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ELECTRIC VEHICLE QUARTERLY REPORT

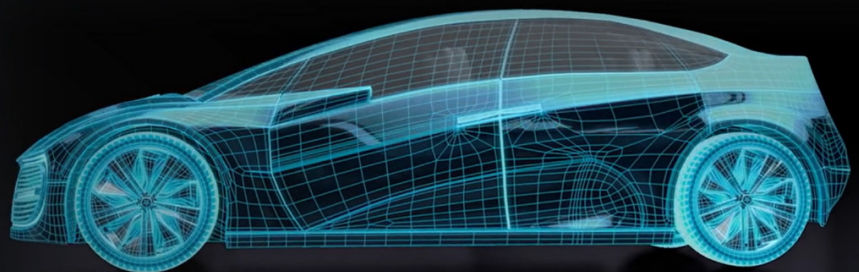
THIRD QUARTER, 2024

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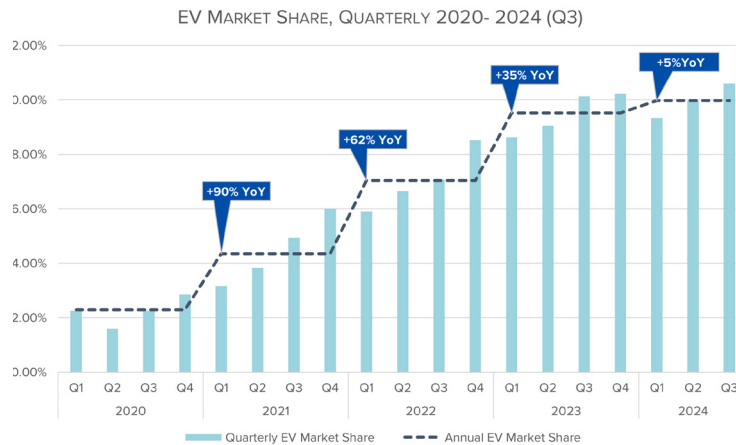
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ELECTRIC VEHICLE SALES OVERVIEW (Q3 2024)

In the third quarter of 2024, automakers sold 408,688 electric vehicles (EVs, including battery, plug-in hybrid, and fuel cell electric vehicles) in the United States, representing 10.6 percent of overall light-duty vehicle sales. This represents a 0.6 percentage point (pp) market share increase over the second quarter of 2024 amounting to an increase of about 22,000 vehicle sales – making EV Sales volume in Q3 the highest on record.

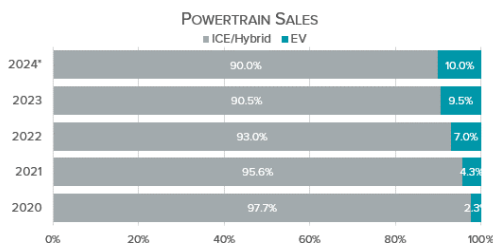
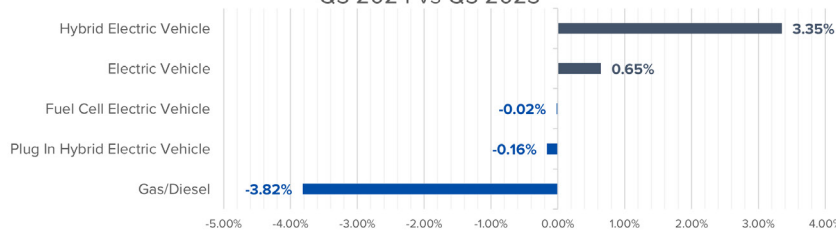


* See appendix - A for month-by-month EV market share

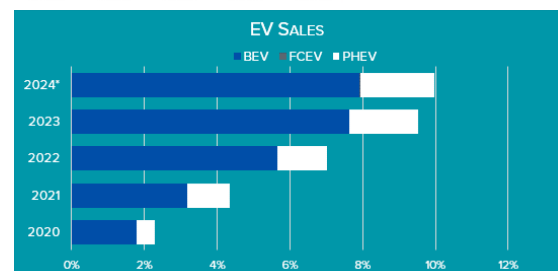
Year-over-year (YoY), EV market share increased 0.47 pp from the third quarter of 2024. The total volume of all light-duty sales in Q3 2024 was 3 percent higher than Q3 2023, while the volume for EVs increased 8 percent (an increase of about 31,000 vehicles). For comparison, internal combustion engine (ICE) vehicle market share decreased by 3.8 pp during Q3 2024 compared to the same period last year. Nearly all of ICE market share was displaced by gains of traditional hybrids and electric vehicles, offset slightly by market share losses from PHEVs and FCEVs.

