





POWER STRUGGLE

Charger squatting is coming to a space near you.

Are you ready?

By Kim Fernandez

IT HAPPENS ALL THE TIME: Driving down the road, you glance at your fuel gauge to see it's nearly empty. You pull into the gas station, line up behind the car at the pump, and see there's nobody there actually pumping gas. Maybe that driver is in the convenience store or the restroom or off wandering the neighborhood—who knows? But they're not refueling; they are blocking the pump, heaven only knows how long they'll be gone, and you still need gas.

Frustrating? You bet. Now transfer that scenario to a parking garage or lot, swap out your SUV for a Nissan Leaf, and picture that gas pump as an electric vehicle (EV) charger that's blocked by a car that's not charging. The owner could come back in an hour or a day. There's no way to tell. But it's the only charger in the facility, and you need it.



The City of Santa Monica installed signage on its EV charging stations with time limits and other regulations.



FRANK CHING

Parking a non-charging car at a charger for hours or days is called “charger squatting,” and the resulting anger that builds up in a driver who needs it has been christened “charger rage.” Both are growing problems that will affect parking professionals if they haven’t already.

The world is going greener: Wind turbines dot shorelines, recycling bins are as ubiquitous as trash cans, plastic bags are going the way of the dinosaur, and our cars are increasingly plug-and-play. That last one makes a lot of sense. Even with ranges being relatively limited for the moment, it’s easy enough for most people to drive to work and back on a single electrical charge, reducing gas and oil use and slashing emissions.

Until, that is, a driver reaches his destination and can’t find a charger. At that point, anxiety kicks in—how will he get home? What if a plug never appears and he’s stuck? Why didn’t he choose somewhere else to park?

Experts say there are 400,000 electric vehicles on the road, and while that’s not an enormous number relative to the total number of cars being driven, it’s expected to increase exponentially in the coming years. While most drivers will likely charge overnight at home, many will want (or need) to plug in at work, the airport, or in municipal lots at various destinations that are more than halfway through their car’s travel range.

The parking industry has largely embraced EV charging stations, encouraging patrons to use their EVs by installing chargers in premium spots in all kinds of garages and lots, offering them at little or no cost, and trying to make getting around as simple as possible for those who drive plug-in cars. It’s a good business decision that helps bring those drivers back to their facilities over and over again, and it helps cement a parking facility’s standing in the community. But when drivers squat at chargers, either with gasoline-powered vehicles or with fully charged EVs, the nice gesture can take a turn for the worse.

As EVs become more popular, squatting grows as an issue. Those who’ve already dealt with it say it’s still fairly new ground, but there are some ways to discourage parking at chargers when a vehicle isn’t actively charging, without discouraging use of EVs or parking facilities.

California

A hotspot for EV sales is southern California, which was one of the first areas in the U.S. to handle their relatively widespread use.

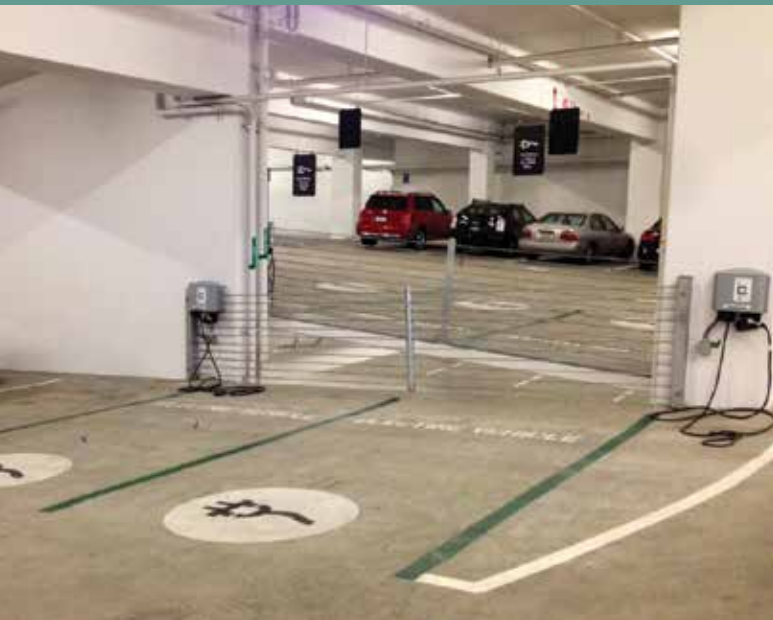
“The EV population grew rapidly in southern California,” says Frank Ching, city parking administrator, City of Santa Monica, Calif. “As a city, we embrace sustainability. Santa Monica EV populations grew even quicker than in the rest of the state, and as the population grows, EV charging stations’ demand is no different than parking demand.”

