Agenda

01 Introduction
02 Survey Overview
03 Key Takeaways
04 Vehicle Satisfaction
05 Motivating Factors
06 Charging Networks
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Full report

Available later today
Visit pluginamerica.org/survey

Recording of webinar
Available later on pluginamerica.org/survey

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Meet our speakers

Joel Levin  
Executive Director

Pete O’Connor  
Consultant

Ingrid Malmgren  
Policy Director

Lindsey Perkins  
Communications & Marketing Director
Plug In America

**National nonprofit organization founded in 2008**

- Dedicated to accelerating the use of plug-in electric vehicles in the United States
- Provide practical, objective information to consumers and dealerships about EVs through various programs, including National Drive Electric Week, Drive Electric Earth Day, PlugStar.com, and other public outreach events
- The world’s deepest pool of EV drivers, policy experts and technical advisors with many years of experience and millions of electric miles driven
2023 survey responses

Fielded December 2022 through February 2023

- 4,000+ responses
- Plug In America’s email list and responses to social media ads on Meta platforms

RESPONSES BY DATA SOURCE

- Plug In America email subscriber 76%
- Social media 24%
3,319 EVs reported

- Tesla 32% (2022: 35%)
- Chevrolet 17% (2022: 20%)
- Nissan 8% (2022: 10%)
- Ford 8% (2022: with Other, less than 4%)
- BMW 5% (2022: 4%)
- Toyota 3% (2022: 4%)
- Other 27% (2022: 27% but included Ford)

80% acquired new, 20% acquired used
23 respondents had e-bikes but not 4-wheeled EVs
Broad range of driver experience

- Some drivers reported having their first EV in the 1970s: one each for 1974, 1975, 1976
- Median year of first EV was 2018
- Mode year of first EV was 2022
Early adopter profile skews higher-income

- EVs were about 6% of LDV sales in 2022
- This year, intenders were older than owners
**Key Takeaways**

**High satisfaction with vehicles**
90% of EV owners are likely to purchase an EV as their next vehicle (2022: 90%)

**General satisfaction with information**
82% of owners were satisfied with finding the information they needed to buy/lease an EV (2022: 83%)
Main gaps: cold-weather performance, real-world range

**Salesperson knowledge moderate**
Only 15% of EV owners rated dealership salesperson knowledge as “very high.” Only 37% rated as “high” or better (2022: 15% and 35%)
**Key Takeaways**

**Home charging is prevalent**
94% of EV owners have access to home charging (2022: 92% listed home as most frequent charging location)

**Level 1 is somewhat common**
20% of EV owners have only Level 1 charging at home (including 18% of Bolt drivers and 10% of Model 3 drivers) (2022: 24%, 20%, 11%)

**Public charging networks are lagging**
46% of those who used public DC fast-charging considered broken chargers a “major concern” or “a deal-breaker for using this network” (2022: 25%). (Supercharger: 8% and 3%)

**Satisfaction with public DCFC networks went from 75% in 2022 to 54% in 2023**
Vehicle Satisfaction

ALL MODELS

Value for the Price
Reliability
Cargo Space
Ease of Charging
Navigation System
Styling and Appearance
Comfort
Safety Features
Performance
Charging Speed
Range

Unsatisfactory  Satisfactory  Exceptional

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# Vehicle Satisfaction

## 30+ responses

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<tr>
<th>Feature</th>
<th>Leader</th>
<th>% &quot;Exceptional&quot;</th>
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<tr>
<td>Range</td>
<td>Tesla Model Y</td>
<td>36%</td>
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<td>Charging Speed</td>
<td>Kia EV6</td>
<td>71%</td>
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<td>Performance</td>
<td>Rivian R1T</td>
<td>89%</td>
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<td>Navigation System</td>
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<td>Ease of Charging</td>
<td>Tesla Model Y</td>
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<tr>
<td>Cargo Space</td>
<td>Rivian R1T</td>
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<td>Reliability</td>
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<td>Value for the Price</td>
<td>Chevy Bolt/EUV</td>
<td>58%</td>
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## 80+ responses

