

# Electric Vehicles



Is the time right for you to buy an EV?  
If so, how should you choose an EV?

# Transitions in Retirement

October 8, 2022  
9:30 – 11:30 am

- Speaker: Rick Hearn, OLLI Tech Instructor
- Bio: Rick is a retired Software Engineer who has driven an EV since 2018 including several road trips as far as Colorado. His home is equipped with a Solar photovoltaic system that generates enough energy to power the home and EV.

# Why you might *not* want an EV

You live in a home without dedicated parking or without a way to install a home EV charger.

Your idea of fuel management is to wait for the Empty light to come on and then look for the nearest gas station when you only have 10 minutes until you need to be somewhere.

You only have \$20,000 to spend on a new car

What's the point of driving unless you can make really loud noises?

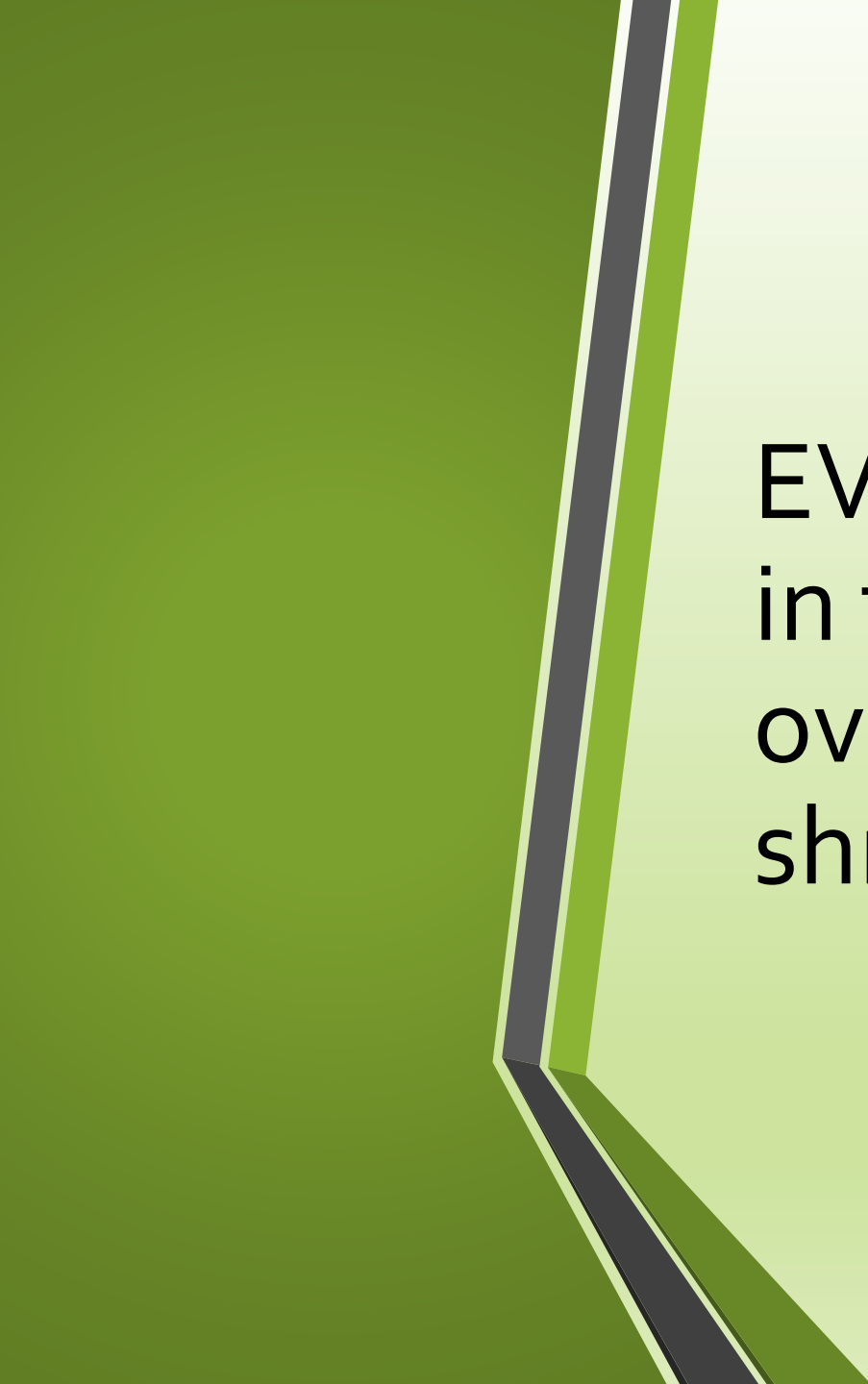
# Why you might *want* an EV

You live in a home with dedicated parking and a way to install a home EV charger and optionally a home Solar generation system.

Your idea of fuel management is to plug in when you get home, unplug before driving away, and never visit a gas station again.

It hurts to pay the price of any new car, but it *really* hurts to pay \$75 to \$100 for a tank of gas week after week, year after year.

It's cool to know your car could blow off all those muscle cars while being nearly silent. (I know we're too mature for all that macho stuff, but still...)



EV Sales are growing  
in the context of  
overall car sales  
shrinking:

# California: Electric Car Sales Accelerated in H1 2022, Teslas Most Popular

Hybrids were passed and left behind.

By: Mark Kane

Aug 10, 2022 at 8:24am ET

<https://insideevs.com/news/603375/california-electric-car-sales-h1-2022/>

