




EV Driver Survey Webinar

May 31, 2023

Agenda

- 
- 01** Introduction
 - 02** Survey Overview
 - 03** Key Takeaways
 - 04** Vehicle Satisfaction
 - 05** Motivating Factors
 - 06** Charging Networks
 - 07** Q&A

Full report

Available later today

Visit pluginamerica.org/survey

Recording of webinar

Available later on pluginamerica.org/survey

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2023 EV DRIVER SURVEY

A STRONG YEAR FOR EVs,
BUT CHARGING RELIABILITY
NEEDS IMPROVEMENT



Meet our **speakers**



Joel Levin
Executive Director



Pete O'Connor
Consultant



Ingrid Malmgren
Policy Director



Lindsey Perkins
Communications &
Marketing Director

A silver Tesla Model S is shown from a rear three-quarter view, driving on a road. In the background, there are several wind turbines and a mountain range under a blue sky with light clouds. A vertical orange bar is positioned on the right side of the image area.

Plug In America

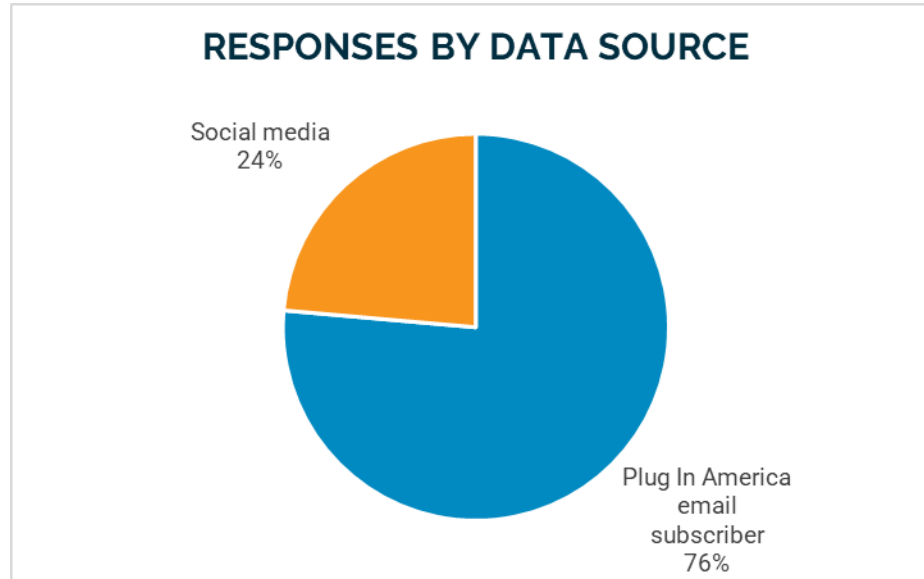
National nonprofit organization founded in 2008

- 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



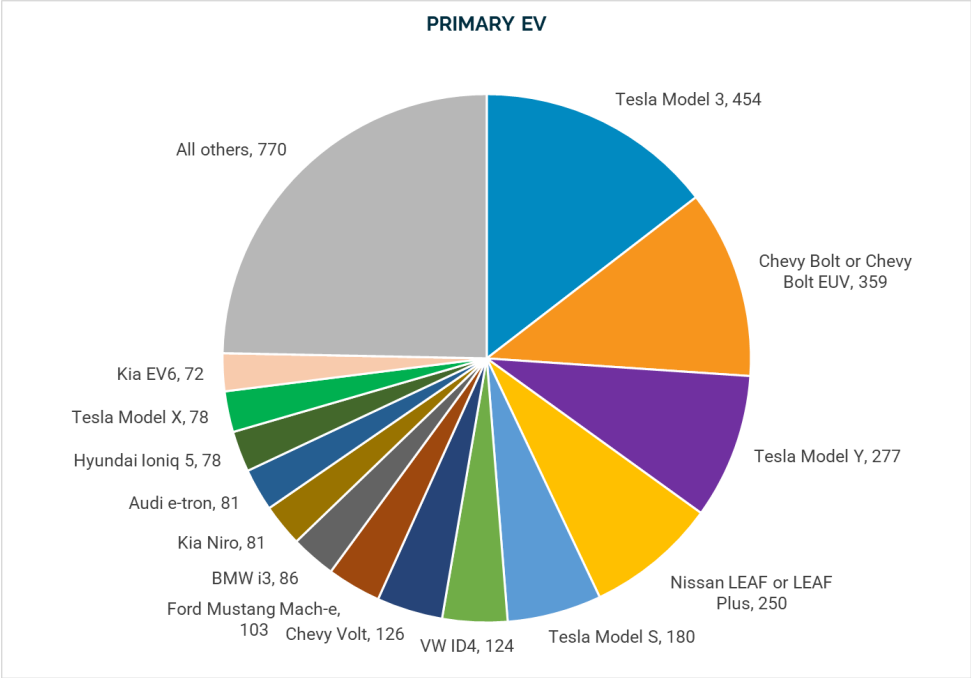
Broad range of vehicles

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)

