

# ELECTRIC VEHICLE 101

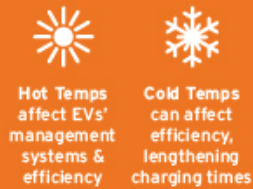
## KEY TERMS

**EV:** Electric Vehicle  
**LEV:** Low Emissions Vehicle  
**ZEV:** Zero Emission Vehicle  
**FCEV:** Fuel Cell EV  
**HEV:** Hybrid EV  
**PHEV:** Plug-in Hybrid EV  
**EREV:** Extended-Range EV  
**EVSE:** EV Supply Equipment

## BATTERY TYPES



## WEATHER IMPACTS



## CHARGING STATIONS

As of **2022** there are **41K** in the US  
 <b>45K</b> fast chargers  
 With the Infrastructure Investment & Jobs Act, by 2030 there will be **500K**

## CHARGE LEVELS



# EV GOVERNANCE

## INCENTIVES & FEES

**45 STATES & DC** provide various EVs & PHEVs incentives  
 • Tax credits or rebates to fleet acquisition goals  
 • Exemptions from emissions testing  
 • Utility time-of-use rate reduction

**28 STATES** have EV special registration fees  
**14 STATES** have PHEV special registration fees

**13 STATES & DC** adopted California's LEV & ZEV standards, requiring a minimum number of ZEV sales/year

fees range from **\$50-\$200+**

## TITLE, REGISTRATION & COMPLIANCE

Compliance requirements for EVs are still evolving



Large commercial EV fleet operators should consider how they will track mileage for **HEAVY USE TAXES (HUT) & WEIGHT/MILE TAXES**

While EVs don't use fuel, many states still require IFTA stickers on heavier EVs

## EV LEGISLATION

### INFRASTRUCTURE INVESTMENT & JOBS ACT

**\$75B**

for EV charging & programs

Enacted 11/15/2021

### BUILD BACK BETTER BILL

increases EV Tax Credit

from **\$7,500**

to **\$12,500**

# DRIVING EVs

## CHARGING RANGE

Extremely high & low states of charge (SoC) puts stress on batteries & shortens their lives



Ideal Range **20-80%**

## DRIVING RANGE

**PHEVs**  
**10-50mi**  
**Evs built 2011-2016**  
**100mi**  
**Evs built after 2016**  
**~250mi**  
**TESLAS**  
**~350mi**

## WAYS TO BOOST RANGE

- Keep the speed under 60 mph
- Properly inflate tires according to lb/inch<sup>2</sup>
- Minimize lead-footed driving
- Pre-cool the car, run the fan only or keep the A/C at a low level
- Reduce heater use, especially at full blast
- Avoid areas with heavy traffic, rough terrain or steep hills
- Time the charge; don't leave EV plugged in unnecessarily
- Leverage the energy-recovering regenerative braking function when stopping
- Travel light; avoid exterior accessories like roof racks & cargo carriers

# HAULING WITH EVs

## WEIGHT CONSIDERATIONS



EVs weigh considerably more than similarly sized gas-powered vehicles due to the heavy battery

With the battery weight at the floor, EVs have a lower center of gravity, more stability & less susceptibility to sudden forces during shipment

## WEIGHT & LOAD FACTORS

Federal law mandates that carriers may not haul more than

**82K** pounds gross vehicle weight

Because of weight limits, hauling multiple EVs reduces load factor **~20%**



# ACERTUS® THE EV EXPERTS



## TRANSPORT

ACERTUS can uniquely solve challenges created by capacity limits. With the largest carrier and driver network in the country, we provide access to accommodate any EV move from any location across North America.



## STORAGE

Whether you have unassigned inventory of fleet vehicles that need long-term storage or need a temporary spot to charge, prep or recondition, ACERTUS has the extra space and charging infrastructure you need in our 55 well-positioned locations throughout North America.



## TITLE & COMPLIANCE

EV standards are evolving but our teams stay up-to-date with ever-changing state and federal regulations. We ensure EVs are properly titled, registered and compliant in all 50 states, Puerto Rico and Canada so you can keep your inventory in motion.