Santa Monica offers 70 EV chargers in its downtown, and Ching says rare is the day that passes without a request for more from drivers. Because most chargers are free to use, he says, they’re very popular.

“EV users take advantage of charging their cars in public facilities,” he says. “What’s better than driving your own car without paying for gas? Parking habits also create the problem of chargers being used the entire day. Most of us park our vehicles and go to work for the day without moving our cars. What’s better than leaving the charger on while you work and going home without needing to charge again?”

The City of Beverly Hills has experienced a similar phenomenon. Chad Lynn, CAPP, director of parking operations, says while squatting isn’t a huge problem, expecting workers to move their cars after a few hours of charging is a challenge.

“There’s a charger in the City Hall parking lot,” he says. “Members of our police department tend to have long commutes and come in at 5 a.m. They’ll connect to a machine and then be gone until 6 at night. So while the car is charged in three hours, the police department employee can’t come



back and move it for maybe 11 or 12 hours.” Because those officers are frequently out on patrol for that entire time, he says, it’s a bit of an impossible situation.

In other areas, though, perceptions of rudeness create their own problems. “In some places,” says Lynn, “a charger serves two spaces and you can just unplug it from one car and plug it into the other. But some vehicles have locks that lock the charger on. We’ve actually had situations where someone’s cut the lock off, and situations where the charger says a car’s completely charged, another driver disconnects it, and there’s an altercation between the two drivers because the first one’s been unplugged.”

There’s no question that tempers can flare when an EV driver can’t park in a designated spot because of squatters. The issue, then, is how parking professionals can work to end squatting without alienating EV drivers. There are different solutions working for different organizations.

Cooperation

Ann Arbor, Mich., has a lot of EV drivers and a very active community within that group. “We put in 18 chargers,” says Stephen Smith, Republic Parking System, Inc., Ann Arbor. “Initially, they were tied to a new parking garage we were building, but we thought it was silly to put all of them in one garage. We spread them out to maximize exposure, and it’s really paid off.” Chargers are free to use, but users must pay regular parking fees for the lots and garages that house them.

“Ann Arbor is unique in that it’s an early-adopter town,” says Smith. “A lot of people have Volts and Leafs; I can’t believe how many EVs there are here. Use of the chargers is phenomenal. People love them.”

That could mean problems with supply but for one thing: The EV drivers in this city are expert communicators.

“There’s a lot of camaraderie among our early-adopter users,” says Smith. “They’ve developed forums and a real online community. There is this rapport among our

EV owners, and they’ve very cognizant of when their vehicles are charged.”

Republic adopted an online system that lets users see which EV spaces have charging vehicles in them and which ones are open at any given time. Plans are in the works to let those waiting for chargers receive live notifications when a space opens up, too.

All that said, the occasional gasoline-powered vehicle does get too comfortable in a charging space and enforcement is necessary. Drivers receive a friendly warning notice on their first offense that explains eventual boot or tow consequences of noncompliance with regulations. Subsequent offenders are booted or towed; Smith, who calls the booting program “pretty vigilant,” says there are almost never second offenders.