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<td>Ease of Charging</td>
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<td>Cargo Space</td>
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<td>69%</td>
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<td>Value for the Price</td>
<td>Chevy Bolt/EUV</td>
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Vehicle Satisfaction by Model Year

**RANGE**

**PERFORMANCE**

**CHARGING SPEED**

**VALUE FOR THE PRICE**

**RELIABILITY**
Motivating Factors

EV drivers care about clean air and a livable climate

As in prior surveys, environmental protection was by far the most prevalent motivating factor among both owners and intenders. 41% of EV drivers rated it as the most important factor, with 20% citing cost savings. Among intenders, these values were 39% and 32%.

A majority of EV drivers say it is either “very important” or “vital” that the electricity for their vehicle come from renewable energy.
Incentives ranked "Very Influential" or "Critical"

- Inexpensive Home Charging
- Federal EV tax credit
- Free charging at select public locations
- Discounted utility rates for EV charging
- State or local incentives
- Utility rebate for a charging station
- Access to HOV lanes

Economic Incentives

Incentives can move the needle

Inexpensive home charging and federal EV tax credit are the economic incentives most commonly rated as “very influential” or “critical”
Information Sources and Gaps

**Listed in Top 3 Information Sources**
- EV-specific websites or forums
- Video reviewers on sites such as YouTube
- Online or print news articles
- Nonprofit organizations
- Ride and drive events
- Automakers
- Friends and family
- General auto websites
- Government websites
- Electric utilities
- Auto dealers

**Information Gaps**
- I was able to find all the information I wanted
- Cold-weather performance
- Reliable information on real-world vehicle range
- Public charging options
- How to apply for incentives or rebates
- Vehicle battery lifetime
- Home charging requirements
- Available vehicle models and characteristics

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Charging Patterns

**FREQUENCY OF PUBLIC CHARGING**

- **Daily**: DCFC: 5%, Public L2: 20%
- **Weekly**: DCFC: 15%, Public L2: 15%
- **Monthly**: DCFC: 20%, Public L2: 20%
- **Rarely**: DCFC: 25%, Public L2: 30%
- **Never**: DCFC: 30%, Public L2: 35%

**FREQUENCY OF WORKPLACE CHARGING**

- **Daily**: DCFC: 25%, Public L2: 30%
- **Weekly**: DCFC: 30%, Public L2: 35%
- **Monthly**: DCFC: 20%, Public L2: 25%
- **Rarely**: DCFC: 15%, Public L2: 20%
- **Never**: DCFC: 10%, Public L2: 15%
Public Charging Difficulties

**NOT ENOUGH CHARGERS AT EACH LOCATION**

- Not at all a concern
- A minor concern
- A moderate concern
- A major concern
- A deal-breaker for using this network

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Dealership Knowledge and Buying Experience

**RATINGS OF SALESPERSON KNOWLEDGE**
- Very High: 16%
- High: 23%
- Moderate: 34%
- Low: 17%
- Very Low: 10%

**NEGOTIATING PRICE AND TERMS**

**POST-DELIVERY SUPPORT AND SERVICE**

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Dealership Knowledge and Buying Experience

DEALERSHIP KNOWLEDGE

POST-DELIVERY SUPPORT AND SERVICE

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Slightly higher satisfaction outside of California

- Anecdotal evidence suggests that satisfaction may be lower in California due to inadequate local service capacity relative to the number of Tesla vehicles
- Overall satisfaction still very high in this survey sample
- Possible selection bias
Compared to 2022 Survey

Most top-level findings are consistent
- Motivating factors
- Economic incentives
- Role of renewable energy
- Utilization of workplace charging
- Demographics

Some new questions added
- Post-sales service experience
- Model year of vehicle

Public charging concerns increased significantly
- Are problems objectively more severe?
- Perception of problems increased (multiple recent articles)?
- Shifting market to more mainstream adopters?
- More road trips in 2022 than in 2021?
Full report

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Questions?