- The California New Car Dealers Association (CNCDA) reports that, during the first half of 2022, **the overall light-vehicle registrations in California amounted to 853,347 (down by 17.9% year-over-year).**
- According to the report, the demand for both new and used vehicles remains strong, but the main issue is on the supply side.
- Meanwhile, **plug-in car registrations during the period increased by about 34% year-over-year to 152,749 (estimated), which translates into a record of 17.9% of the total market (compared to 11% a year ago).**

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- **All-electric cars noted outstanding results with 128,855 units (up 59% year-over-year) and 15.1% market share**, which is significantly more than conventional hybrids. Not only that. Currently, battery electric cars are above hybrids and plug-in hybrids combined.
- It's not a surprising outcome considering that **BEVs** [Battery Electric Vehicles] **are growing quickly, while plug-in hybrids and hybrids are both down year-over-year by 28% and 4% respectively**. Some might ask whether we already passed peak hybrid.

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## Electric car registrations in California (est.) - H1 2022

- BEVs: 128,855 (up 59%, market share of 15.1%)
- PHEVs: 23,894 (down 28%, market share of 2.8%)
- Total plug-ins: 152,749 (up 34%, market share of 17.9%)
- HEVs: 99,842 (down 4%, market share of 11.7%)
- Total xEVs: 252,591 (up 16%, market share of 29.6%)

BEV: Battery Electric Vehicle   PHEV: Plug-in hybrid   HEV: Hybrid



# Every Electric Car You Can Buy in 2022

<https://www.motortrend.com/features/every-electric-car-you-can-buy/>

- 2022 Audi e-tron GT
- 2022 BMW i4
- 2022 Chevrolet Bolt EV
- 2022 Lucid Air Dream Edition
- 2022 Mercedes-EQ EQS
- 2022 Mini Cooper SE
- 2022 Nissan Leaf
- 2022 Polestar 2
- 2022 Porsche Taycan/ Taycan Sport Turismo/ Taycan Cross Turismo
- 2022 Rimac Nevera
- 2022 Tesla Model S
- 2022 Tesla Model 3



