

# A Toyota EV drove 1,200 miles without stopping to charge thanks to electric roads with wireless charging

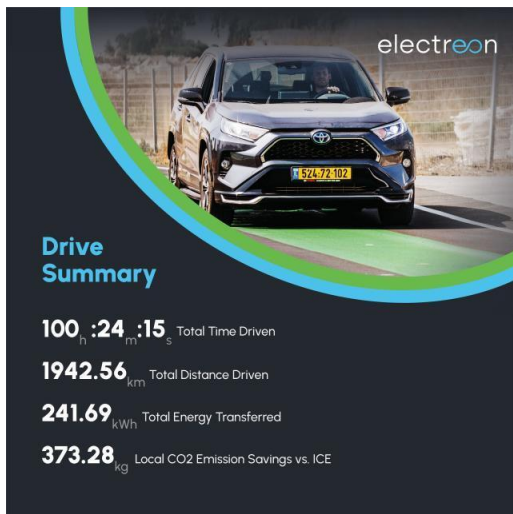
Tim Levin

*Electreon, a startup, drove an electric Toyota for 1,207 miles straight without charging. The secret? An innovative wireless charging system embedded under the asphalt. Electreon says its electric roads solve range anxiety and the need for huge EV batteries.*

Imagine driving an electric car without ever needing to stop and recharge. Sounds like witchcraft, right? Well, it's possible. And the answer isn't in the car itself — it's in the road.

Electreon, an Israeli startup founded in 2013, is developing **electric roadways** that can charge moving vehicles wirelessly, potentially eliminating the need for lengthy pit stops or plugging in. To demonstrate the tech's potential, Electreon drove an electric Toyota for 1,207 miles straight on a test track that had its wireless charging coils embedded under the asphalt.

That's about five times farther than a normal EV can travel on a full charge. The impressive feat shows how wireless charging can revolutionize EV ownership, Oren Ezer, Electreon's CEO and cofounder, told Insider.



Electreon's Rav4 has a range of only 46 miles under normal conditions.

Electreon wanted to prove how its electrified roads can revolutionize EV ownership and eliminate range anxiety. Electreon

"The purpose of doing this demonstration is to show that it's not a technology, it's a product," he said.

For the demonstration, Electreon drove a **Toyota Rav4 Prime** — a plug-in hybrid model, not a full EV — for 100 hours straight, only stopping to switch drivers. Electreon's invisible, underground charging tech kept the SUV's battery topped up as it circled the track at around 30 mph, Ezer said. The Toyota's gas engine never kicked in to lend a hand, and Electreon didn't need to pull over to charge. **Moreover, only 25% of the track was electrified.** According to Ezer, even at highway speeds, an electric road can deliver more energy than a vehicle consumes.

**Limited range and inconvenient charging are two of the biggest hurdles keeping people from going electric.** Electreon thinks its electrified roads — paired with specially outfitted vehicles that can use them — can solve those problems and more.

The longest-range EV you can buy today is **the Lucid Air Grand Touring, which costs a whopping \$138,000 and delivers 516 miles of driving range**, according to the EPA. Most mainstream models rate at somewhere between 200 and 300 miles. A 1,200-mile road trip in one of those run-of-the-mill EVs would require several stops lasting 30-60 minutes each.

Another big pro of "dynamic wireless charging," according to Electreon: **EVs don't need huge, expensive, and environmentally taxing batteries to travel long distances.** To make this point hit home, Electreon ran

its experiment using a vehicle that under normal conditions would only have around 46 miles of range, Ezer said.



Electreon laying a wireless road in Germany. Electreon

Electreon has launched several projects proving wireless charging for buses and trucks. Electreon

So far, Electreon has focused on developing wireless-charging solutions for fleets of buses and trucks — **vehicles with predictable routes and charging needs**. But Ezer thinks wireless electric roads could work wonders for personal EV ownership, too. The firm plans to open a mile-long stretch of electric road in Detroit.

So when will you be able to buy a car wireless-charging capability from a major automaker? Ezer says to give it 2-3 years.