



THE EV FUTURE:

DRIVERS & DETERRENTS FOR
SHOPPER CONSIDERATION



THE EV FUTURE OVERVIEW

Hearst Autos represents some of the most trusted, authoritative editorial voices in the automotive and enthusiast space with brands like *Car and Driver*, *Road & Track*, *Autoweek*, *U.S. News Best Cars*, and many more. We tapped into a sample of more than 3,500 consumers and members of our communities to learn more about their perceptions and attitudes towards electric vehicles (EVs), their shopping behaviors and considerations, and the experiences among EV owners. In this study, we explore everything from charging technology to the factors that are driving consideration or causing reservations about purchasing an EV.

Results are in, and while there is no doubt that consumer interest in EVs is growing at a rapid pace, skepticism and / or uncertainty around this purchase decision still exists.

Half are highly interested in buying or leasing an EV, mainly driven by the belief in environmental benefits, the ease of charging at home, and the elimination of gas costs. Many believe that EVs are less costly to operate and maintain than internal combustion engines (ICEs), but others are hesitant and still unsure about sustainability and overall ownership costs.

Low range, uncertainty around charging (station availability, speed, and infrastructure), and high upfront costs continue to be primary concerns around an EV purchase. Many inquiries about EVs are also based on these aspects, indicating that consumers still need more information to feel confident in making this switch, not just from an initial purchase standpoint, but from the full ownership experience.

Who We Heard From

- They are affluent. Nearly a third have a household income of **\$150k+** and **~50% with \$100k+**.
- A majority are baby-boomers. **58% are 65+**, **32%** are of the **GenX group**, and **Millennials and younger** make up **less than 10%**.
- **86%** do not currently have children under 18 living at home.
- Most live in suburban areas (**64%**), but almost an equal split live in rural (**17%**) and urban areas (**17%**).
- A majority (**94%**) currently own a vehicle, while only 2% don't, but are planning to buy within the year.

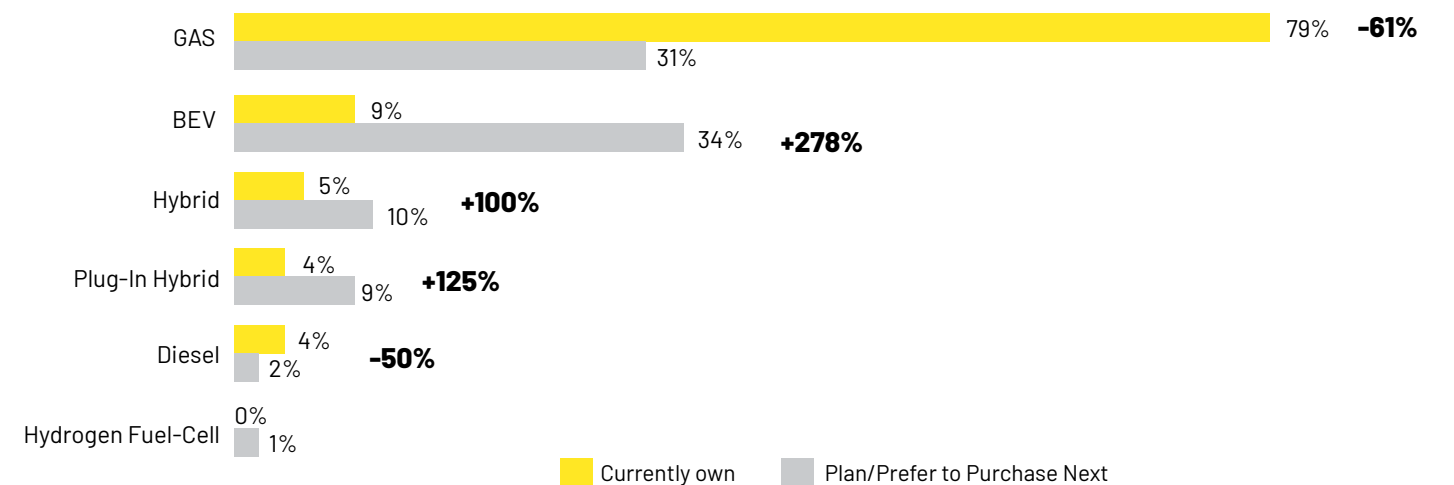
OWNERSHIP & CONSIDERATION

A majority (**79%**) currently own gas-powered vehicles, but **1/3** plan to buy a battery electric (BEV) and another **1/5** plan to buy a hybrid or plug-in hybrid (PHEV) as their next vehicle.