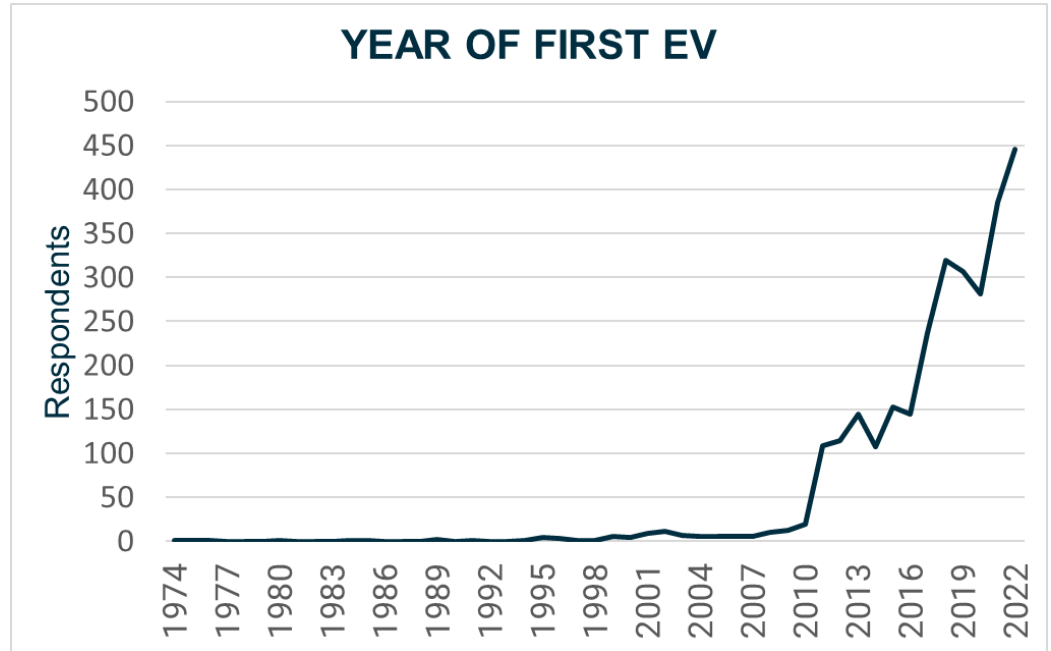
80% acquired new, 20% acquired used

23 respondents had e-bikes but not 4-wheeled EVs



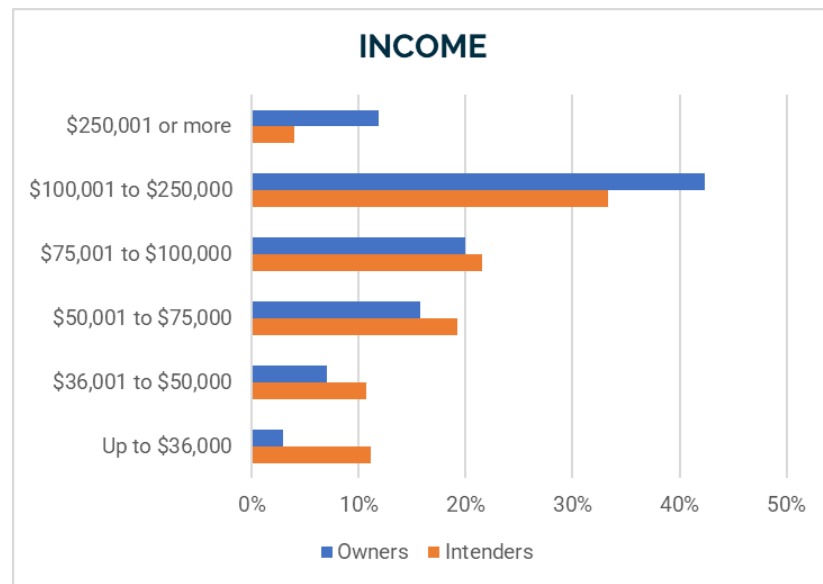
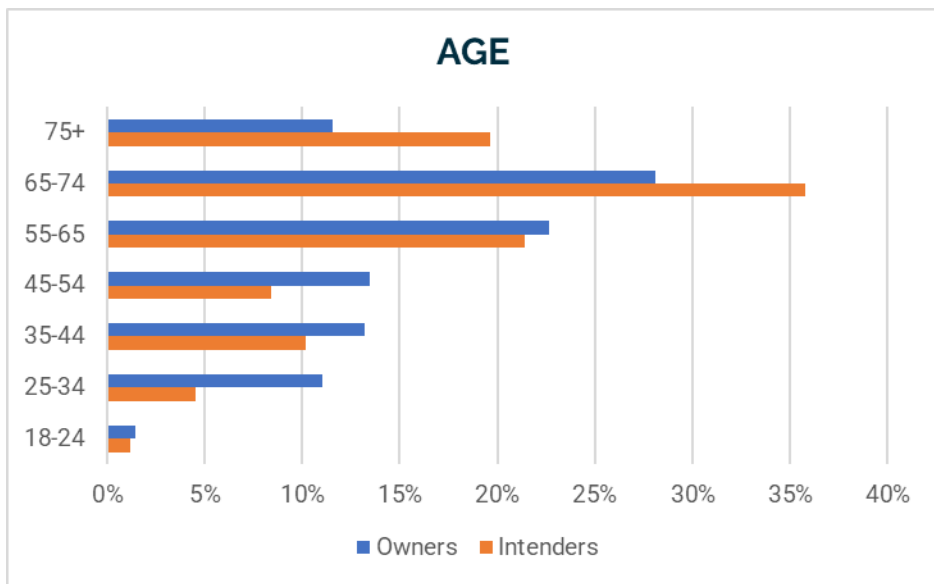
Broad range of driver **experience**

- 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%)

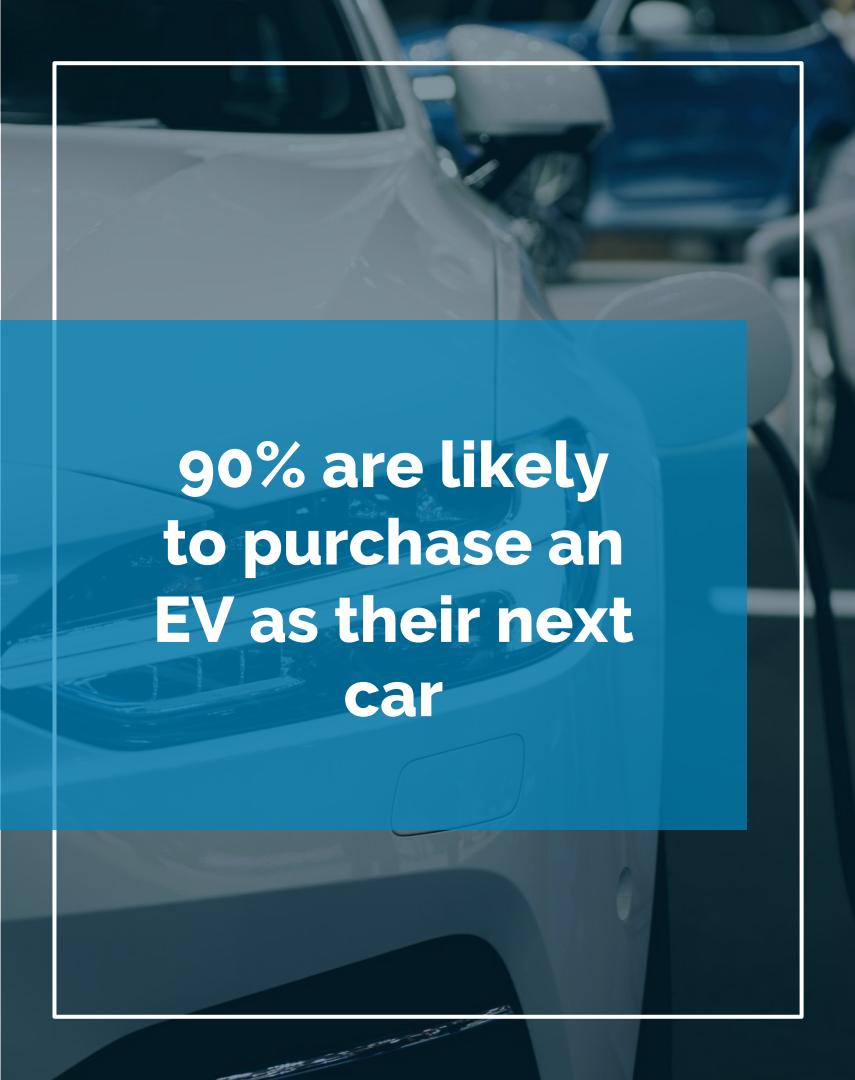
General satisfaction with information

82% of owners were satisfied with finding the information they needed to buy/lease an EV (2022: 83%)

