+ E-BOOK

How to Create a Driver-Friendly EV Charging Program — and Why It Matters for Site Owners

9-MINUTE READ

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From commercial and industrial enterprises to municipalities, onsite EV charging is becoming an asset for entities looking to decarbonize and future-proof their operations. But the success of an EV charging program is measured by more than just hardware uptime — it's defined by the driver experience.

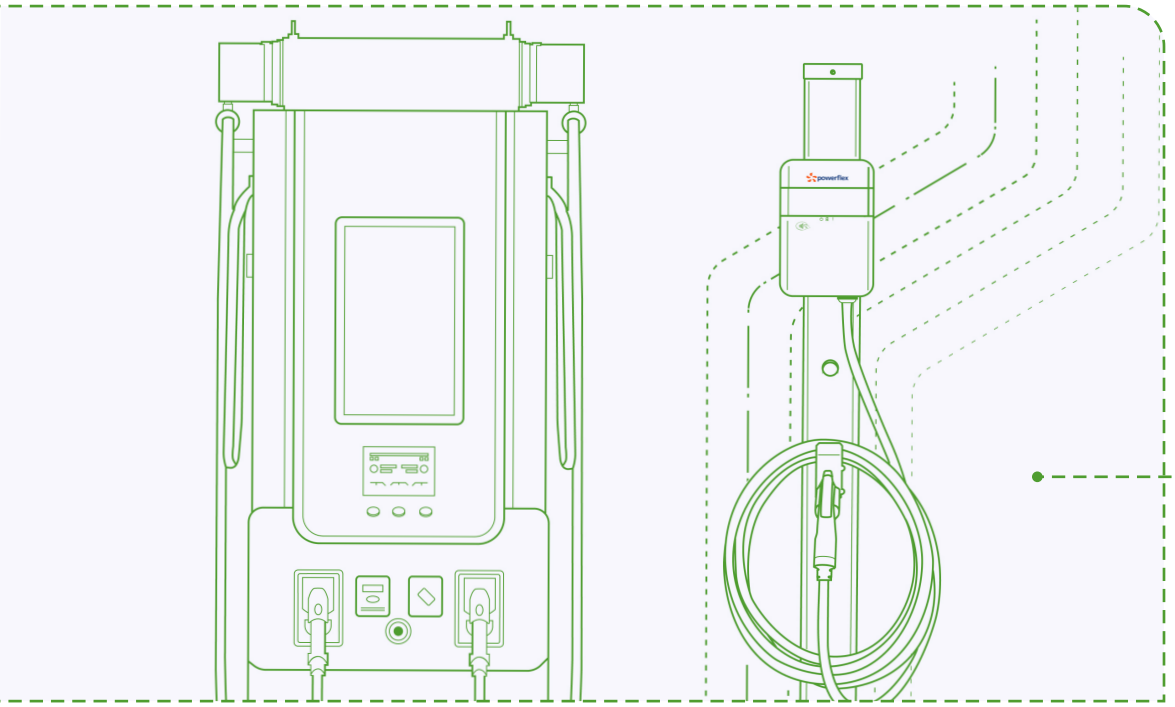
Installing EV chargers with user satisfaction in mind maximizes benefits across property types:

- **Retail locations** that offer seamless, convenient charging experiences attract high-value EV drivers, boosting foot traffic and revenue potential.
- **Workplaces** with charging stations reserved for employees can help attract and retain top talent who have already made the switch to electric vehicles.
- **Multifamily dwellings**, such as apartment complexes and condos, that are built or retrofitted with chargers can boost occupancy and property values.
- **Electric fleet depots** can save time and resources when implementing a smooth charging workflow for their drivers.

This e-book explores how PowerFlex helps organizations navigate the complexities of hardware selection, site design, billing, and intelligent load management to create a program that meets drivers' demands while protecting the bottom line.

Choosing the Right Infrastructure

The first hurdle for any site operator is determining how many chargers to install and what charging power to provide. A one-size-fits-all approach often leads to either underutilized infrastructure or frustrated drivers waiting for access. To strike the right balance, site owners must understand the technical capabilities of different charger types and the habits of the drivers who will use them.



Understanding Level 2 vs. DC Fast Charging

Level 2 (L2) chargers operate on 208- or 240-volt power and typically deliver around 25 miles of driving range per hour of charging. These chargers are widely considered the most cost-effective option for commercial deployments, particularly because they are less expensive to install and can serve a broad range of use cases.