“People do come out on their lunch hour and move their cars,” he explains, adding that moving a plug from a charged vehicle to one that needs more juice hasn’t been an issue. “We haven’t had anyone complain,” he says. “This is a pretty easygoing community here. They’re geeks about their EVs, and they really like their cars. They tend to be tech-savvy, and they all know the drill. Occasionally, someone comes from out of town who doesn’t know how charging works here, but by and large, people treat each other pretty respectfully.”

So far, he says, he hasn’t had to set rules about moving cars when they’re fully charged, but he’s not against doing that. “We get a lot of feedback from our EV customers,” he says. “It’s generally positive. The issue we have is people who say they love the chargers but they’re in use.”

Making It Clear

Airports face their own challenges when it comes to chargers and EV spaces. Rick Decker, CAPP, assistant manager of parking operations at Minneapolis/St. Paul International Airport, says his department installed 14

ELECTRIC VEHICLE CHARGING STATION PROCEDURES

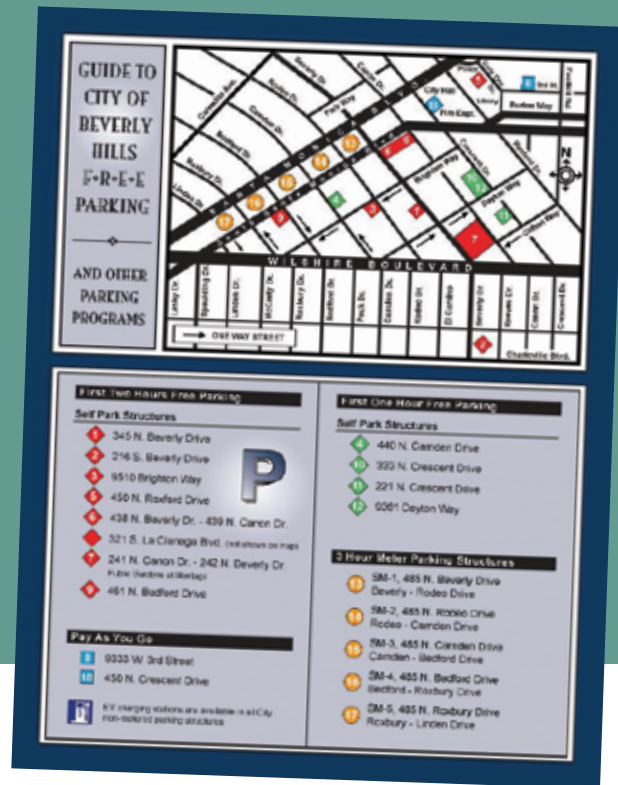
Please Read The Following:

- EV charging station stalls are only for the purpose of charging vehicles. Vehicles must be moved from the charging station within one hour after reaching a full charge. Unmoved vehicles will be subject to citation, tow, or, if a repeated violation, forfeiture of parking privileges.
- Patrons cannot lock, or in any way convert, the charging cable for their exclusive use.
- Any vehicle parked in a charging stall without the charging cable connected to the vehicle in charging mode, is subject to citation, tow, or, if a repeated violation, forfeiture of parking privileges.
- No unauthorized vehicles (non EV cars) may park in an EV station stall. Unauthorized vehicles will be subject to citation, tow, or, if a repeated violation, forfeiture of parking privileges.

If You Have Any Questions Please Call 310-288-2699
 C.V.C. 22511.1 (A) C.V.C. 22511.1 (B) B.H.M.C. 7-3-107

The City of Beverly Hills installed explicit signage that explains who can use EV charging spaces and how they can be used.

Beverly Hills modified its parking guide to note that EV chargers are available in all non-metered city parking structures.



that's accurate enough that when the owners call, we can tell them which space their cars are in," he says. "We also let the police department know where the cars are in case owners call them first to report their vehicles stolen."

Decker's users, like those in Ann Arbor, have established a community that helps keep chargers open. "This community talks to each other," he says. "We've had very few complaints about not being able to find an EV spot."