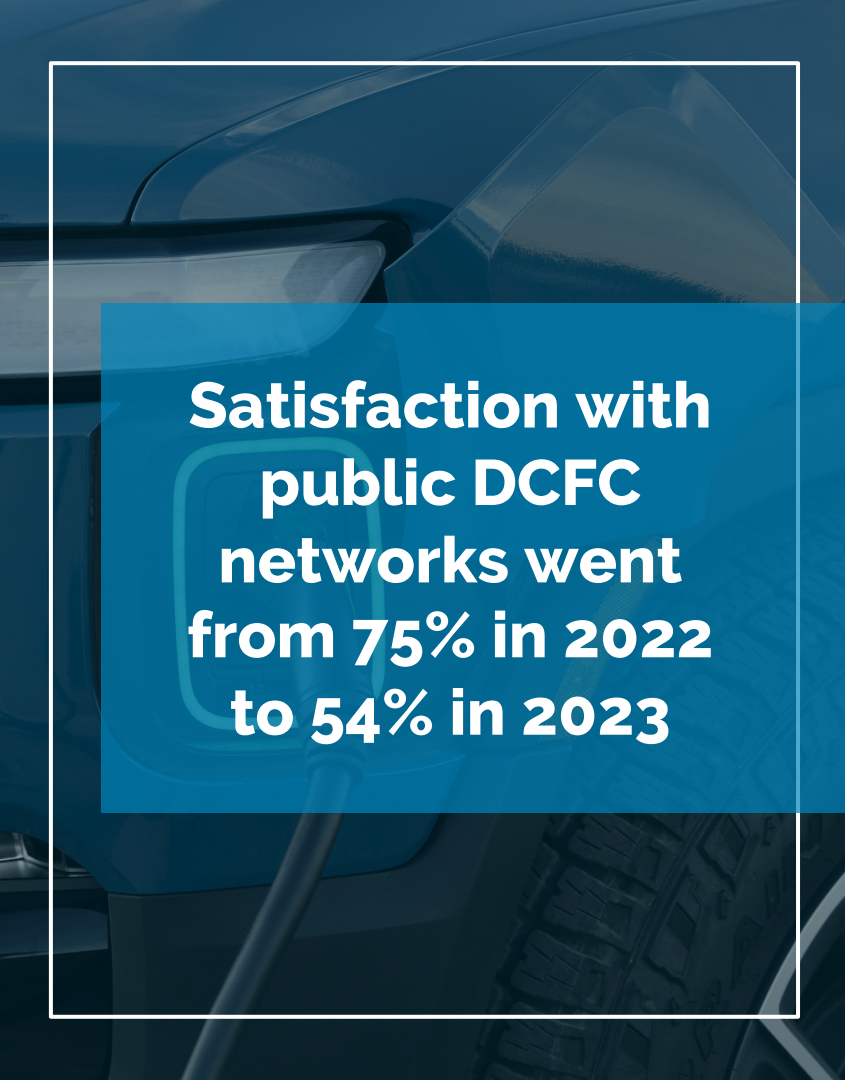
Main gaps: cold-weather performance, real-world range

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%)



**90% are likely
to purchase an
EV as their next
car**



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

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

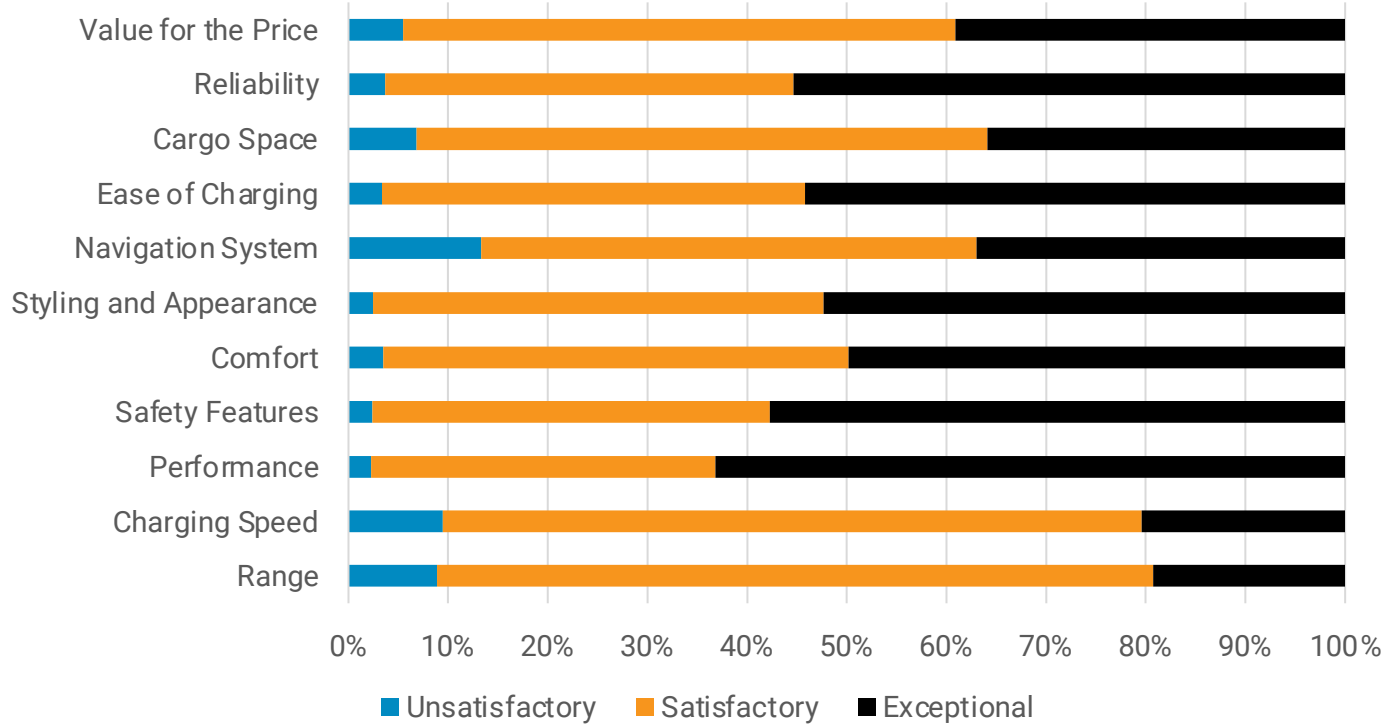
20% of EV owners have only Level 1 charging at home
(including 18% of Bolt drivers and 10% of Model 3 drivers)
(2022: 24%, 20%, 11%)