Nearly 1.14 million EVs were sold in the first three quarters of 2024, 10 percent of all light vehicle sales and an increased market share of 0.7 pp over the same period in 2023. The total volume of all light-duty sales for the first three-quarters of the year is up 2 percent from the same period a year ago, while the volume for EVs increased 10 percent (an increase of about 101,000 vehicles).

YEAR-OVER-YEAR CHANGE IN POWERTRAIN MARKET SHARE: Q3 2024 vs Q3 2023

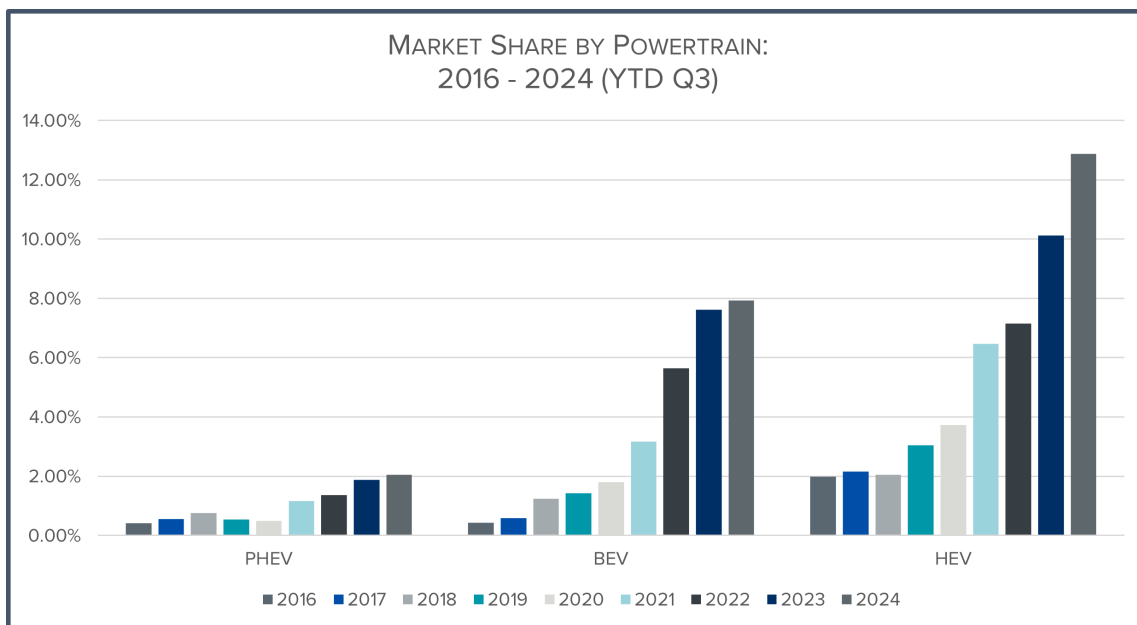


*Through Q3 2024

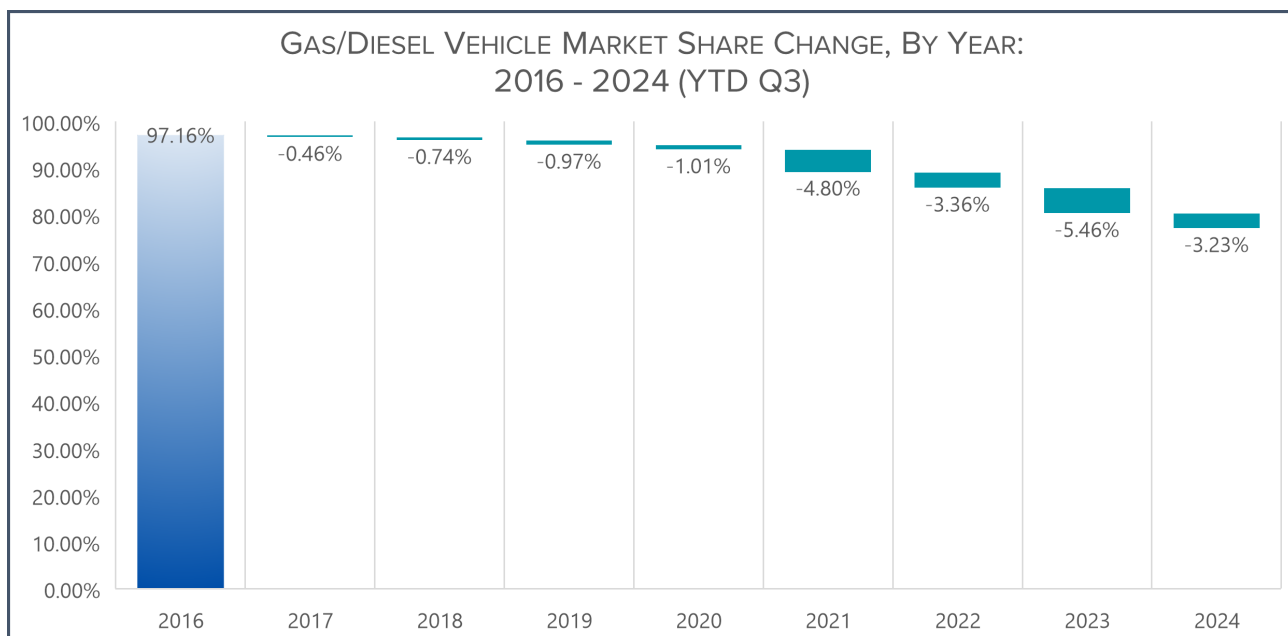


EVOLVING MARKET SHARE OF POWERTRAINS: 2016 - 2024