Discouraging Squatters

Some areas have established shorter time limits on EV charging spaces. Boulder, Colo., for example, only permits EVs to park in the spots while actively charging and only for four hours at a time. Overstayers risk a \$50 fine.

Beverly Hills drivers aren't supposed to stay in the city's 36 EV spots if they're not actively charging, but so far, that rule hasn't been enforced. The city is currently considering more overall time limits on EV spaces.

"The biggest challenge is in a commuter lot," says Lynn. "If I take my 30-mile drive into town, I park and connect, and I walk four blocks to my office, how do I get back to the lot to move my car? Do I have to use my lunch break? How much time is enough—is it two, three, or five hours? And what happens if I work through lunch that day because something came up?"

Another challenge, he says is for monthly parkers who pay for the convenience of a guaranteed spot. "So because I have an EV," he asks, "I'm actually penalized and I have to move my car around?"

He's thinking of an extra fee for active charging, but even that's not simple. "Right now, it's offered for free," he says of EV charging. "Even if it's a modest fee, people will only connect when they need to charge. If I'm using a dollar to connect, that's more than I pay at home so I'm really only going to charge if I need that to complete my day. I'm not going to top off like I do when it's free."

charging spaces across three different facilities 16 months ago, and the biggest issue they have is with non-EVs parking in the spots. "People tend to be in a hurry and they tend not to look at signs," he says. "Sometimes, they just don't care because they need to get where they're going and sign a business deal. We don't want to bump customers to our [off-site] competition, so we've adopted a program to make sure our signs are very clear."

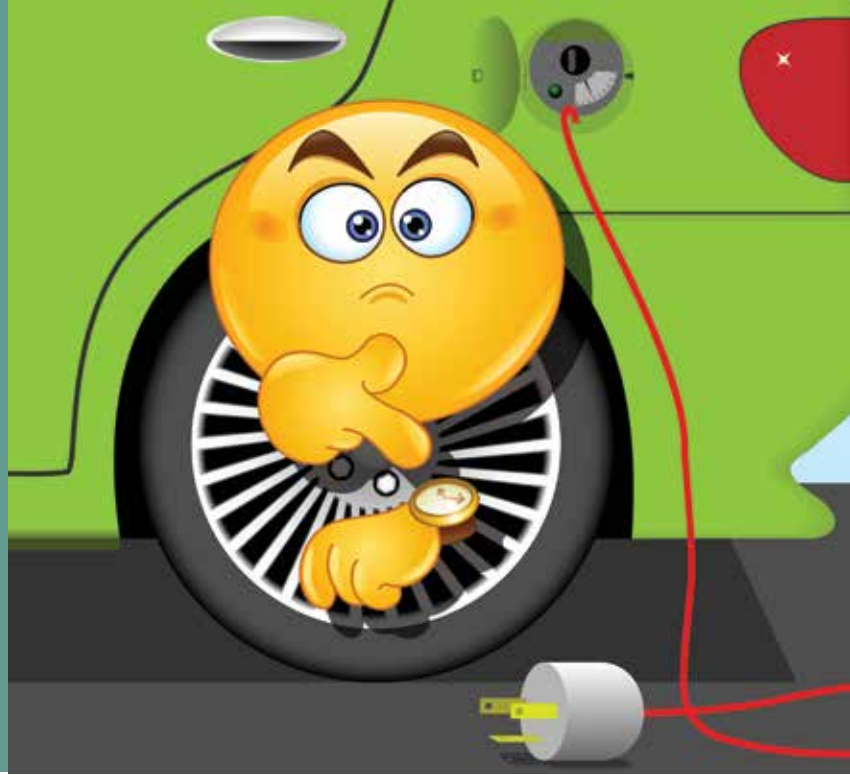
He finds that EV-only signs on the chargers themselves are essentially worthless for his airport garages. Instead, his department installed signs that run across four spaces at driver's-eye height that make it very clear the spaces are only for EVs. Green paint across the front of the spaces also helps.