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%)

Vehicle Satisfaction

ALL MODELS



Vehicle Satisfaction

30+ responses

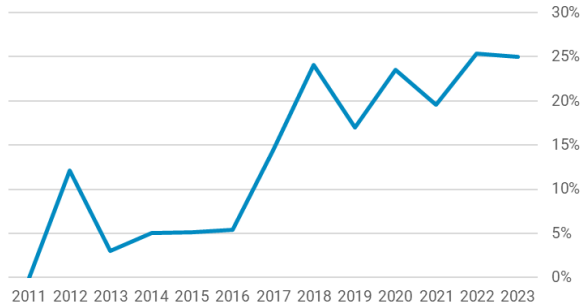
	Leader	% "Exceptional"
Range	Tesla Model Y	36%
Charging Speed	Kia EV6	71%
Performance	Rivian R1T	89%
Safety Features	Rivian R1T	89%
Comfort	Rivian R1T	85%
Styling/Appearance	Rivian R1T	96%
Navigation System	Tesla Model S	71%
Ease of Charging	Tesla Model Y	80%
Cargo Space	Rivian R1T	91%
Reliability	Toyota Rav4 Prime	76%
Value for the Price	Chevy Bolt/EUV	58%

80+ responses

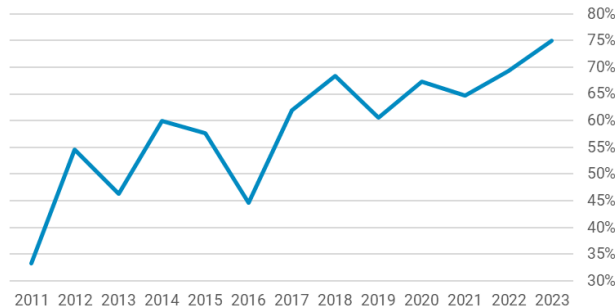
	Leader	% "Exceptional"
Range	Tesla Model Y	36%
Charging Speed	Kia EV6	71%
Performance	Tesla Model Y	84%
Safety Features	Tesla Model Y	78%
Comfort	Hyundia IONIQ 5	76%
Styling/Appearance	Tesla Model S	77%
Navigation System	Tesla Model S	71%
Ease of Charging	Tesla Model Y	80%
Cargo Space	Tesla Model Y	73%
Reliability	Tesla Model Y	69%
Value for the Price	Chevy Bolt/EUV	58%

Vehicle Satisfaction by Model Year

RANGE



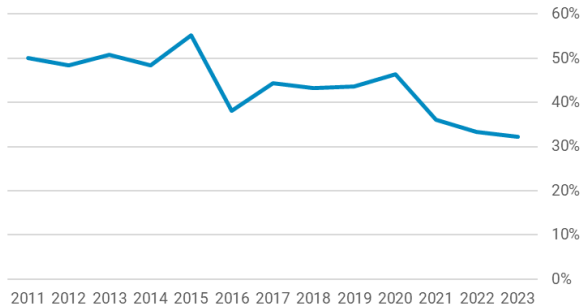
PERFORMANCE



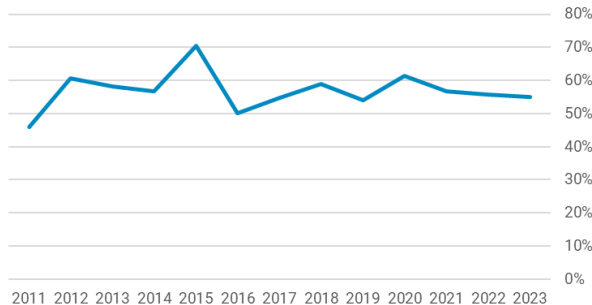
CHARGING SPEED



VALUE FOR THE PRICE



RELIABILITY



Motivating Factors

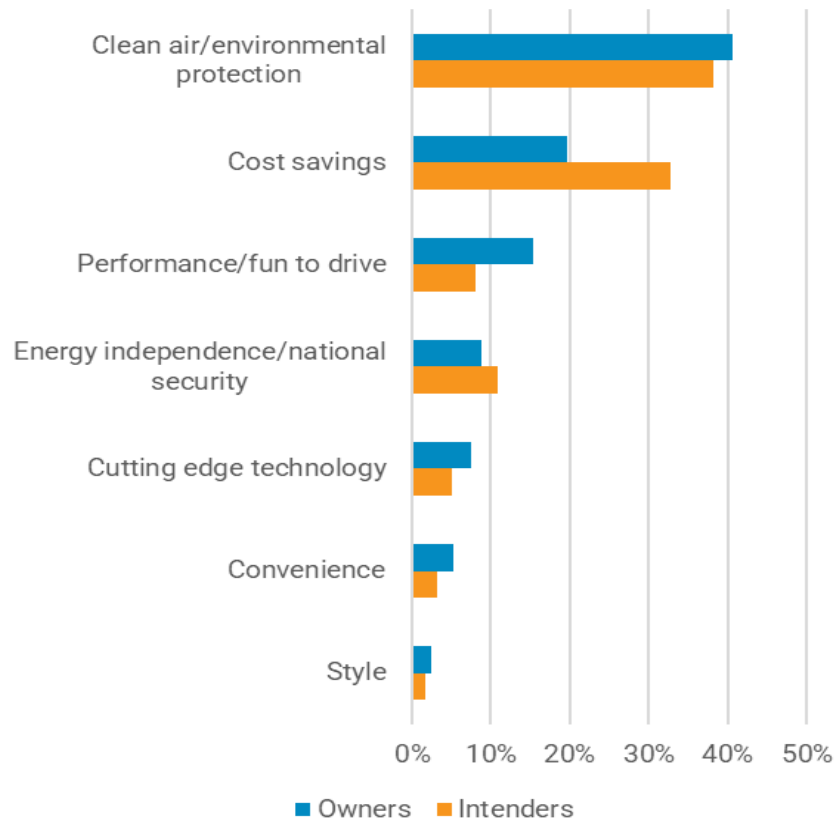
EV drivers care about clean air and a livable climate

