

# Electric Vehicle (EV) Overview



## Battery Electric or Plug-In Hybrid?

Battery electric vehicles (BEVs) are powered exclusively by electricity. Plug-in hybrids (PHEVs) use electricity for a certain distance (depending on make/model) before switching to gas.



### Battery Electric

Electric range averages around 200 miles on a full battery charge. Some newer models are now topping over 400 miles of range on a single charge.



### Plug-In Hybrid

Electric range averages 20-50 miles on a full battery charge. The remaining range - often 200-300 miles or more - is delivered by a gas-powered engine.

## Lower Operating Costs

Electric vehicles are generally less expensive to maintain than gas-powered cars because they have fewer moving parts that can break and lower fueling costs.

- On average, the cost to charge an EV in Missouri is equivalent to paying less than \$1 per gallon of gasoline. An Ameren Missouri customer participating in the Overnight Savers program can fully charge a 100kWh battery overnight for \$6.30.
- Traditional gas-powered cars have over 200 parts in their drivetrain while EVs only have about 20. Fewer moving parts means far fewer parts to maintain. AAA reports that EVs have the lowest maintenance and repair costs of all vehicles at 6.6 cents per mile.





# EV Charging Levels



**Level 1 Charging** is simply plugging your EV into a conventional 120-volt household outlet. All EVs come with this plug adaptor and charging this way will provide 4-5 miles of range per hour of charging time.



**Level 2 Charging** requires a 240-volt outlet and provides about 25 miles of range per hour of charge. You can install a Level 2 charger at home and receive up to \$1000 in federal tax incentives!



**Level 3 Charging**, also known as “DC fast charging,” provides a full charge in 30-45 minutes. Fast charging is becoming an increasingly common amenity in a variety of publicly accessible and workplace settings.

## Safety Features

EVs are required by law to meet strict National Highway Traffic Safety Administration (NHTSA) safety standards, including a requirement that battery power flows are cut off as soon as a defect is detected. In the case of an accident, the battery is automatically disconnected from the other high-voltage components and cables.

EVs can also deliver the non-standard safety features that are found in other vehicles, including:

- Adaptive cruise control paces the speed of the car as the flow of traffic ahead slows and speeds up as the traffic does.
- Blind-spot monitoring with rear cross-traffic alert senses vehicles in adjacent lanes and warns of objects behind your vehicle or crossing behind while backing up.
- Forward-collision warning with emergency braking and rear automatic emergency braking to avoid accident collisions on both ends of the vehicle.
- Lane-departure/keeping/centering assists that provide warnings and active nudging when drifting in the lane.
- Automatic high-beam technology detects lights ahead of the vehicle and deactivates the high beams when the system senses the distance closing between one car and another.



**For more information about EVs visit:**

