Maximize the Value of EV Charging Stations with Low-Cost Strategies

Long-dwell parking locations with existing electric vehicle (EV) charging stations can optimize charging station utilization and maximize value for the site owner and EV drivers.

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

Visit nyserda.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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New York State Energy Research and Development Authority
17 Columbia Circle, Albany, NY 12203-6399

toll free: 866-NYSERDA
local: 518-862-1090
fax: 518-862-1091
info@nyserda.ny.gov
nyserda.ny.gov

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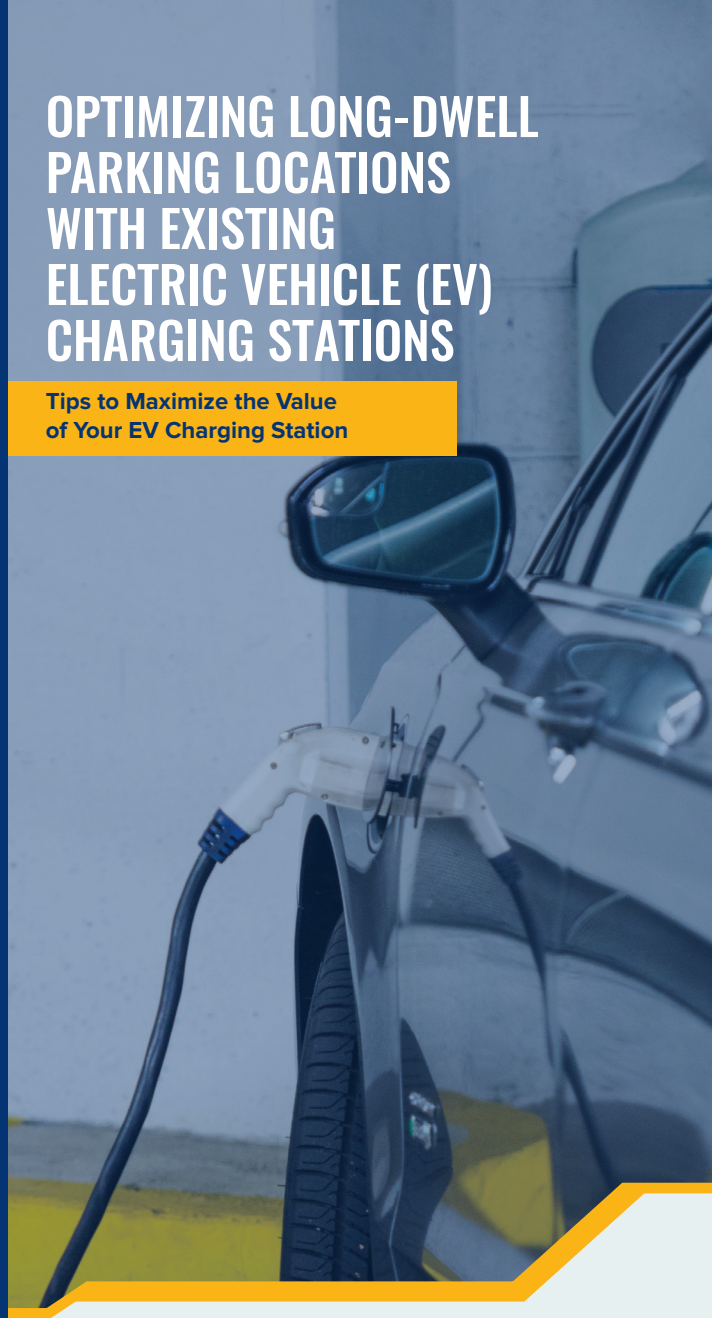
OPTIMIZING LONG-DWELL PARKING LOCATIONS WITH EXISTING ELECTRIC VEHICLE (EV) CHARGING STATIONS

Tips to Maximize the Value of Your EV Charging Station



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LOW-COST STRATEGIES TO MAXIMIZE EV CHARGING STATION UTILIZATION

STRATEGY 1 :

Manual Plug Switching

Reconfigure parking spots so that a single charging port can be accessed from multiple spaces. Implement policies that ensure access to the charging station, 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.