In contrast, DC Fast Chargers (DCFC) offer significantly quicker charging speeds, often replenishing a battery to 80% in as little as 30 minutes. While this performance comes with higher installation costs, increased power requirements, and more complex infrastructure considerations, DCFCs can be essential in certain scenarios.

Matching Hardware to Driver Dwell Times and Demand

Choosing between L2 and DCFC is impossible in a vacuum. The number of EV drivers who frequent your property, as well as how long they tend to remain plugged in, are determining factors.

For example, in public and retail environments such as grocery stores or shopping centers, drivers typically remain on site for 30 to 60 minutes. In these scenarios, a combination of Level 2 chargers for incremental “top-up” charging and a limited number of DCFC units for faster turnaround can help meet diverse driver needs.

Workplace charging introduces a different dynamic. Employees often park for a full workday, which makes Level 2 charging the ideal solution. By deploying enough L2 chargers, drivers can remain plugged in throughout the day without needing to rotate vehicles, thereby improving convenience and in-office productivity.

But how many chargers are “enough?” Understanding local demand is key. In cases like public and workplace charging, conducting driver surveys or even simply observing how many EVs park on site on a typical day can help guide charger counts.

For use cases where charging is tied to set schedules, like in fleet operations, charging volume and driver patterns are more predictable. Most fleets benefit from Level 2 charging overnight, while strategically placed DCFCs can support vehicles that require quicker turnarounds during the day.

No matter your specific charging use case, an experienced EV charging solutions provider like PowerFlex can help you right-size your charging project to ensure driver needs are met not only in the short term but also as charging demand inevitably grows with EV adoption.

Charger Placement and Design

The location and design of the parking stalls where EV chargers are placed can greatly impact the driver experience. It can be a deceivingly strategic decision, as there are a number of technical and regulatory considerations at play.

Proximity to Facility

Whether they're residents in an apartment complex or employees in an office park, EV drivers will appreciate EV charging spots located close to the building. There's also a financial incentive for the site owner: The closer chargers are installed to your existing electrical panel, the lower your trenching and conduit costs. Less distance to traverse between charging stations and the building means less infrastructure is needed to run cables.

However, placing chargers in the most coveted spots near a building's entrance can lead to "ICE-ing"— when internal combustion engine (ICE) vehicles park in EV spots out of convenience. This can lead to unhappy EV drivers when they find an otherwise available charger has been blocked by a gas-powered car. Locating EV spots slightly further away or using clear signage can mitigate this conflict.

Accessibility Requirements

EV charging projects must comply with a range of regulatory and accessibility requirements. These vary by jurisdiction but play a critical role in ensuring that charging infrastructure is safe and equitable for all drivers.

One of the most important considerations is compliance with the Americans with Disabilities Act (ADA) and similar accessibility standards. In many regions, including states like California, a certain percentage of EV charging stations must be designed to accommodate drivers with disabilities. This includes providing wider parking spaces and accessible pathways, and ensuring that charging equipment — such as connectors and payment interfaces — is installed at appropriate heights and within reach.

As with hardware decisions, PowerFlex helps customers navigate charger placement and design considerations to ensure both regulations and driver needs are met.

Creating a Transparent Pricing and Payment System

If you plan to institute charging fees at your site, how the rates are structured and how drivers pay them can make or break the entire experience.

In terms of pricing models, the most common is energy-based (per kilowatt-hour) pricing. Drivers pay for exactly what they consume, mirroring the "price per gallon" experience of a gas station.

Energy-based pricing is viewed as fairer than time-based pricing — where drivers pay based on how long they charge — since energy-based pricing accounts for differences in charging speeds across EV models. It's also beneficial for site hosts, as it allows them to set prices that are more closely aligned with electricity rates.

To maximize charger utilization and convenience, it's wise to offer multiple payment options for drivers. Common methods include:

> **App-Based:** Drivers use a mobile app, such as the PowerFlex App, to locate available chargers, start sessions, monitor progress, and make payments.

> **Web-Based:** PowerFlex's Guest Checkout feature allows drivers to initiate and pay for a charge session in their mobile device's web browser, without downloading an app or creating an account.

> **On-Charger Point of Sale (POS):** Card readers at the station reduce payment friction and increase transaction speed by accepting debit and credit cards as well as mobile payment methods like Apple Pay and Google Pay.

> **Plug & Charge:** Based on the ISO 15118 standard, this allows an EV to communicate directly with the charger upon plug-in. Once the session is complete, the payment method linked to the driver's account is charged automatically.