# Every Electric SUV You Can Buy in 2022

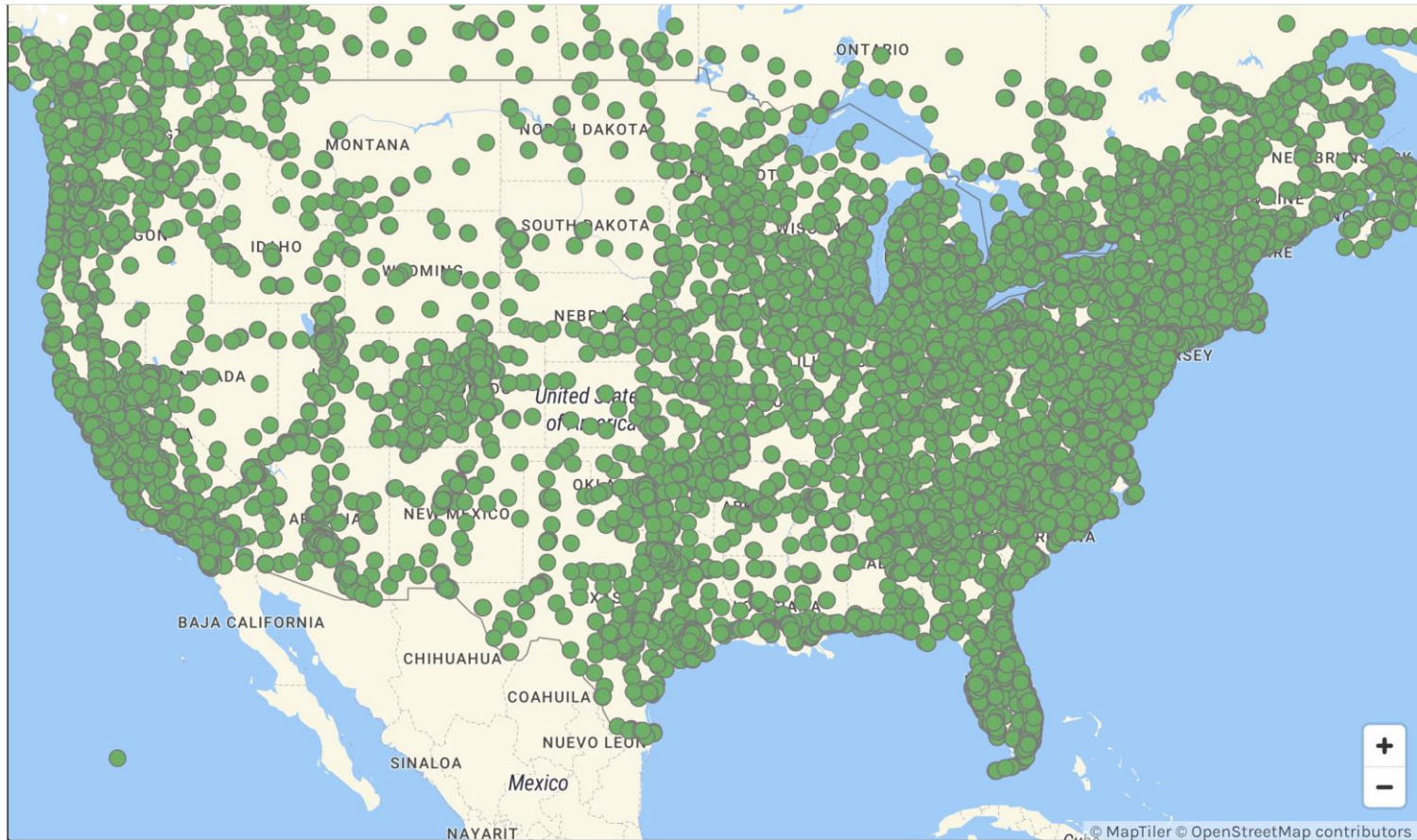
<https://www.motortrend.com/features/every-electric-suv-crossover-you-can-buy/>

- [Audi E-Tron \(and Sportback\)](#)
- [Audi Q4 E-Tron](#)
- [BMW iX](#) →
- [Chevrolet Bolt EUV](#)
- [Ford Mustang Mach-E](#)
- [Hyundai Ioniq 5](#)
- [Hyundai Kona Electric](#)
- [Hyundai Nexo](#)
- [Jaguar I-Pace](#) →



- [Kia EV6](#)
- [Kia Niro EV](#)
- [Mazda MX-30](#)
- [Nissan Ariya](#)
- [Subaru Solterra](#)
- [Tesla Model X](#)
- [Tesla Model Y](#)
- [Toyota bZ4X](#)
- [Volkswagen ID4](#)
- [Volvo XC40 Recharge \(and C40 Recharge\)](#)