EVs SHOW THE STRONGEST GROWTH (+278%) BETWEEN CURRENT OWNERSHIP RATES AND FUTURE CONSIDERATION.

- A little over **one-third** own and primarily drive SUVs/CUVs, with Sedans trailing slightly behind at **27%**.
- **Sedan consideration dropped** eleven percentage points to **16%**, while **SUVs/CUVs** slightly increased to (**38%**).
- Only **1-in-5** own/lease an alternative fuel vehicle right now, but between EVs and Hybrids, roughly half of all respondents are seriously considering one for their next purchase.

CURRENT OWNERSHIP VS. FUTURE PURCHASE CONSIDERATION



- The **top 5 brands** they own are:



11%



TOYOTA

8%



7%



HONDA

7%



CHEVROLET

6%

EV OWNERS ARE LOYALISTS TO THE TECHNOLOGY.

- Among those who own an EV, **nearly all (98%)** indicated that they would consider buying or leasing an EV again.
- Most EV owners have not owned/leased their EVs for a long time, with **over half** owning/leasing for 2 years or less.

Out of those who currently own an EV, we provided a list of the **top-selling EVs** and asked which they own, here's what they selected:

- Nearly **one-third** own/lease a **Tesla Model 3, Y, or X**
- **1-in-6** own a **Chevy Bolt** or **Bolt EUV**
- **27%** indicated "other," and of those write-ins, **Tesla Model S** and **BMW i3**

Out of the EV owners who own or lease a **Tesla**, most stated their reasons for choosing Tesla over other brands were largely due to brand reputation, performance, range, quality, supercharger network, and overall advanced technology.

EVs ARE THE TOP OPTION FOR FIRST-TIME CAR PURCHASERS.

- Although this group only represents **2%** of respondents, **53%** are considering an EV for their purchase, and another **14%** are considering a hybrid or PHEV.
- More than **62%** identified they are very or extremely interested in purchasing an EV.
- Uncertainty around driving range and high upfront costs were the **top two reservations** they have about purchasing an EV.
- **41%** are considering an SUV/CUV, **24%** are considering a hatchback or wagon, and **9%** are considering a truck.

A MAJORITY (59%) OF THOSE CONSIDERING AN EV AS THEIR NEXT PURCHASE HAVE NEVER DRIVEN OR EVEN TEST-DRIVEN AN EV.

- When gauging their level of consideration, nearly half indicated that they are **"very" or "extremely interested"** in buying or leasing an EV.
- The Ford Mustang Mach E is the top considered EV model (**41%**), with **27%** considering VW ID.4, **26%** considering Tesla Model 3, and **25%** considering Audi e-Tron.
- **2/5** selected to write-in other options, and among the top brands and models mentioned were:



Rivian (R1T and R1S)



Tesla (Cybertruck and Model S)



Ford (F-150 Lightning)



Lucid (Air)



Hyundai (Ioniq 5)



BMW (i4, iX)



Cadillac (Lyriq)



Kia (EV6)

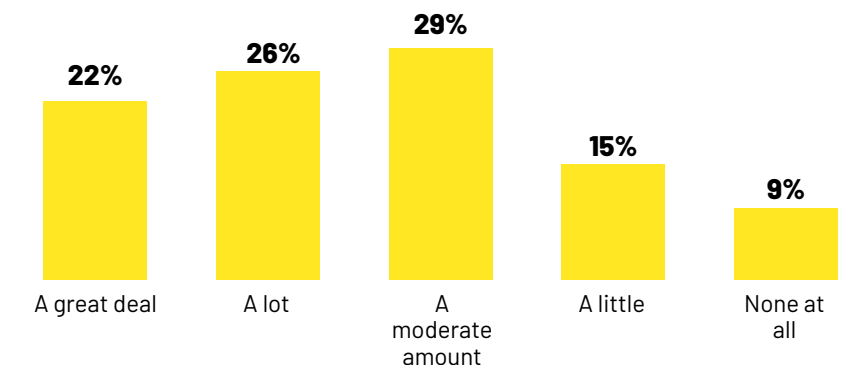
Among those interested in **Tesla**, top reasons for consideration over other brands are:

- **Overall performance, quality, and reputation**
- **Charging network, infrastructure, range, and technology**
- **Tesla's long-time experience with electric vehicles**

THE IMPACT OF A BRAND'S CHARGING NETWORK SHOULD NOT BE UNDERVALUED, AS RANGE AND PUBLIC CHARGING CONTINUE TO WEIGH ON CONSUMER CONFIDENCE WITH EVs.

Nearly half indicated that the charging network impacts their purchase/lease decision "a lot" or "a great deal", and another quarter feel it impacts their consideration "a moderate amount".

HOW MUCH DOES THE BRAND OR BRANDS' CHARGING NETWORK IMPACT YOUR CONSIDERATION OF OWNING OR LEASING THEIR EV MODEL(S)? N=1,901

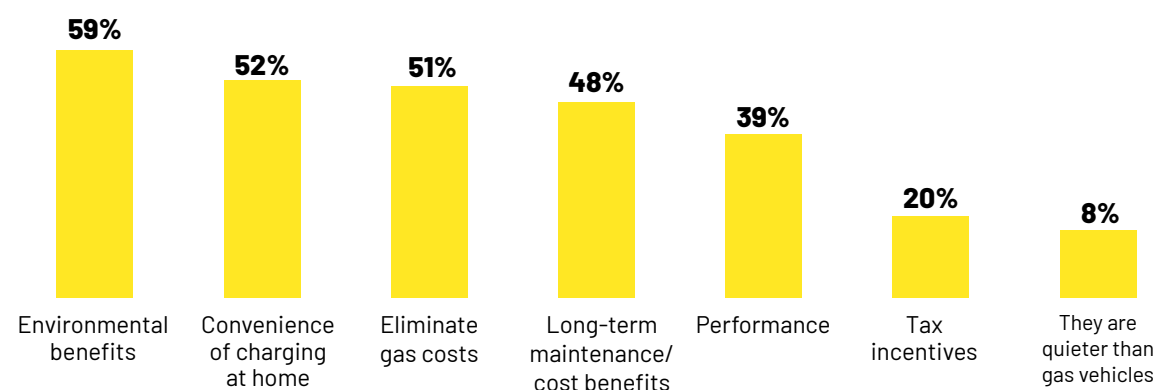


EV ATTITUDES & PERCEPTIONS

Concerns for the environment are a strong motivation for consumers who are interested in EVs.

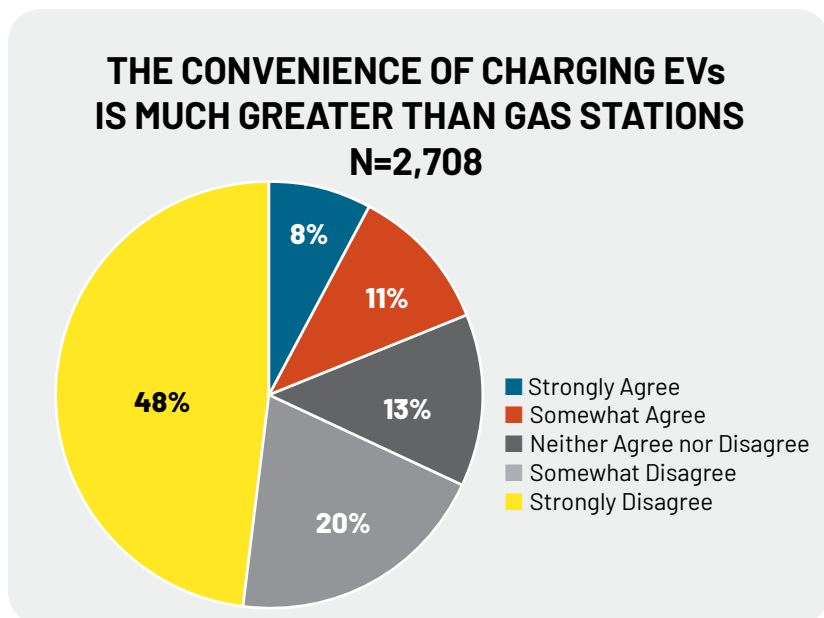
Environmental benefits are top of mind for consumers that are considering an EV, and eliminating gas costs and reducing maintenance costs are appealing as well. Despite these benefits, many are still very concerned about battery replacement, disposal, and the potential negative environmental effects they could have once produced and consumed at a much greater capacity.

