

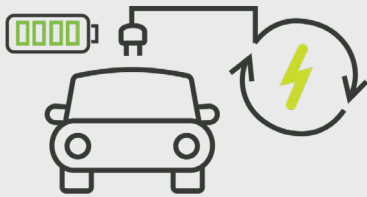


Electric Vehicles (EV) 101

Types of EVs

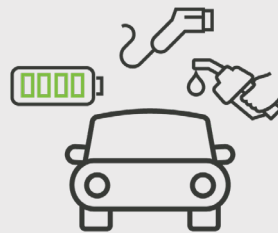
Electric Vehicles contain batteries that power the vehicle in place of, or in addition to, traditional internal combustion engines (which use gasoline or diesel fuel). Two types of EVs require charging stations:

BATTERY ELECTRIC VEHICLE (BEV)



BEVs are powered entirely by electricity stored in on-board batteries. Range capability varies based on model but is generally anywhere from 100 to 400 miles.

PLUG-IN HYBRID ELECTRIC VEHICLE (PHEV)



PHEVs are powered in part by electricity stored in on-board batteries with short range. Once the battery energy is exhausted, the vehicle automatically switches to the gas engine. The fully electric range is 40 miles, and combined range can reach 600 miles.

Charging Infrastructure

Various electric charging infrastructure is available to charge EVs. Infrastructure selection depends on intended application and available electrical infrastructure. Two common types of charging are summarized below:

	LEVEL I	LEVEL II	LEVEL III DIRECT CURRENT FAST CHARGER (DCFC)
Charge Rate	3-7 Miles of Range Per Hour	20- 60 Miles of Range Per Hour	175-500 Miles of Range Per Hour
Typical Vehicle Charge Time	23-60 Hours	2-8 Hours	10-40 Minutes
Use Cases	Overnight or Emergencies	Overnight Parking / Retail Parking	On-route Charging
Supply Voltage / Amperage	120-Volt / 15 amps	240-Volt / 48-100 amps	480-Volt 3 Phase / 80-260 amps
Charger Plug Examples			