

# ELECTRIC VEHICLE CHARGING



## TYPES OF CHARGERS

Charging infrastructure is broken down into three categories:

### Level 1 Charger (120 volts AC) - Private usage at home

- + Uses the power cord that's included with the EV and plugs into a standard three-pronged household outlet
- + 17-25 hours to fully charge a 100-mile range EV

### Level 2 Charger (208-240 volts AC) - Private and Public

- + Installation of charging equipment required at home. Uses only one kind of connector to plug into your car (J1772)
- + 4-5 hours to fully charge an EV with a 100-mile battery range
- + There are numerous Level 2 chargers on the market. You should always make sure the charger you purchase is safe and reliable, which can be done by checking to see that the charger is certified by a reputable source such as Energy Star.

### DC Fast Charger (200-600 volts DC) - Public only

- + Not compatible with every EV: Uses one of three connectors (CCS1, CCS2, or CHAdeMO) depending on your model
- + Can take as little as 20 to 30 minutes to charge an EV's battery to 80% capacity



“You can charge at home using a portable charging cord from a standard 120-volt standard home outlet or charge from a 240-volt outlet. A 240-volt charging station can be mounted outside your house (like ours) or in the garage. You can typically top off and charge at home overnight from 120 or 240 volt. I generally charge at night and have 100% charge the next day. Very long trips require planning, since the electric charging station infrastructure is not as built-out as the gas station infrastructure. There are apps that can help you find charging stations on the go.... The only thing I miss about gas stations are the snacks!”

- Jeff S., Westchester NY, Nissan-Plus owner

Photo credit: Jeff S.

*\*\*Note - All level 1 and 2 chargers use a SAE J1772 plug (aka “J plug”) which is used by most all vehicles with the exception of Teslas which need an adapter.*





## WHAT TO KNOW FOR CHARGING ON THE GO

### How do you pay?

There are a **few different** ways to pay for public charging. Some public chargers are free and some require a subscription. Often, however, charging stations - just like a gas station - are “pay as you go,” and all you have to do is use a debit or credit card.

### How do you find a charger?

More and more charging stations are being built around New York and across the country, so finding one will most likely not pose any challenge. These stations are often operated by either the local municipality or utility, or by a private business. For more information on where to find a charger, see our **Range and Range Anxiety** fact sheet.



## PRICE OF CHARGING

### Charging at Home

The most cost-effective way to charge your EV is at home. Charging at home will cost you only the utility rate, which is on average **\$0.19 per kWh** in New York (as of October 2020). The purchase and installation costs of a Level 2 charger usually total around **\$1,000**. However, that cost can **vary** from as little as \$450 to as much as \$2,200, depending on the charger and price of installation.

### Charging in Public

The cost to charge in public depends on which kind of charger you are using. **Public Level 2 chargers** can either be free to use or cost between \$0.20 and \$0.30 per kWh. DC fast chargers are more expensive, ranging from **\$0.10 to over \$1.00 per kWh**, but averaging \$0.35 per kWh.



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