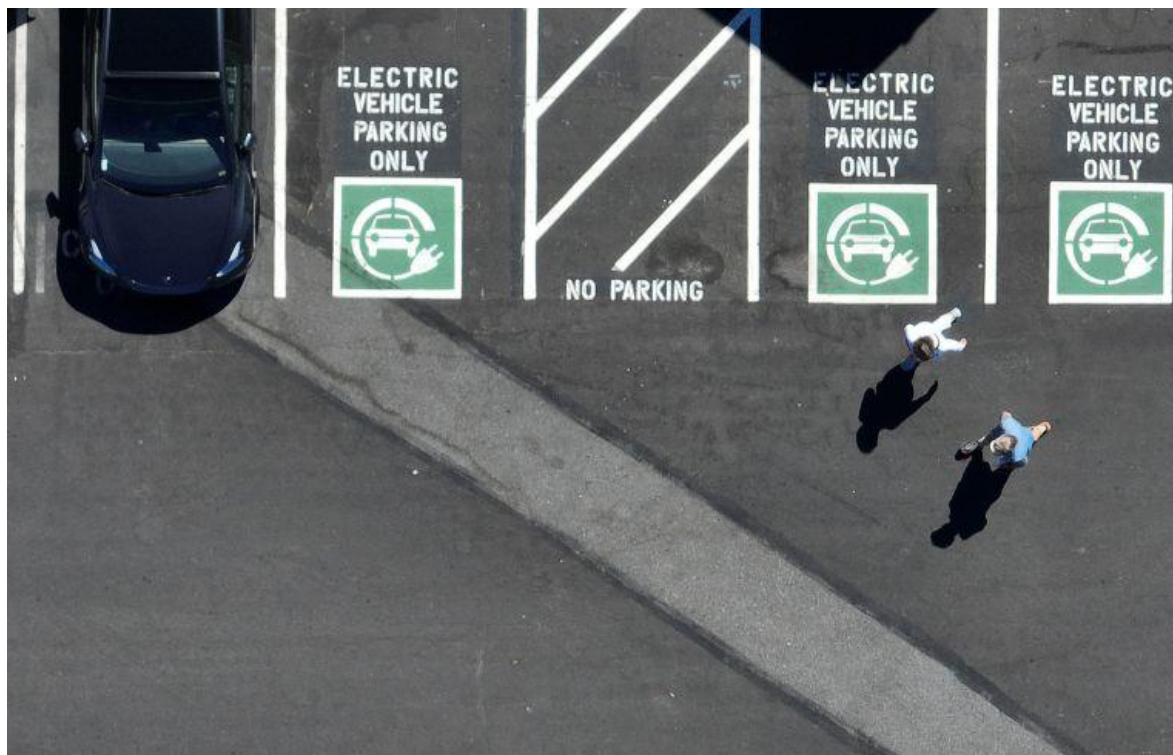


EV Charging Stations at Airports Take Off

There is some turbulence — not least, fitting everything — but the growth blends with the general trend in more convenient options

By [Philip Russo](#) December 24, 2024 10:00 am



Pedestrians walk through an electric vehicle charging station lot. PHOTO: Justin Sullivan/Getty Images

Consumer demand for electric vehicles may be accelerating, but the effort to provide enough EV charging stations is still trying to get out of first gear.

Landlords, utilities, government entities and transportation hubs are all wrestling with the choices and challenges of providing the infrastructure for EV charging stations in locations where drivers need them most.

The latest locations gaining momentum are airports, as can be seen from the [announcement](#) earlier in December that [Revel](#), a Brooklyn-based EV charging infrastructure company, signed a 10-year, 10,000-square-foot lease with the Port



Authority of New York and New Jersey to provide 24 new fast-charging stations near John F. Kennedy Airport for for-hire and private electric vehicles, including ones that are in fleets. The lease marks the second deal of its kind between the Port Authority and [Revel](#), following a similar arrangement at LaGuardia Airport.

Revel's deal is by no means unusual as airports ramp up their supply of EV charging stations, said Joe Romano, an electrical engineer and associate partner who focuses on airport infrastructure for mechanical engineering company [Syska Hennessy Group](#). Romano is part of the team working on Chicago's O'Hare Terminal Area Program (TAP), which includes the rebuilding of Terminal 2 and a new global terminal, as well as a tunnel for people, baggage and utilities that connects the entire project.

"I see it on two fronts," Romano said of EV charging at airports. "One is obviously chargers for the public, for your Teslas and things of that nature. But we're also seeing it on the ground-service equipment side on the airfield. So, the tugs [vehicles that push back planes and move luggage carts], for some of the ramp vehicles themselves, EV charging is needed there. It's two different types of EV charging, but we're seeing quite a bit of that. There's all kinds of infrastructure that has to go in with it."

In addition, airport rental car facilities are trying to provide more charging locations as they offer EVs as part of their fleet, said Romano. "We're also seeing it on the bus side of things. Some airports are looking at electric buses that shuttle you to and from the terminal, and between the terminal and long-term parking or the rental car facility. So it's a wide range that we're seeing, and we're seeing more and more of a demand for it in our projects."