As in prior surveys, environmental protection was by far the most prevalent motivating factor among both owners and intenders

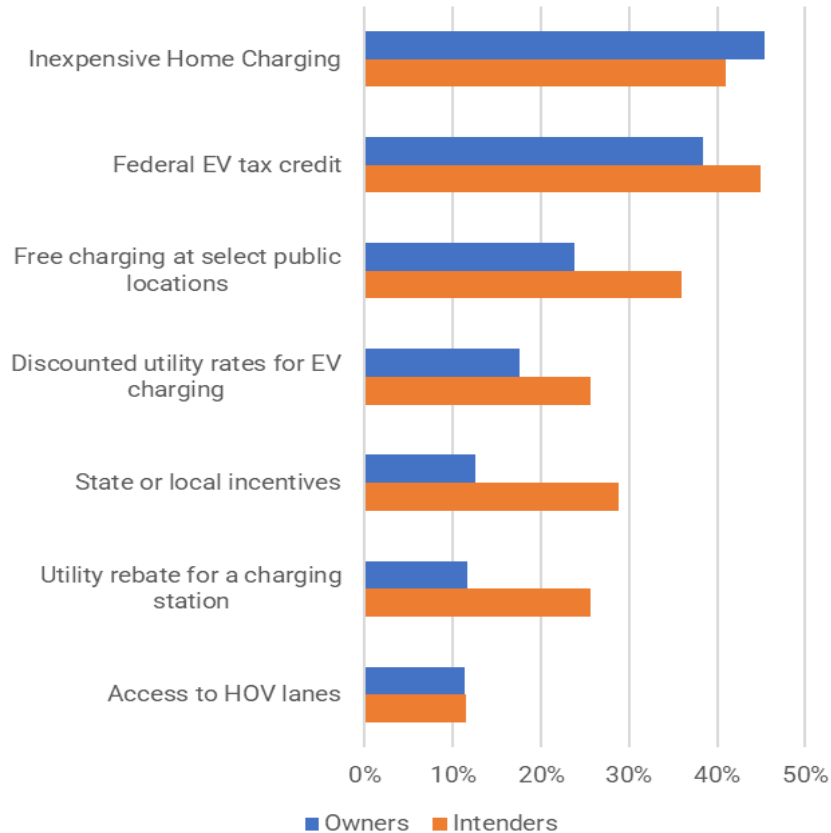
41% of EV drivers rated it as the most important factor, with 20% citing cost savings. Among intenders, these values were 39% and 32%

A majority of EV drivers say it is either “very important” or “vital” that the electricity for their vehicle come from renewable energy

SINGLE MOST IMPORTANT MOTIVATING FACTOR



Incentives ranked "Very Influential" or "Critical"



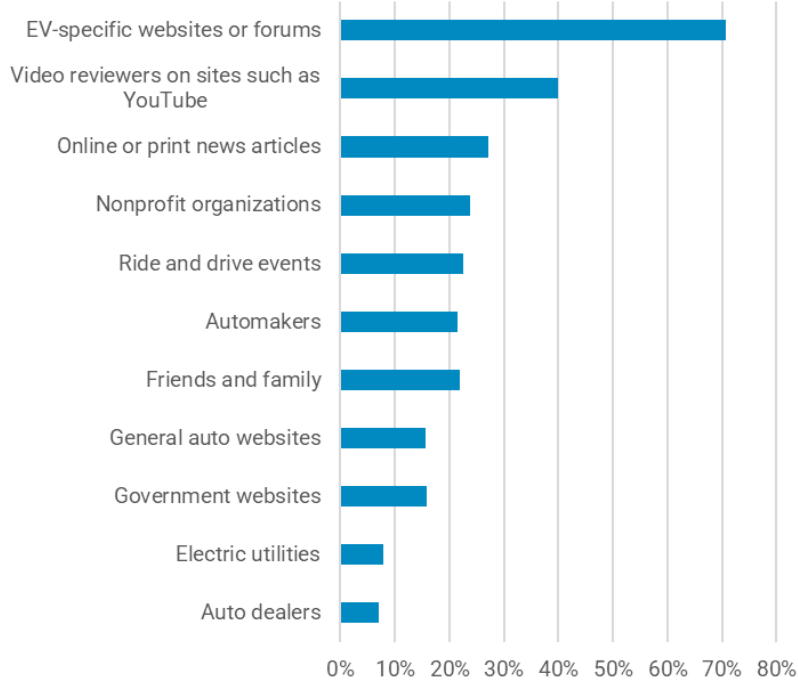
Economic Incentives

Incentives can move the needle

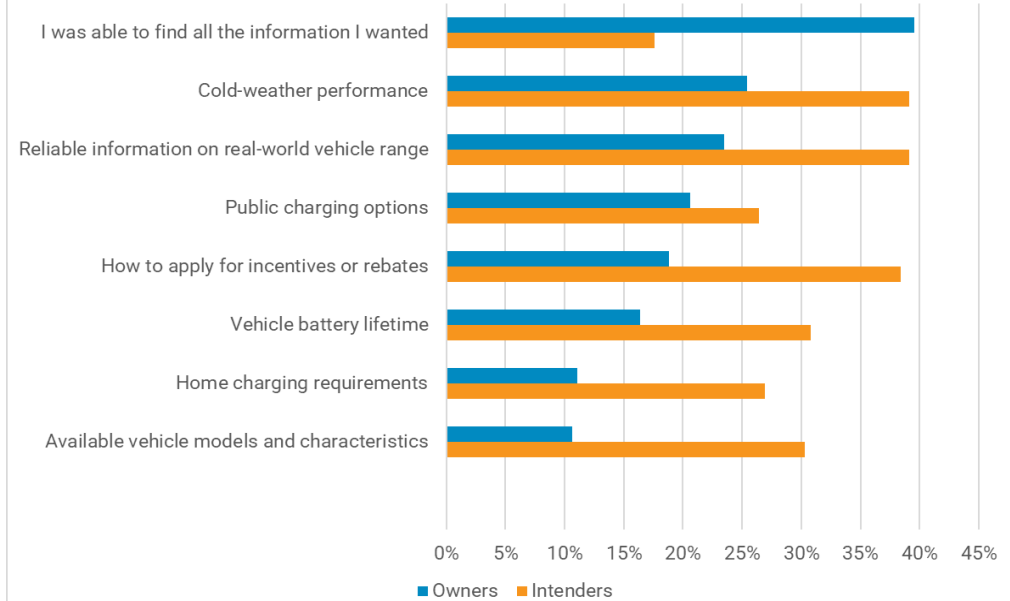
Inexpensive home charging and federal EV tax credit are the economic incentives most commonly rated as “very influential” or “critical”

