The New York Times https://www.nytimes.com/2024/11/18/business/ev-chargers-store-parking-lots.html

SQUARE FEET

For Decades, Installing E.V. Chargers Didn't Pay Off for Retailers. Now It Does.

Companies see charging as a potentially profitable business in and of itself, not just as a spur for foot traffic and sales.

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Nov. 18, 2024

Sarajane Leary knows what to do when her electric car is low on power: She goes grocery shopping.

On a recent afternoon, Ms. Leary plugged her Toyota bZ4X into a fast electric vehicle charger in the parking lot of a Hannaford supermarket in Altamont, N.Y., and then headed into the store for paper goods and potato chips.

"I'll get a 50 percent charge while I'm here," she said.

The time — and money — Ms. Leary spends in a store while charging her car is exactly the kind of thing retailers, shopping centers and malls bet on when they started installing E.V. chargers decades ago. For years, their experience was mixed, and the actual benefits were unclear.

Now, new studies say retailers' charging efforts may well be paying off: One peer-reviewed study by researchers at Boston University and the University of Wisconsin-Madison published this year looked at the impact of nearly 1,600 Tesla Supercharger stations in more than 800 U.S. counties and found a 4 percent

increase in monthly visits for retailers within 200 meters of chargers after they were installed. The effects were most pronounced for retailers within 150 meters. The researchers also found a 5 percent increase in spending.

Another recent study, published in Nature Communications, analyzed data from California, where E.V. ownership and charging infrastructure are more widespread than in other states. It found that installing chargers brought more modest increases in foot traffic and spending but that public E.V. stations "tend to attract higher-income, exploratory visitors and local residents," and in low-income areas they "enhance businesses."

Some companies — notably Walmart, the largest retailer in the United States — are seeing charging as a potentially profitable business in and of itself, not just as a spur for foot traffic and sales. They have begun building charging stations under their own brand names rather than relying on providers that lease a part of their parking lots to install and maintain the stations.

"Companies are beginning to see charging as something that can potentially help the bottom line," said Graham Evans, a director at S&P Global Mobility, an automotive market research firm. "It's going to become more ubiquitous rather than a token gesture."

EVgo has begun to experiment with a prefabricated model of a charger, first installed at a site in League City, Texas, in March. Richard Beaven for The New York Times

The embrace of charging comes as more Americans — many of whom are worried about a warming planet — trade in their gas-powered cars. In 2023, 1.4 million plug-in electric vehicles were sold in the United States, more than 9 percent of all car sales that year and an increase of over 50 percent from 2022, according to Argonne National Laboratory, a federally funded research center. And although the growth of E.V. sales has slowed this year, an estimated 346,309 of the vehicles were sold in the third quarter, nearly 9 percent of sales, according to Cox Automotive, a market research firm. (It is too soon to say what impact Donald J. Trump's election will have on sales, but during his campaign he vowed that if he became president he would end the Biden administration's policies that encourage E.V. manufacturing and sales.)

Some of the slowdown in E.V. sales this year can be chalked up to drivers who hesitate to trade in their gas-powered cars because of concerns about E.V. charging infrastructure, which has grown more slowly than E.V. sales. Broken chargers have been a problem: One in five ports does not work when motorists pull up, according to recent research led by a Harvard Business School fellow.

In total, over 200,000 public chargers are spread across about 74,000 stations, but more than a million public chargers will be needed by 2030 to keep up with E.V. sales, researchers at the National Renewable Energy Laboratory have estimated.

Even with the Biden administration's $5 billion plan to fill in the infrastructure gap, a robust national network is still years away. Under that plan, states are required to submit proposals for charging operators and site hosts. Nearly 60 percent of the grants have gone to fuel and convenience stores, rest stops and service plazas, according to EVAdoption, a data and analytics firm. Still, only one in every 14 big-box locations offers charging, while one in every 15 grocery stores and one in every 40 department stores do, a Consumer Reports analysis found.

Retailers are embracing charging as more Americans, many of them worried about a warming planet, trade in their gas-powered cars. Richard Beaven for The New York Times

For many retailers, charging deficiencies present an opportunity: Truckers, ride-hailing drivers and people on long-distance trips rely on public chargers, as do the 5 percent of E.V. owners who are not able to charge at home, many of whom live in apartment buildings and park on the street. The most frequently used public chargers are at retailers, according to a 2024 study of usage data by J.D. Power, a data analytics company.

Some landlords of shopping centers and malls have found that installing chargers on their properties has helped to attract new tenants, said Jim Hurless, a managing director who oversees the E.V. business at the real estate firm CBRE.

But installing the chargers is complicated and expensive. The process involves surveying, engineering, permitting, connecting with local utilities, testing and inspection — and can take up to 18 months from start to finish. Slower chargers —

considered a good fit for cinemas and hotels, where a customer parks for a few hours or overnight — can cost up to $7,000 to install. Fast chargers, which can provide a significant charge in 20 minutes, can cost as much as $175,000.

Many retailers turn the project over to a charging company that pays them a monthly fee for the parking spaces used while retaining any revenue from customers. And those providers have been installing more, and faster, chargers and promising a more reliable, and in some cases plusher, customer experience than in the past.

Mercedes-Benz is investing $1 billion on the first phase of a new network of high-speed chargers that can accommodate all brands of vehicles. Its charging stations will have lounges — and landscaping — at some locations. The automaker has installed charging hubs at a dozen Buc-ee's gas and convenience stores in the Southeast, with plans to expand to more than 40 additional sites. Starbucks, which had Volvo install 15 stations on properties between Seattle and Denver, will work with Mercedes to add 100 more, including on Interstate 5 on the West Coast.

Some charging companies are developing methods to speed up installations. EVgo has begun to experiment with a prefabricated model, with its first installation at a site in League City, Texas, in March.

But some retailers, like the convenience-store chains 7-Eleven and RaceTrac, are seeking to take control over — and monetize — charging by building their own networks.

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For several years, Walmart has worked with Electrify America, a division of Volkswagen, and now has Electrify America stations at 280 of the retailer's stores. When Walmart tested its own chargers at stores near its Bentonville, Ark., headquarters and in a town near Dallas, it found demand surprisingly strong, said Vishal Kapadia, the company's senior vice president for energy transformation.

"There is a need for this infrastructure in many pockets," he said.

The company is rolling out 15 stations in the Dallas-Fort Worth area and 10 in Phoenix, and it plans to have thousands across the country by 2030. Walmart expects to spend $1 million to $1.5 million at each site.

“Charging can be a profitable stand-alone business,” Mr. Kapadia said. “The ancillary benefits are driving traffic to our locations.”

Even Costco, one of the first retailers to install charging stations in the 1990s, before ripping them out in 2011 because the company said they were rarely used, has recently returned to E.V. charging. Costco installed a station at its store in Ridgefield, Wash., in just seven weeks.

Hannaford, a Northeast grocer with charging stations at 24 of 189 stores — including the one Ms. Leary frequents — got into the charging business because it was “how we want to present ourselves,” said George Parmenter, health and sustainability lead at Hannaford. “It’s a billboard that says, ‘This is something important to us.’”

Mr. Parmenter said he did not know to what extent charging led to in-store sales, but he noted that a Tesla charging station at a Hannaford store in Portland, Maine, averaged about 2,000 charging sessions a month.

“I don’t know what else you could do to get that many people to show up,” he added.

Brent Gruber, executive director of E.V. practice at J.D. Power, said: “Fifteen years ago it may have not made the most sense to add charging. Now it makes sense.”