The City of SAN DIEGO

Electric Vehicle 101

Electric vehicles (EVs) are everywhere — on our roadways, in our parking lots, and delivering our online orders. EVs are becoming part of everyday life. Switching to an EV results in lower fuel and maintenance costs, improved performance and a cleaner drive. And finding a place to charge your EV is easier than ever, with a growing charging network across San Diego.

What is an Electric Vehicle (EV)?

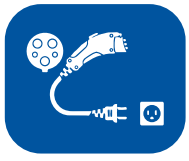
An electric vehicle is partially or entirely powered by electricity. Instead of fueling up at a gas station, EVs plug in to charge their batteries. There are two types of EVs:

- **Battery Electric Vehicles (BEVs):**
  Fully powered by electricity, BEVs run on a rechargeable battery and produce zero tailpipe emissions.

- **Plug-in Hybrid Electric Vehicles (PHEVs):**
  Using both a rechargeable battery and a gasoline engine, PHEVs can drive short trips on electricity and switch to gasoline for longer journeys.

How to Charge an EV?

Charging an EV is like charging a cell phone — just plug it in. Much like a cell phone, there are many factors that play into how to charge an EV and how long it will take. EV chargers come in three different power levels (Level 1, Level 2 or DC Fast). The length of time it takes to fully charge at each power level depends on battery size and percent of battery charge when charging is initiated.



Level 1 Charging:

Uses a regular household 120-volt outlet. Adds about 3–5 miles of range per hour. Best for overnight charging at home.

Level 2 Charging:

Uses a 240-volt outlet (like a clothes dryer). Adds 15–30 miles of range per hour. Commonly used for home, workplace and public charging.

DC FAST Charging:

Uses high-voltage, Direct Current (DC) power from the grid. Available commercially along highways and major roadways, and in heavily trafficked areas. Can charge most EVs to 80 percent in 20–45 minutes — perfect for road trips.

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Why Choose an EV?

EVs are growing in popularity for good reason:

- **Lower Fuel Costs:** Charging an EV is generally cheaper than buying gasoline.
- **Less Maintenance:** With fewer moving parts (no oil changes, fewer filters, no exhaust system, regenerative braking), EVs often cost less to maintain.
- **Cleaner Air:** EVs improve local air quality though reduced greenhouse gas emissions.
- **Great Performance:** Instant torque means quick acceleration and a smooth, quiet ride.

The Future of EV Charging

EV charging is evolving rapidly, with more stations being built every day. New technology is making charging faster, smarter, cleaner, more accessible and more reliable.

Resources

If this EV 101 has you curious, more information about EVs and EV charging is available online. Here are some resources to get you started:

- San Diego Gas & Electric
- County of San Diego EV Consumer Guide
- Electric For All (Veloz)
- Electric Vehicle Association
- Plug In America

For more information about where to charge your EV, visit PlugShare and find a charger near you: plugshare.com