Information Sources and Gaps

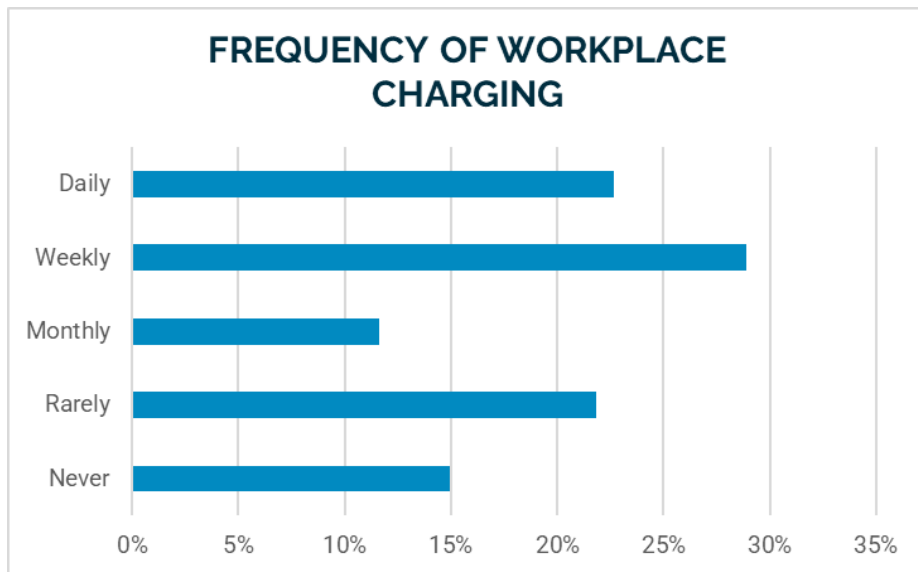
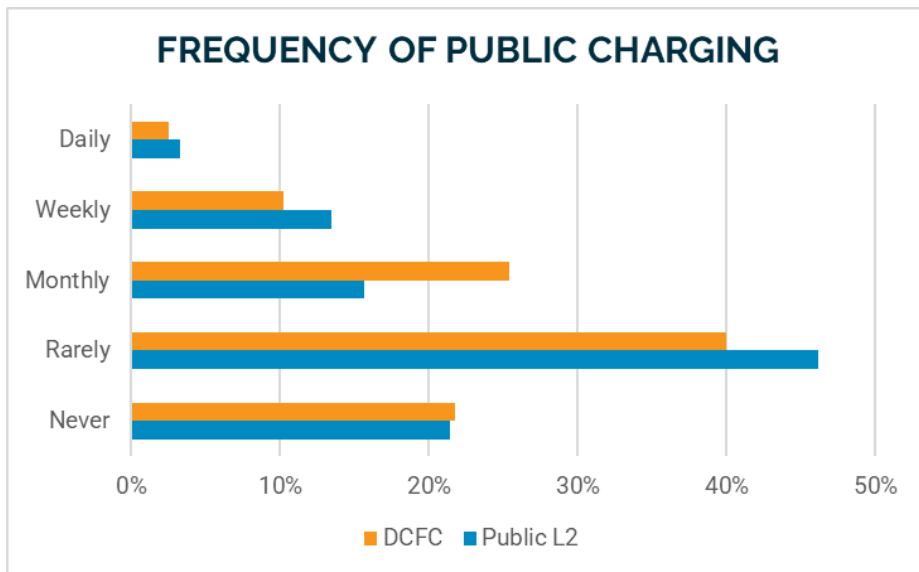
LISTED IN TOP 3 INFORMATION SOURCES