STRATEGY 2 :

Automated Load Management

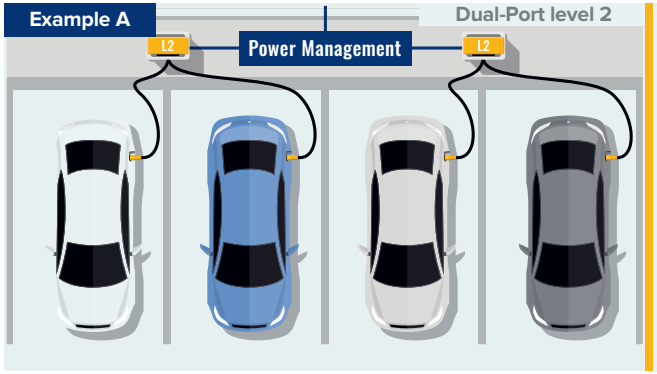
Install a load management system to regulate power distribution of charging stations based on demand. Automated load management systems can help make the most of the facility's electrical capacity by optimizing available electricity based on the vehicle's needs, reducing demand costs and enabling additional stations on existing circuits.

STRATEGY 3 :

Install More Low Power Chargers

The circuit for a single-port 6.6 kW Level 2 station can power two or more Level 1 stations or two 3.3 kW Level 2 stations. This allows more EVs to charge without increasing electrical capacity.

Example A



A. Multi-Family Dwelling Unit

Need: A common parking area for a multi-family dwelling unit currently has one dual-port Level 2 charging station. Charging is free to residents. As more residents drive EVs, additional charging ports will be needed but increasing power capacity is too expensive.

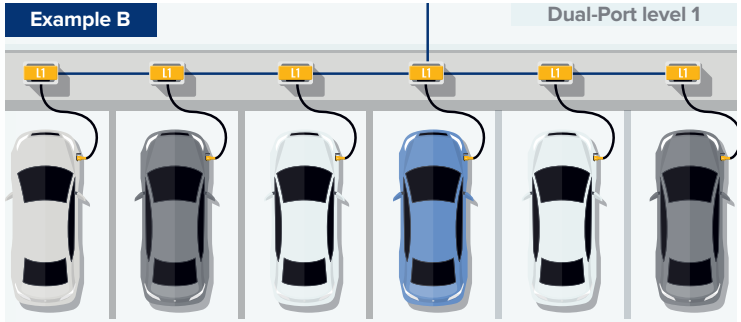
Solution: Using the existing power supply, install a second dual-port Level 2 station so four EVs can charge at once. Integrate an automated load management solution to regulate the charging stations and ensure the combined power used by the two charging stations can be served by the available electrical capacity.

B. Commuter Parking Lot

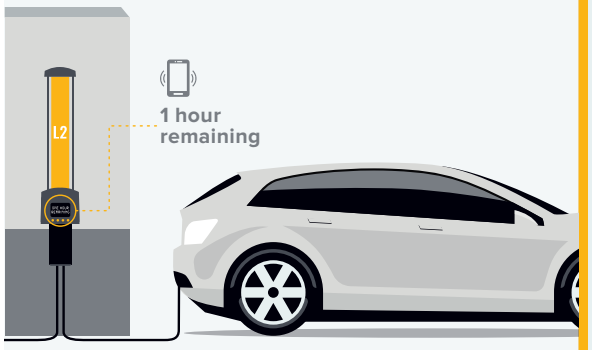
Need: A parking lot at a train station that regularly accommodates cars for eight hours or more has three single-port Level 2 charging stations. The charging stations are underutilized because the EVs are fully charged within three hours.

Solution: Replace the three Level 2 charging stations with six Level 1 charging stations. This will more effectively use the existing electrical infrastructure and provide more EV charging without increasing the electrical capacity.

Example B



Example C



C. Workplace

Need: Six Level 2 EV charging stations are installed in an employee garage at a large workplace. The company wants to increase the number of chargers to serve more employees, but has a limited budget and is concerned about increasing the peak electrical demand.

Solution: Establish a time limit on how long an EV can charge at a time or require drivers to move the EV once it is fully charged. This will allow more employees to access a single charging station and maximize the use of each station. Implement a communication system such as a shared calendar or sign-up sheet, to coordinate plug switching.