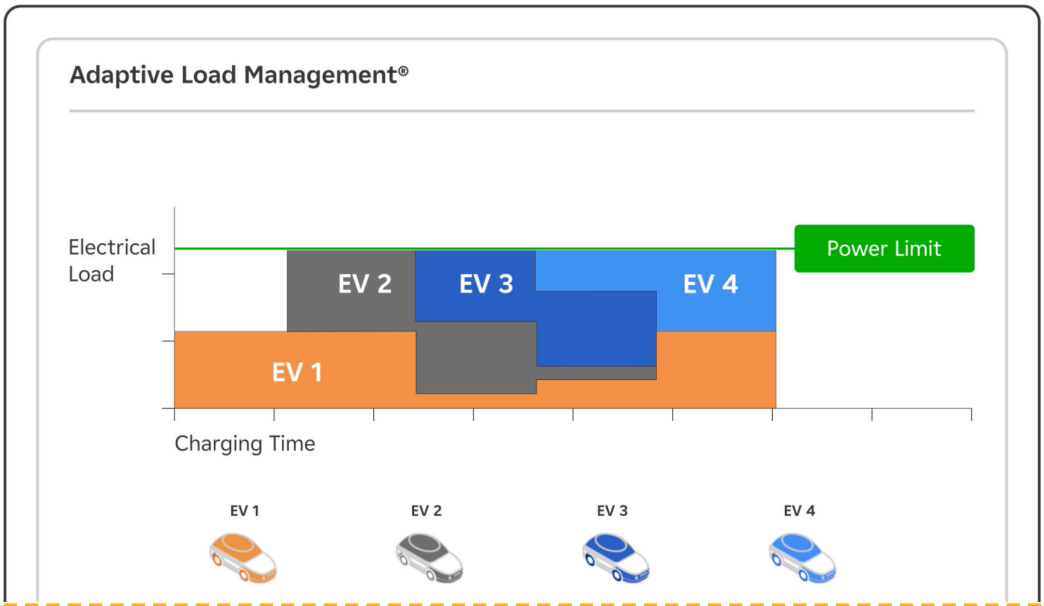
Deploying Effective Load Management

As a site owner considering EV charging, you might already be aware of the importance of load management. Without it, power can spike during periods of high charger utilization, resulting in expensive peak demand charges from the utility or even tripped circuits.

But good load management is just as important for drivers as it is for site owners — and exactly how the power is distributed can make all the difference.

Some load management systems divide available power equally among all chargers, while others dole out power based on the order in which vehicles arrived. While these methods keep power within the site limit, both fail to account for drivers' needs.

In contrast, the PowerFlex X™ software platform, with its patented Adaptive Load Management® (ALM) technology, dynamically allocates power to individual chargers based on drivers' anticipated dwell times, which are entered into the PowerFlex App. EVs that will leave sooner are charged more quickly than those that will be plugged in for longer. This ensures more drivers can get their desired energy level.



When charging load is adaptively managed this way, 6-10 times more charging ports can be installed than with conventional charging methods, increasing the likelihood that any driver who needs to plug in can.

The best part for site owners is that this scalability is cost-effective. Since ALM uses power more efficiently, most sites don't require expensive infrastructure upgrades — reducing implementation costs by up to 60%.

By focusing on hardware mix, strategic placement, transparent billing, and intelligent software, site owners can ensure their EV charging program caters to drivers and keeps them coming back.

Talk to a PowerFlex expert today to start designing your system.

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About PowerFlex

PowerFlex is a clean technology solutions company making the transformation to carbon-free electrification and transportation possible. Our energy acceleration platform PowerFlex X™ monitors, controls, and co-optimizes onsite assets like EV chargers, solar, energy storage, and microgrids — reducing overall energy costs through patented algorithms that maximize distributed energy resources.

PowerFlex is the second-largest installer of commercial solar in the United States, with over 500 megawatts (MW) of total solar capacity plus 50+ megawatt-hours (MWh) of battery energy storage. Combined, our solar and energy storage projects offset 460,000 metric tons of CO_2 each year. We also manage more than 70,000+ EV chargers nationwide, making us the second-largest EV charging provider in the U.S. in terms of Level 2 port management.

PowerFlex is backed by EDF power solutions and Manulife Investments.

Visit powerflex.com for more information, and connect with us on LinkedIn and YouTube.

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