INFORMATION GAPS

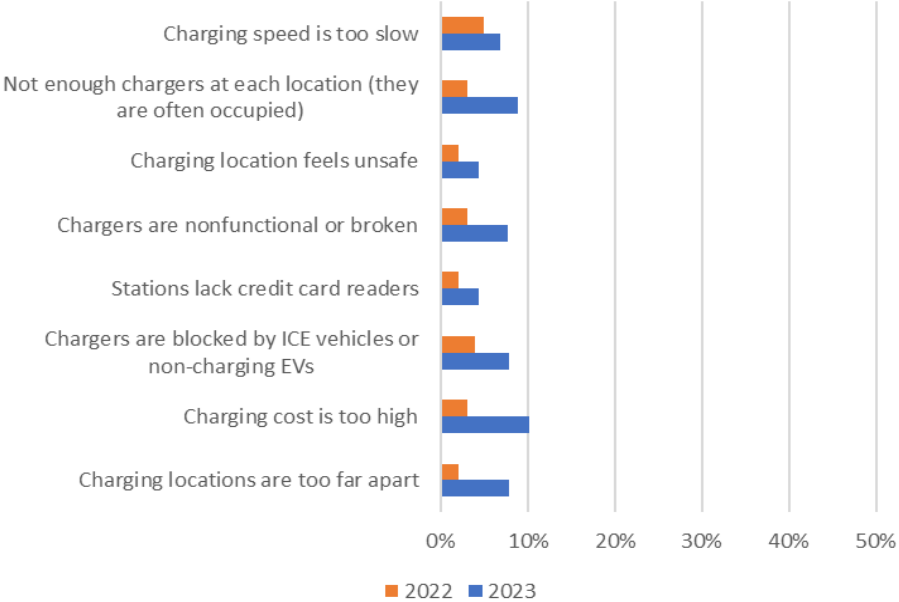


Charging Patterns

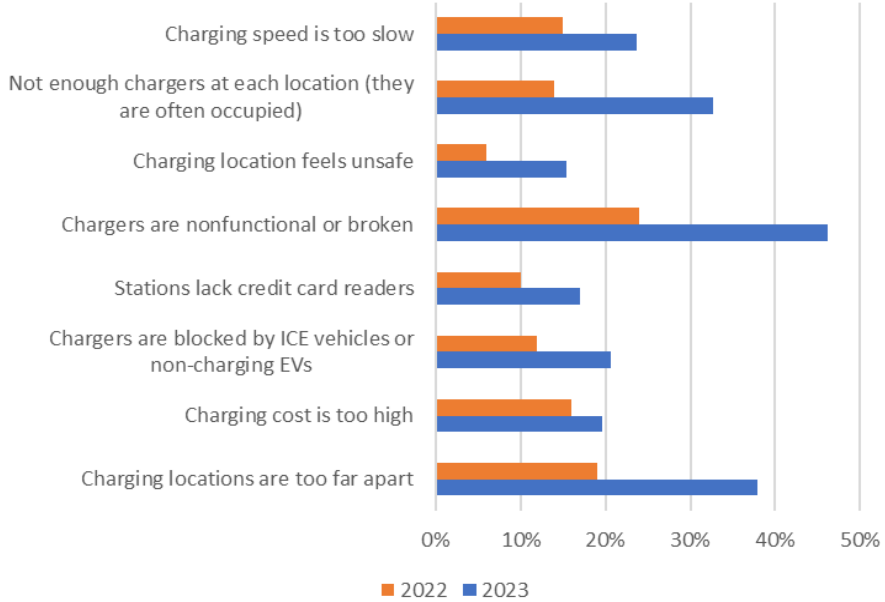


Public Charging Difficulties

Tesla Supercharger

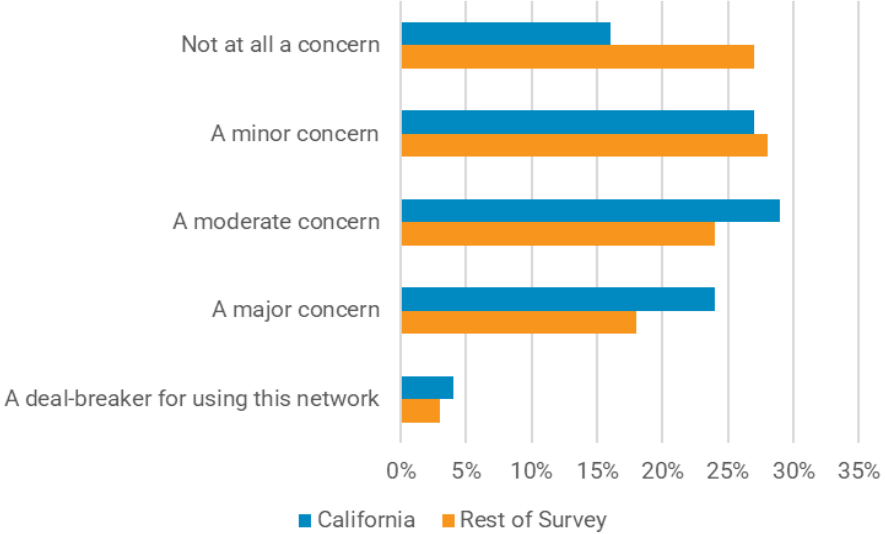


Public DCFC

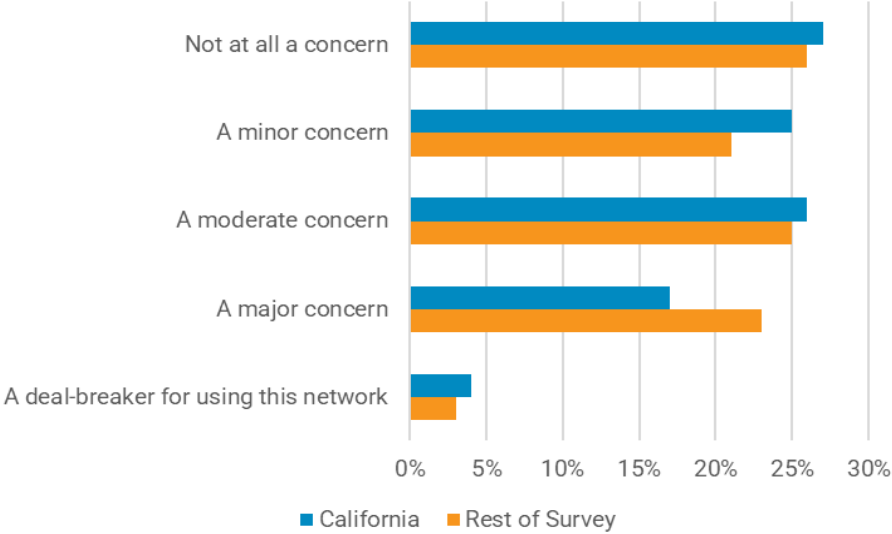


Public Charging Difficulties

NOT ENOUGH CHARGERS AT EACH LOCATION

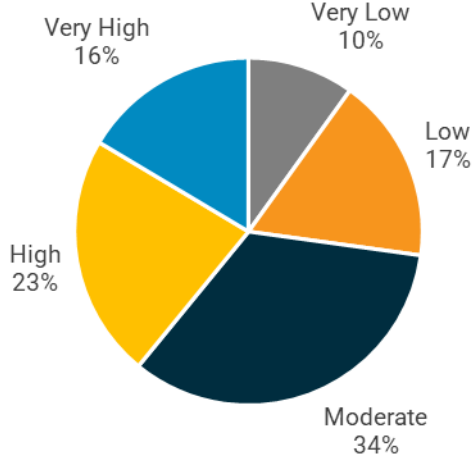


CHARGING LOCATIONS ARE TOO FAR APART

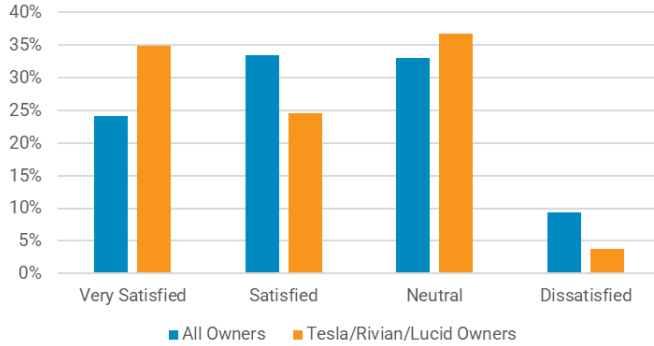


Dealership Knowledge and Buying Experience

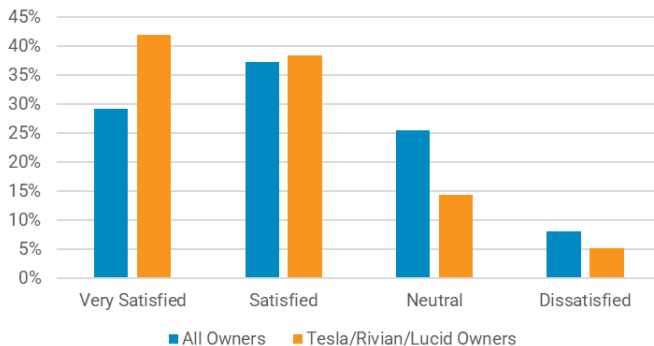