"What really worked was having our parking management company go through there a few times per shift and put soft parking tickets on the cars," he says. "They look like parking tickets and scare you when you see them, but there are no financial consequences and the police are not involved." That, he says, was enough to get the attention of most gasoline-vehicle drivers and get them to park elsewhere. EVs can use the spaces even if they're not actively charging.

"The other thing we did is that while the EV spaces are relatively convenient to the front door and the elevators, they're not in an area everybody is walking through," he says. "They're not as convenient or easy to find as handicapped spaces." Because they're not on the first floor or directly at entrances, he says, the temptation for non-EV owners to snap them up isn't as high as it might be. A department-designed logo of a car with a plug was printed on signs that are used as breadcrumbs for EV owners to find their spots.

Finally, he says, his enforcement officers have towed a few cars from the EV spaces, but left them in other spots in the garage just to send the message. "We have a license plate identification system

“Most of us park our vehicles and go to work for the day without moving our cars. What’s better than leaving the charger on while you work and going home without needing to charge again?”



He’s also considered a sort of valet service where an attendant would swap charged cars for those that need to plug in throughout the day, but there’s a lot of liability there.

Part of the supply problem, he says, is like any municipal parking: There may be spaces free but not in the exact location people want them at that second. “We have available chargers, but they may not be in the 10 square feet that’s most convenient for you. We’re not going to put 12 in one location. So the guy who has to plug in to get home will walk the extra block, pay a buck or so, and connect. The person topping off is going to let us know he’s not pleased we didn’t have a space right there, but it’s not going to affect his trip.”

Lynn says Beverly Hills installed its first chargers in 2011 and quickly figured out it had a learning curve with supply-and-demand issues. “When we started with this, there wasn’t as much competition for the spaces and we tried to be as lenient as we could to encourage their use,” he says. “That changed to, ‘Wow, we really need regulatory signage here because we’re having a problem.’” Signs were posted explaining towing penalties, and squatting by gasoline-vehicle drivers stopped.

“We towed one vehicle and cited about 10,” he says. “At its best, I would call it an education process.”

Limiting Time


Ching says in Santa Monica, a simple time limit on chargers has helped ease the crunch to use them. “A typical EV should be able to charge enough to get to the next destination in two to three hours,” he says. “In our off-street structures and lots, EV chargers have three-hour limits and EVs must relocate to regular spaces or depart after that time. The policy is strictly enforced by our enforcement team, and any user who stays more than three hours will receive an over-time-limit citation.”

He’s also investigating a fee for charging time, both to recoup the cost of EV charging equipment and to encourage use by those who need to charge instead of those who just want somewhere to park.

One novel solution is being tested at the University of Massachusetts Medical School, which recently installed two level-2 chargers and two trickle chargers for employee, faculty, and student use. “We use Outlook to schedule our meetings, so we created a resource for it for each EV parking space,” says Melissa Lucas, university sustainability and energy manager. “You use the system to schedule meetings in specific rooms, and this is the same thing, but you’re scheduling a specific parking space.” Requests made online go to the parking office, which can accept or deny them based on availability. Reservations are taken in three-hour blocks. “That’s enough to charge most vehicles,” Lucas says. “That should get anyone back to their house.”

The spaces sit in a lot across from the parking office, which makes enforcement of time limits easy. Lucas says a survey conducted last year showed 25 EV drivers among the university’s 4,000 faculty, staff, and students. The spaces were put into use during the summer, and it’s not yet clear how the reservations system will pan out in terms of keeping spaces open and available.

Car manufacturers say ranges will improve with time. At the same time, charging equipment technology will change too, and it may get easier to let multiple cars charge on single units. Some parking professionals say that in and of itself will help ease the problem of squatters in EV spaces.

“If we’re really adopting a customer-centric approach,” says Lynn, “we’re going to end up with some way for a multi-car machine or an attended system. I’m not sure how we’re going to get there, but it’ll happen.” 



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