



SIMPLIFYING THE EV CHARGING EQUATION

By Michael Nichols

The statistics are compelling and the pressures are mounting: It's almost a foregone conclusion that at some point in the future, your facility will add electric vehicle (EV) charging capabilities. In other words, it's not a matter of if, but when, your facility will adopt EV charging.

The worldwide growth rate for EV charging is projected to be 31 percent compounded annually through 2020. By then, today's \$2 billion charging industry will eclipse \$7 billion. The explosive rate of growth is fueled by a variety of factors, from sustainability concerns to gas prices, and as those prices continue to increase, there will be growing consumer pressure to purchase EVs.

The Five Pressures

There are essentially five strategic and operational EV charging pressures parking facility owners/managers face:

- **Consumer pressure.** Greater proliferation creates the need/opportunity to retain and attract customers by being among the first to offer EV charging.
- **Corporate/campus green initiative.** Campus parking owners may have a mandate to embrace sustainable measures.
- **Altruism.** There is a keen sense of commitment to do what is right for the environment.
- **Availability of rebates.** Economic incentives can be applied to the installation of EV charging units, but the timing of those incentives may be limited.
- **Vendor pressure.** Parking management is consistently bombarded by sales representative pressure.

Which Level?

There are three levels of stations that can be installed and operated. The difference in the levels is the power supply required, output capability, and the time it takes to fully charge a vehicle:

- **Level One** requires a 120V, 15–20 AMP circuit. Ideally each EV charger would have a dedicated circuit; if not, the charge dispensed should be no greater than 8 AMP. If on a dedicated circuit, a 12 AMP charge can be dispensed.
- **Level Two** requires a 240V, 20 AMP circuit that must be dedicated for each charger installed. Full charging times are generally half as long as for a Level One charger.
- **Level Three** requires a 500V, direct-current circuit. Full charging can take as little as 30 minutes.

How Many?

Level One chargers are the least expensive to buy and potentially the easiest to install. They also take the longest amount of time to fully charge a vehicle—up to eight hours. As a result, the parking owner/manager who wants to offer 12 stations will need to buy 12 chargers. Level Two and Three chargers, because of their power output, take significantly less time to charge a vehicle. These chargers can be clustered and support multiple parking spots at once, potentially contributing to reduced capital expenditure and installation costs. It may make sense to offer more EV charging capacity today so you are ready for tomorrow.

Hidden Costs

One of the most important and potentially expensive considerations is power and wiring. The most prudent installation requires a dedicated electrical circuit for each EV charger. Considerations include:

- **Distance to service panels.** Running conduit from the EV charging locations to the service panel can add significant costs. Clustering EV charging stations as closely as possible to your electric panel can decrease costs.
- **Service capacity.** If there is little or no capacity, there could be significant additional costs involved in purchasing and installing a larger (or second) service panel.
- **Full or self-service.** Consider whether the EV charging spaces will be self-serve or whether you will need to deploy additional personnel to help manage the system and prevent squatting.
- **EV charging payment.** Accepting payments brings an entire level of complexity to the EV charging issue—communication wiring, credit card acceptance, PCI compliance protocols, etc.

Embracing and adopting new technologies can be exciting and provide a distinct marketing advantage and client support mechanism. At the same time, cost is an important consideration. Once the decision to install EV charging has been made, it is important to weigh the various costs that will be involved and determine how some of the costs can be minimized to provide the greatest benefit for parking customers and ownership. **P**



MICHAEL NICHOLS is executive vice president, parking, with NEXT Parking, LLC, and a member of IPI's Consultants Committee. He can be reached at mnichols@nextrealty.com or 703.442.8809.