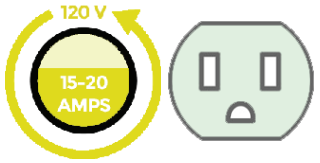
CITY OF RICHLAND ENERGY SERVICES

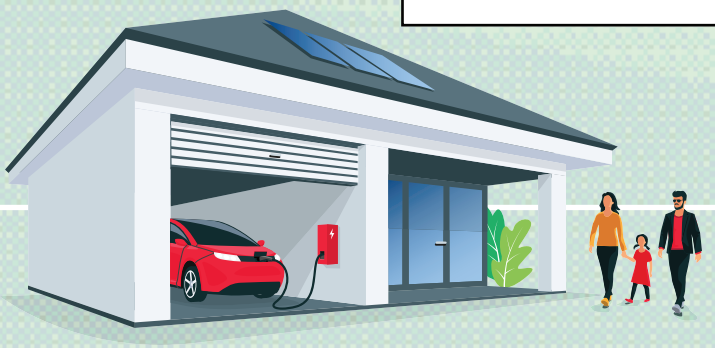
# GUIDE TO ELECTRIC VEHICLE CHARGERS

The sales of electric vehicles, or EVs, in the United States have increased year-over-year since 2010. The market continues to evolve each year, with new and affordable models of EV cars, trucks and SUVs produced by major auto manufacturers and new, EV-only companies. These newer vehicles – and their battery technology – are capable of traveling further on a charge than ever before. Most newer EVs target more than 250 miles on a fully charged battery.

EVs have one or more electric motors and receive all or part of their power by plugging into the local power-supply grid. As the market grows, the availability and placement of chargers is becoming more prominent.

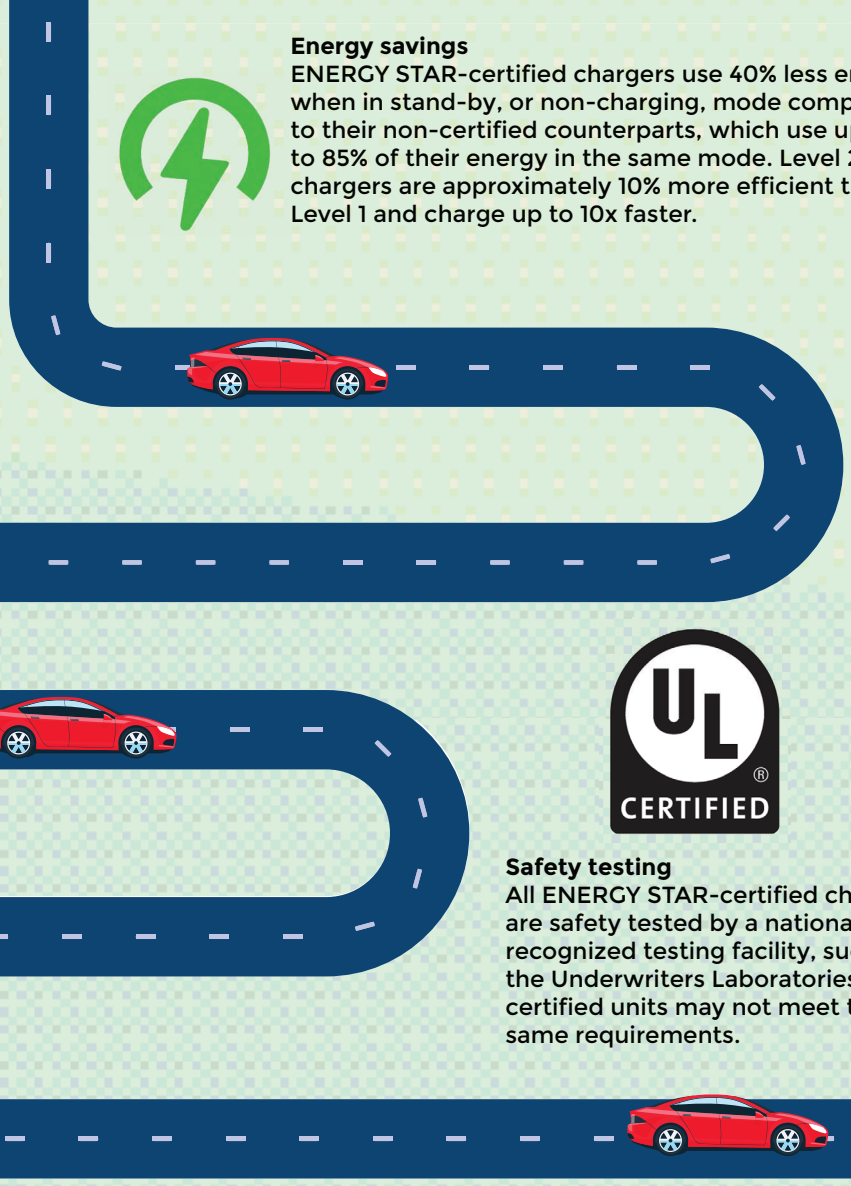
In general, chargers work by providing alternating current electricity to the vehicle. In turn, the vehicle converts the electricity into direct current, which is used to charge the battery. There are two categories of commonly used EV chargers, classified by their charging speeds.

| Level 1 | Level 2 |
|---|---|
|   | |
| Uses standard 120V electrical outlets. | Uses 240V electrical circuits including residential dryer outlets. |
| 2-5 miles per hour of charging time based on battery size and type. | 10-44 miles per hour of charging time based on battery size and type. |



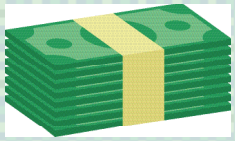
To qualify for the ENERGY STAR® label, the charger must conserve power, even when it isn't actively charging the vehicle. Some models can also reduce their charging draw during peak energy-use hours or shift to charging during non-peak hours, similar to smart thermostats.
Chargers with the ENERGY STAR label typically have additional energy-saving and safety measures non-certified models do not.

**Energy savings**
ENERGY STAR-certified chargers use 40% less energy when in stand-by, or non-charging, mode compared to their non-certified counterparts, which use up to 85% of their energy in the same mode. Level 2 chargers are approximately 10% more efficient than Level 1 and charge up to 10x faster.



**Smart technology**
Some ENERGY STAR-certified models are designed with remote power-monitoring features, and the capability to communicate the charging status of the vehicle over WiFi to smart devices. These features may qualify for special energy-saving offers from local utilities and applicable federal tax credits.

**Safety testing**
All ENERGY STAR-certified chargers are safety tested by a nationally recognized testing facility, such as the Underwriters Laboratories. Non-certified units may not meet the same requirements.



**City of Richland Energy Services** offers incentives for qualified installations. Please note, chargers must be on the Qualified Products List for incentive eligibility.

For more information on incentives and availability, contact us.

For more information contact us
CITY OF RICHLAND ENERGY SERVICES
CI.RICHLAND.WA.US/energy-services/electric-vehicles
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