RATINGS OF SALESPERSON KNOWLEDGE



NEGOTIATING PRICE AND TERMS

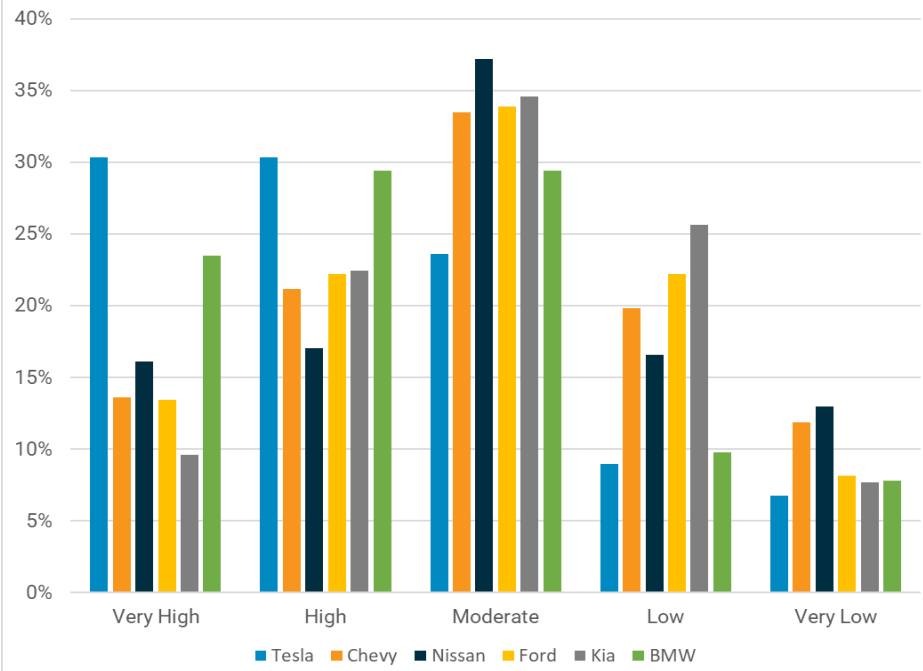


POST-DELIVERY SUPPORT AND SERVICE

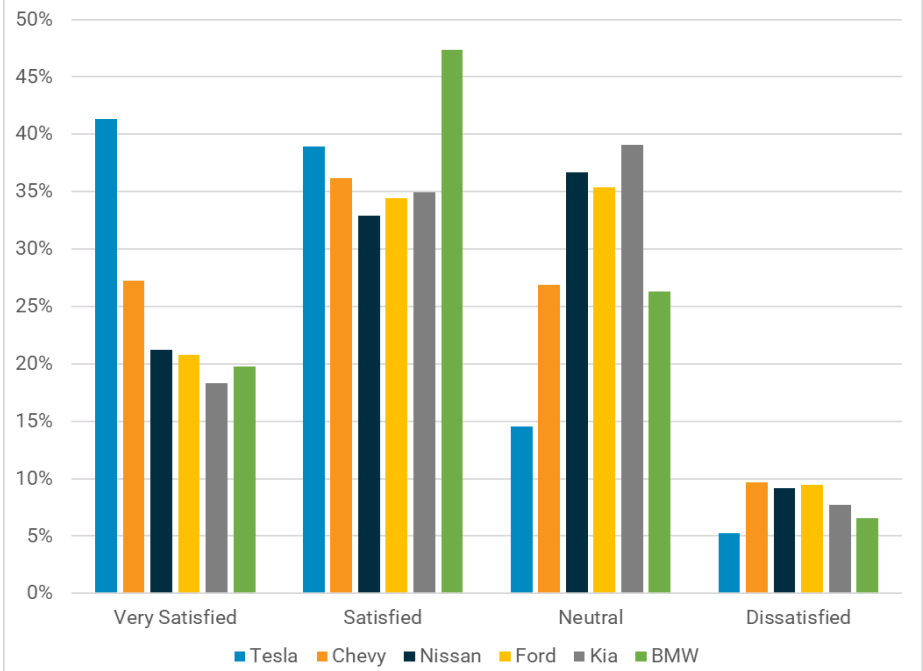


Dealership Knowledge and Buying Experience

DEALERSHIP KNOWLEDGE



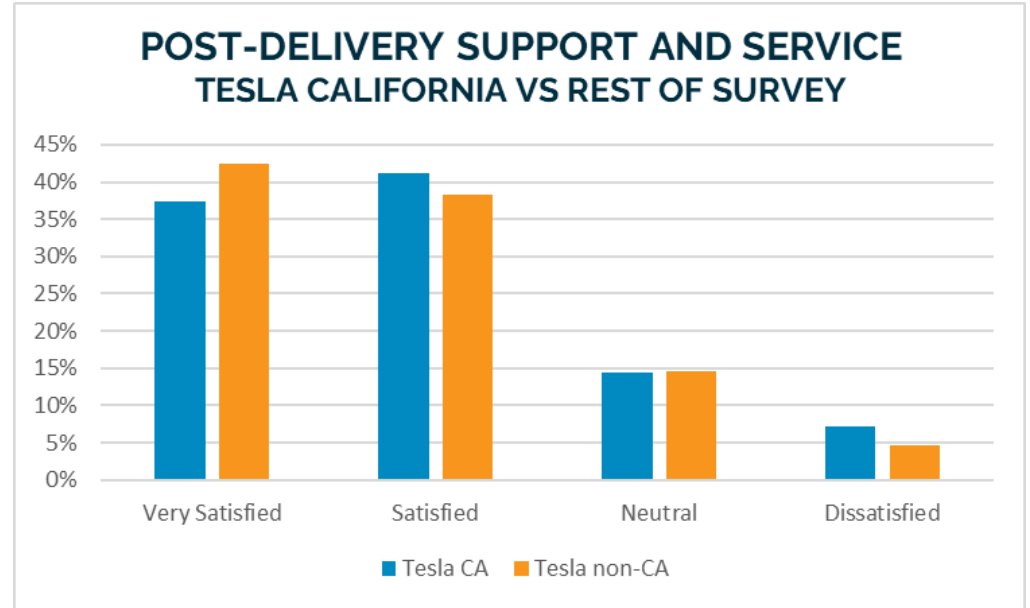
POST-DELIVERY SUPPORT AND SERVICE



Tesla Service **Issues?**

Slightly higher satisfaction outside of California

- Anecdotal evidence suggests that satisfaction may be lower in lower in CA 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?