WHAT INTERESTS YOU MOST ABOUT ELECTRIC VEHICLES? PLEASE SELECT UP TO THREE (3). N=1,919



There's strong agreement around ownership and maintenance costs, however there's a lesser degree of certainty around charging conveniences.

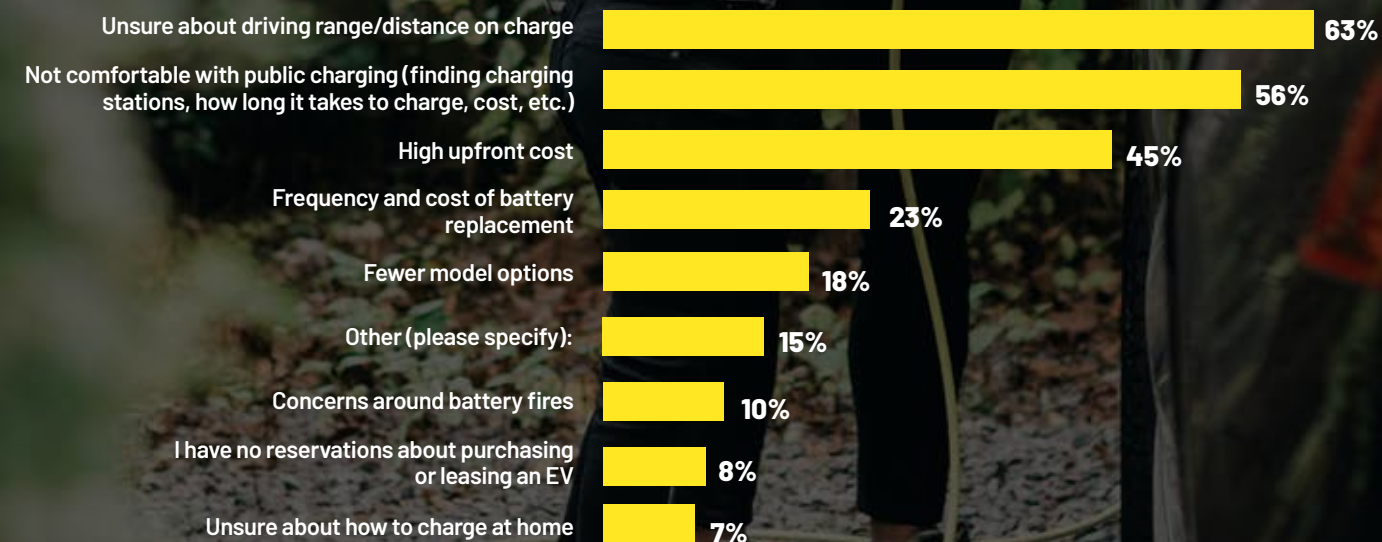
- Most agree that **EVs are less costly to operate** and maintain than ICEs, with federal and state incentives also being helpful cost benefits to owning an EV.
- While at-home charging **convenience was selected as the #2 interest** among those considering an EV, only **17%** of current owners cited this as an interest.
- When asked to select the level of agreement or disagreement around charging, **nearly half** did not think that charging EVs is much greater a convenience than gas stations.



The top reservations remain the same as in recent years, highlighting gaps in education and infrastructure.

