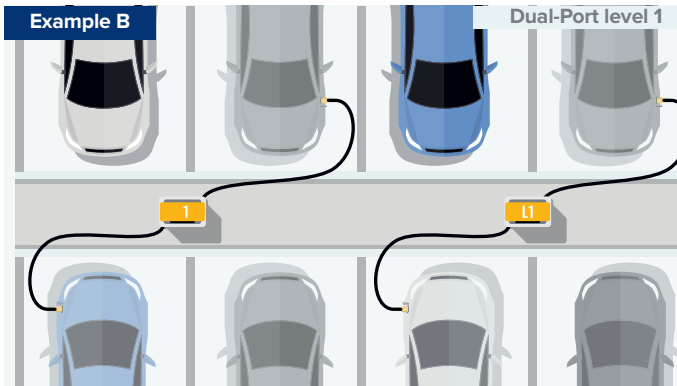
Need: A workplace wants to install an EV charging station to provide the option to charge at work to encourage employees to purchase EVs. Offering workplace charging can bolster a company's green image and attract talent. No employees currently drive an EV. The workplace might also allow non-employees to charge their EVs.

Solution: Install one dual-port Level 2 charging station between four dedicated EV parking spaces. Implement a policy to ensure access to the charging station or facilitate plug switching.

Example A



Example B



B. Airport

Need: A long-term airport parking lot serves vehicles that park for more than one day. The lot has many parking spots. Installing a large number of high-power chargers would be costly and could create unnecessary demand charges.

Solution: Install two dual-port Level 1 charging stations positioned to allow four EVs to charge. As the vehicles are parked for more than a day, they can be charged over a longer period of time which may lead to a reduction in demand.

C. Urban Parking Garage

Need: An urban parking garage near a residential area serves a combination of customers. Local residents' vehicles are parked for extended periods overnight and on the weekends. During daytime hours, the garage serves drivers parking all day for work and retail customers parking for shorter periods.

Solution: Install two dual-port Level 2 charging stations with integrated power sharing capabilities. A single EV connected to a station will charge at full power. When a second EV connects to the charging station, power will be shared between both EVs.

Example C