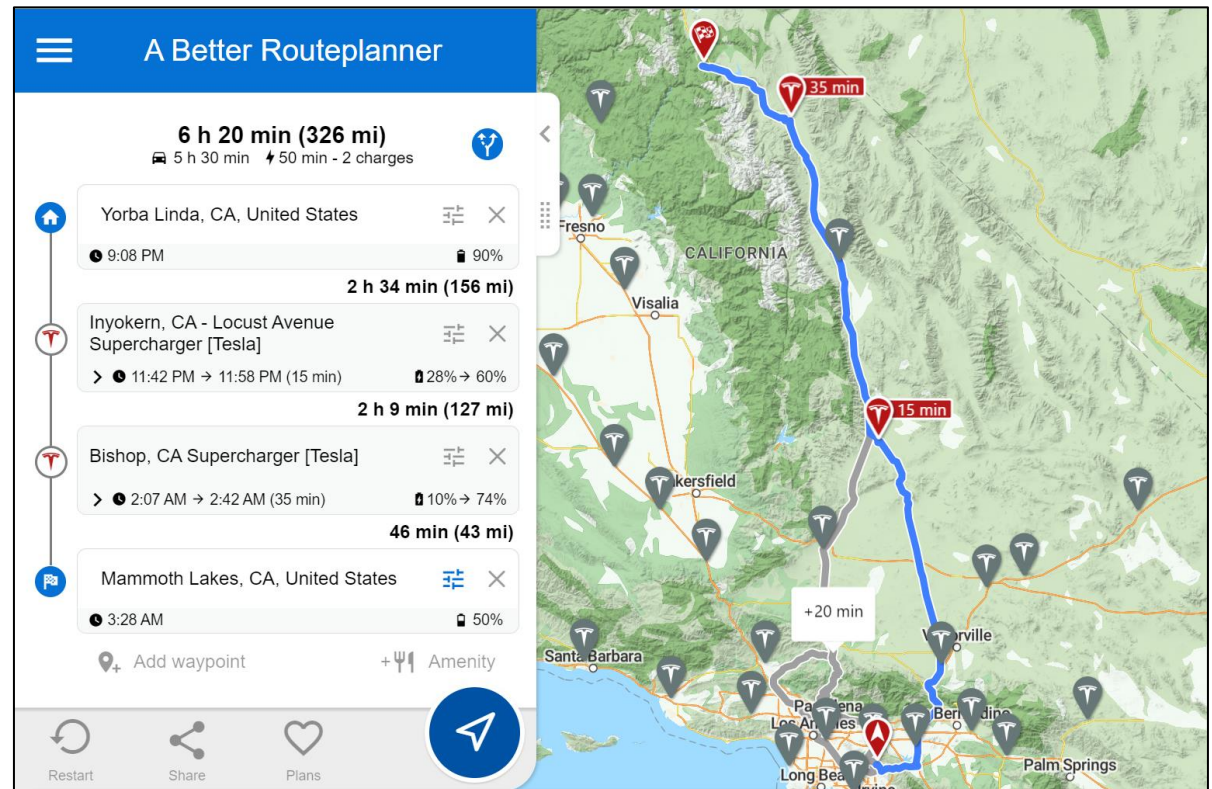
# Electric Vehicle Charging Station Locations



[https://afdc.energy.gov/fuels/electricity\\_locations.html#/find/nearest?fuel=ELEC&ev\\_connectors=J1772&ev\\_connectors=TESLA&ev\\_connectors=J1772COMBO](https://afdc.energy.gov/fuels/electricity_locations.html#/find/nearest?fuel=ELEC&ev_connectors=J1772&ev_connectors=TESLA&ev_connectors=J1772COMBO)