Many roadside locations provide what are called Level 2 charging stations that are sufficient for most drivers' power needs, but airport venues also require higher-level charging.

"It's a mix," Romano explained. "In some instances they do have some Level 3's, where they may have a quick turnaround, but if you think about long-term parking where you're going to park your car at the airport for two days, you don't need a Level 3 charger, Level 2 is just fine. It can take eight to 12 hours to charge, but you've already got the spot."

Whatever chargers are installed, airports and utilities are finding the increased energy demand on their electrical grid to be daunting, said Romano. "There's all of this demand on the grid coupled with what we see in the data center world," he said. "How do you support all of that? It's challenging."

Level 3 chargers require more hardware and physical space to provide a higher level of charging power, said Tiya Gordon, co-founder and COO at Brooklyn-based [Itselectric](#), a public curbside EV charging hardware startup.



“The difference between a fast-charging system and a Level 2 charging system like what we do here at [itselectric](#), is that we only require a very small footprint, 8 inches by 8 inches,” said Gordon. “And we’re using the public curbside because our power source is from the building that’s adjacent to it. So we’re not having to build in transformers and substations to power these chargers. We’re using capacity that’s already in neighborhoods. This is what allows us to put chargers out in a very minimal way with low-impacted communities in terms of aesthetics and visibility of those chargers.”

Although Itselectric is not involved in transportation hubs, Gordon sees the need for multiple vehicular EV charging options at airports.

“If you think about it in terms of the cohorts of drivers, you want to think about rideshare drivers and private drivers,” she said. “For fleet drivers, they’re actually going to need those public transport spaces as options for them to be able to, quote, refuel their electric vehicles, buses, as well. Obviously, given the size and the footprint that a bus would take up, that depot solution is going to be critical for charging electric buses. So we need all of the above. We need these private property solutions as well as public curbside solutions.”

The infrastructure cost of Level 2 and Level 3 chargers is also a big challenge, as the current flow chargers in New York City, which are Level 2, cost ConEd approximately \$200,000 each, said Gordon. Level 3 stations cost \$200,000 to \$300,000 due to the required hardware, transformers, substations and installation, said Gordon.

“Those costs are either borne by the individual private company, or it’s shared with the private property holder, such as JFK, or it’s shared with the city or with the utility,” she said. “The headline there is that it’s a double-edged sword when you have a high cost of hardware plus the cost of the real estate that you’re in-camping on.”

To Jeff Allen, executive director at [Forth](#), a Portland, Ore.-based nonprofit that seeks to increase equitable access to electric transportation, the driving force (pun intended) behind the need for Level 3 chargers at airports is fleet drivers.

However, some airports don’t understand the differing EV charging needs of private and fleet drivers.

“There’s a bunch of airports early on that put in Level 2 charging in short-term parking lots,” said Allen. “Typically, a car is going to be fully charged, even if it was empty when it got there, in maybe four to six hours. Most people who park in that lot are there for two or three days. So you’ve just paid for an expensive piece of infrastructure that’s going to be monopolized by somebody for 10 times the amount of time they really need it. That’s not really smart, not very efficient, nor cost effective.”



Allen points to what the Portland airport did right early on: Installed in its extended-stay lot a row of just Level 1 posts, which are essentially just electric outlets.

“They’re free when you’re parked there because those kinds of chargers will give your car, if you’re there for three days, maybe 200 miles of range,” Allen said.

“But it’s really cheap infrastructure, so it doesn’t cost much to put in 30 of them, and, if people are monopolizing them, so be it. That’s versus Level 2 chargers that are in short-term lots in a lot of airports, where you’re typically paying a fair amount of money to use them, so either people don’t need them and they won’t pay the money; or they do need them, but then they’re sitting there for 10 times longer than they need to be.”

In contrast to placing EV stations at transportation hubs, [ChargePoint](#), a Campbell, Calif.-based software provider for networked EV charging, has a wider business plan, albeit one that does include airports.

Last week, [ChargePoint](#) announced plans to collaborate with General Motors to further accelerate EV infrastructure growth in the U.S. The companies want to install hundreds of ultra-fast charging ports at strategic locations nationwide, which they claim will feature the latest innovations in EV charging to improve access to chargers and help drivers get back on the road faster than ever. ChargePoint and GM intend for the locations to be opened and available to the public before the end of 2025.

“The types of locations that we would deploy these at, along with our charging station owner-operator partners, would be in high-traffic areas, with amenities on site,” said Aneesh Padalkar, senior director of strategic partnerships at ChargePoint. “Locations such as quick-serve restaurants or retail locations, and so on — places where EV drivers on their journey are looking to charge their vehicles, but are also in that location for a period of time, 20 to 45 minutes, and are looking to do things while their vehicle is charging.”

With more than 329,000 active ports, including more than 31,000 DC fast-charging spaces already under management on its U.S. network, ChargePoint does see future expansion into transportation locations, said Padalkar.

“We are absolutely deploying at airport locations in collaboration with other partners on the fleet side,” he said. “We have many such deployments already completed and we will continue to do that.”