- Uncertainty about driving range/distance on charge continues to be the top reservation that consumers have about purchasing an EV. This is closely followed by being uncomfortable with public charging (finding stations, how long it takes, etc.), and the high upfront costs.
- Despite the unprecedented volume of new EV models hitting the market, nearly 1-in-5 consumers still believe there are fewer options available among electrics.

WHAT RESERVATIONS DO YOU HAVE ABOUT BUYING OR LEASING AN ELECTRIC VEHICLE? PLEASE SELECT UP TO THREE (3). N=2,798

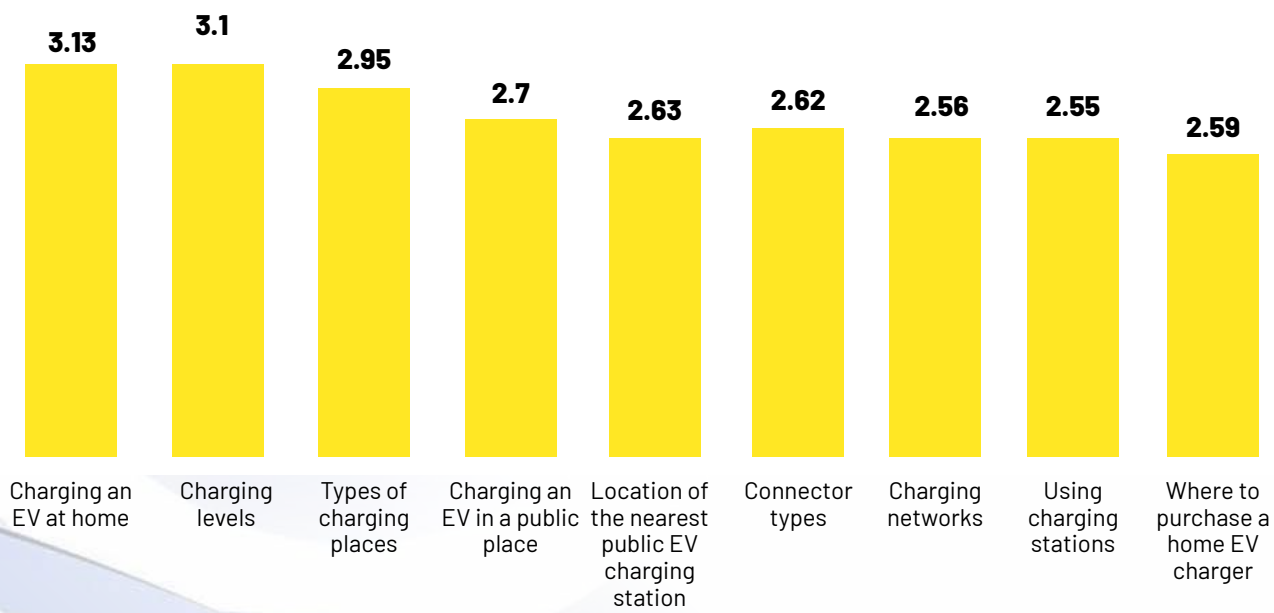


EV CHARGING ASPECTS

Two-thirds have either charged an EV themselves or seen an EV charging.

- When it comes to charging EVs, they are most familiar with charging an EV at home and charging levels, but when it comes to using charging stations, they are least familiar with this option.
- Overall, they are moderately familiar with the listed aspects of charging EVs, but there are clearly lower levels of confidence or familiarity with public networks and charging stations.

