

ELECTRIC VEHICLE CHARGING FOR CITY LEADERS

IMPORTANT TERMS

To better understand the basics of EVs when talking with residents, community leaders, private companies and other government officials, this fact sheet outlines some of the main things local leaders need to know.

KEY CONCEPTS

Battery Electric Vehicles (BEVs): What most people consider to be “electric vehicles,” or EVs. They run solely on the electricity from their batteries. An example includes the Tesla Model 3.

Plug-in Hybrid Electric Vehicles (PHEVs): Can be driven and charged like an electric vehicle but have a traditional engine that runs on gasoline as well. These can be considered EVs as they require similar infrastructure to charge. An example includes the Toyota Prius Prime.

Electric Vehicle Supply Equipment (EVSE): The infrastructure that supplies electricity to an electric vehicle. Commonly, EVSE refers to charging stations or charging docks.

Charging station: Similar to a gas station but provides electricity for EVs instead of gasoline. These usually contain Level 2 or Level 3 chargers.

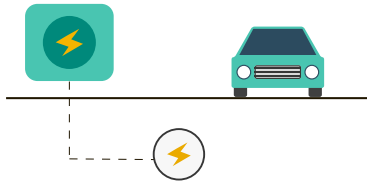
At-home charger: An EV charger that can be placed in a typical home, usually a Level 1 or Level 2 charger.

Battery swap station: A commercial station that will swap out a used EV battery for a fully charged one.

Check out **NLC’s Electric Vehicle Charging: A Primer for Municipal Leaders** brief to see how cities are stepping into the EV space and the questions local leaders need to ask themselves as they get started.

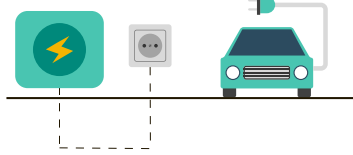
THREE TIERS OF EV READINESS

Source: Image based on Orlando, FL EV Readiness Policy



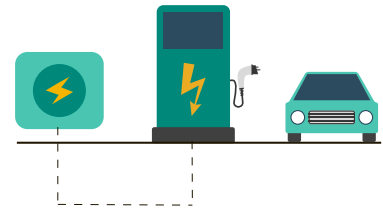
EV Capable:

An installed electrical panel with the potential to be a future EV charger.



EV Ready:

An installed electrical panel capacity and raceway with conduit to terminate in a junction box or 240-volt charging outlet. It can charge a vehicle with additional equipment.



EV Installed:

Contains the necessary electrical work and the physical EV charger to power a vehicle when plugged in.



Level 1 charging:

The most cost-efficient charging station, typically found in homes with a 120-volt outlet. They charge an average of three to six miles of range per hour. A full charge can take 24 hours.



Level 2 charging:

A charging station that requires the high power of a 240-volt outlet. They are frequently found in commercial settings but are becoming more common in homes. They charge around 18-28 miles of range per hour. A full charge can take up to eight hours.



Level 3 charging:

Known as DC fast charge or fast charge, these are the highest power (480 volts) and fastest charges currently available. Currently, a faster charger can add a 200-mile range (close to a full charge) in about an hour.

Images source: [Charge Hub Charging Guide](#)

With some basic knowledge of EVs, local leaders can decide how they want their communities to get ready for electric vehicles.

Electrification, grid upgrades and demand from EV drivers is going to happen, and cities need to be aware of these impacts in their communities. Cities should begin by going through NLC's primer on EVs, and can then dive into some of the resources listed there.