# Planning a Trip: “A Better Route Planner”

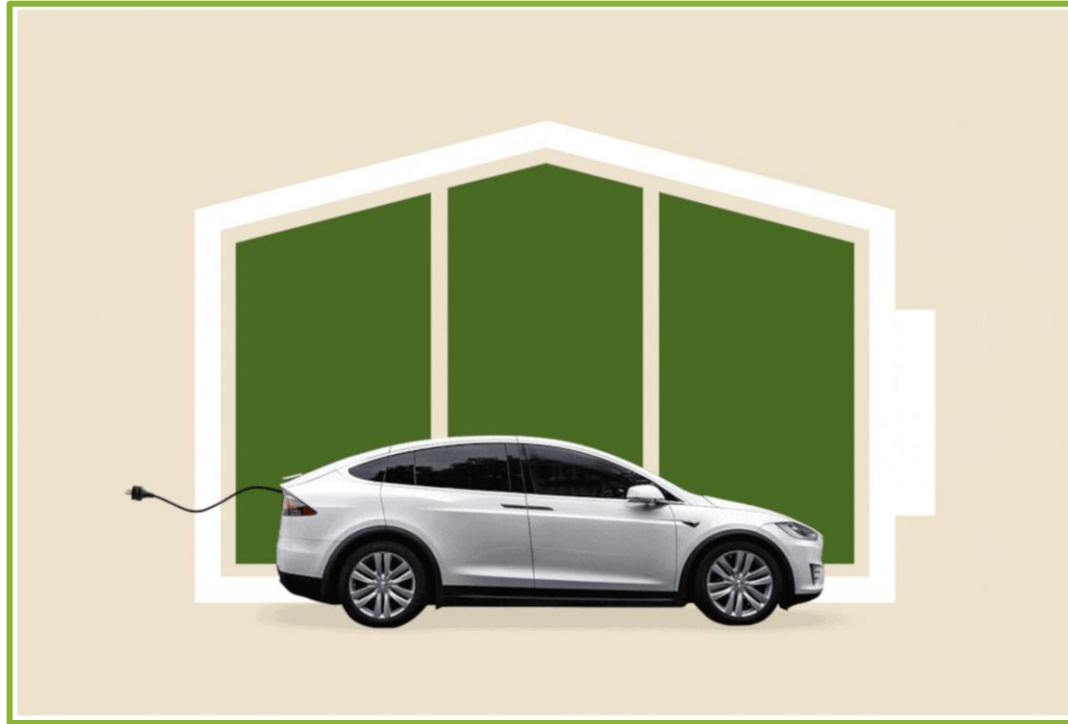
- How far can I go between charges?
- Where can I charge?
- How long will it take to charge?



# Clean Vehicle Tax Credits in the Inflation Reduction Act of 2022

	Pre-IRA 2022		Post-IRA 2022		
	Plug-in EV Credit	Fuel Cell Vehicle Credit	Clean Vehicles Credit	Credit for Previously-Owned Clean Vehicles	Credit for Commercial Clean Vehicles
Maximum Amount	\$7,500 base amount of \$2,500 plus \$417 for each kWh of capacity above 5 kWh (up to \$5,000)	\$8,000 or \$40,000 base amount of \$4,000 plus up to \$4,000 additional based on fuel economy; credit of up to \$40,000 for heavy vehicles	\$7,500 \$3,750 for vehicles meeting the critical minerals requirement; \$3,750 for vehicles meeting the battery components requirement	\$4,000 limited to 30% of the sales price	\$7,500 or \$40,000 credit is limited to the lesser of 15% of the vehicle's cost (30% for vehicles not gasoline or diesel powered) or the incremental cost of the vehicle, as compared to vehicles powered with a gasoline or diesel ICE; credit of up to \$40,000 for heavy vehicles
Qualifying Vehicles	battery with 4 kWh of capacity with external charging	vehicles propelled by fuel cells	battery with 7 kWh of capacity with external charging; vehicles propelled by fuel cells; after 2024, no credits allowed for batteries containing critical minerals sourced from a foreign entity of concern; after 2023, no credit for batteries with components sourced from a foreign entity of concern	previously-owned clean vehicles having a model year that is two years earlier than the calendar year; credit can only be claimed on the first transfer of the vehicle; vehicle must be purchased from a dealer	clean vehicles and mobile machinery; larger EVs required to have a battery with 15 kWh of capacity; vehicle must be subject to a depreciation allowance (i.e., for business use), except in the case of vehicles used by tax-exempt entities

# How to prep your home for an EV



(Chloe Meister/The Washington Post; iStock)

<https://wapo.st/3xY07D7>

<https://www.washingtonpost.com/home/2022/09/26/how-to-prepare-your-home-for-an-electric-vehicle/>



Questions?