HOW FAMILIAR ARE YOU WITH CHARGING ELECTRIC VEHICLES? N=2,741



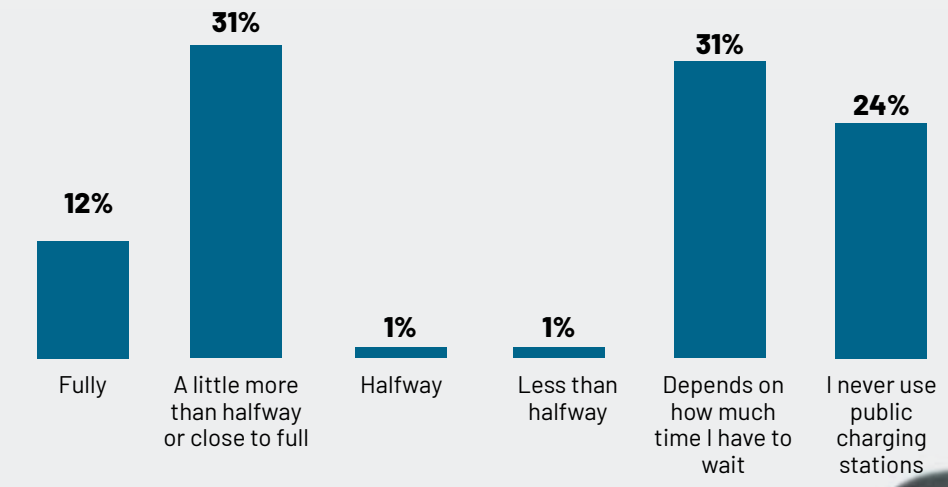
“Even with the newer higher range EVs going 200, 300, 400 miles, range anxiety is an issue. It’s sometimes the top barrier to somebody acquiring an electric vehicle that could already stand to save them and their family a lot of gas money.”

– Pete Buttigieg, DOT Secretary, in a conversation published by Car and Driver in February, 2022

Nearly a quarter of EV owners claim they don’t use public charging stations.

- A little over **three-quarters** charge via 240-volt EV charging equipment at home, with another **14%** charging via the standard 120-volt.
- Although a **quarter** never use public charging stations, those that do are rarely charging to full capacity.
- **62%** either charge between halfway or close to full, or they’re basing it on how much time they have to wait for charging.

HOW MUCH DO YOU CHARGE THE BATTERY OF YOUR ELECTRIC VEHICLE AT PUBLIC CHARGING STATIONS? N=242



Problems Encountered

Of those who have actually charged an EV themselves, **only 1-in-6 have encountered** challenges, which include:

- Trouble finding public charging stations
- Availability of chargers
- ICEs parked in charging spots
- Broken or unmaintained chargers
- The slow speed of charging
- Battery power for distance
- Compatibility
- Various malfunctions of the battery and charging

COMMON THEMES THAT EMERGED:

COMPLIMENTS

The majority of current EV owners who commented love their EVs, with some even mentioning they may never go back to ICEs. Some of the non-owners are very excited about them and having one in the future.

COMPLAINTS

High upfront cost, low range, style of exterior design, lack of model choices, charging speed and lack of charging infrastructure are the common complaints about EVs. They also don't like the mandates and feel like EVs are being "forced" on them.

CONCERNS

Most are concerned about EVs affecting the power grid, range, charging (networks, speed, and availability of stations), battery life, environmental impacts (e.g., use of lithium), and operational issues due to the weather.

ENVIRONMENT

Many are skeptical about the actual impacts EVs have on the environment vs. as advertised. They argue that batteries (production, material, recycling/disposal, etc.) are harmful to the environment. They also question the cleanliness of the source of electricity. However, there are some that insist that EVs are beneficial to the environment

OPINIONS

Many stated that range and charging (speed, infrastructure, and network) are the most important aspects about EVs. Many see EVs as a good commuter car but not for long drives such as road trips, so disinterest in them has been expressed due to that. Some also mentioned that they plan to wait for the EVs to evolve more and for more model options to be available.

QUESTIONS

Respondents mainly asked about upfront and battery replacement costs, maintenance, charging (locations, charging at home, availability), and how they benefit the environment.

SUGGESTIONS

Lower the high upfront costs, have a bigger selection of models, improve charging infrastructure and speed, and ensure clean and safe environmental impacts.

EV SURVEY METHODOLOGY

RESEARCH OBJECTIVES

- To further understand overall Electric Vehicle shopping behavior, attitudes, and opinions. Respondents were also interviewed about:
 - Car ownership and consumership
 - Brand consideration
 - EV charging

METHODOLOGY

- Interviewed respondents via online survey
- In field from November 15, 2021 to December 5, 2021
- Sample: Recruitment from Hearst Autos in-market and enthusiast brands
- Size: 3,050 respondents from newsletter subscribers and social followers



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