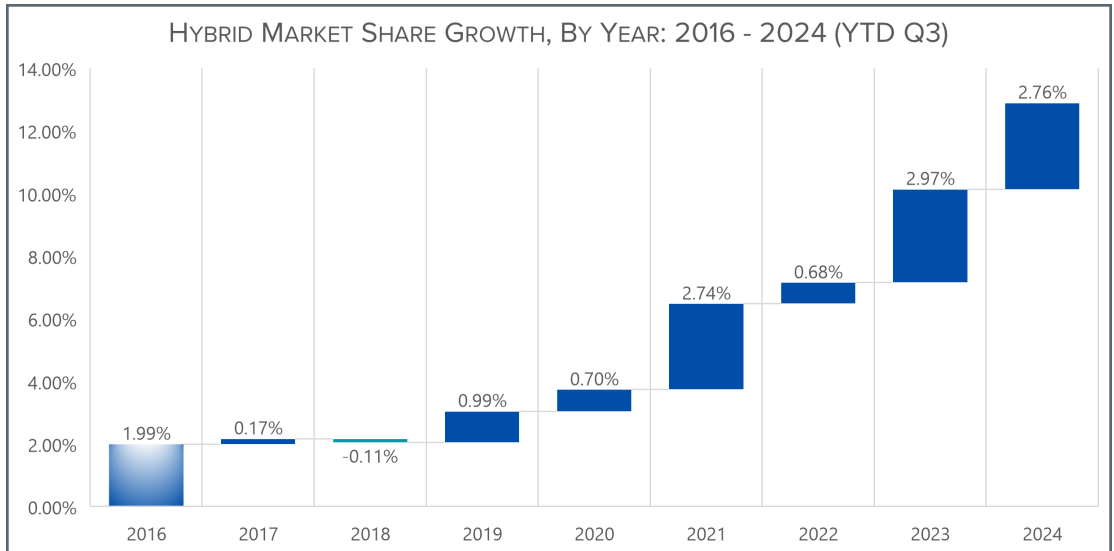
From 2016 through the third quarter of 2024, traditional internal combustion engine (ICE) market share has steadily declined. In 2016, ICE vehicles comprised more than 97 percent of all vehicle sales. Through the third quarter of 2024, the year-to-date ICE share dropped to 77 percent for an overall loss of 20 pp. That said, the ICE market share loss was replaced by increases in share of traditional hybrids, BEVs, and PHEVs. Traditional hybrids made up most of the alternative vehicle gains (+10.9 pp) followed by BEVs (+7.5 pp) and PHEVs (+1.6 pp) over the last eight-plus years.



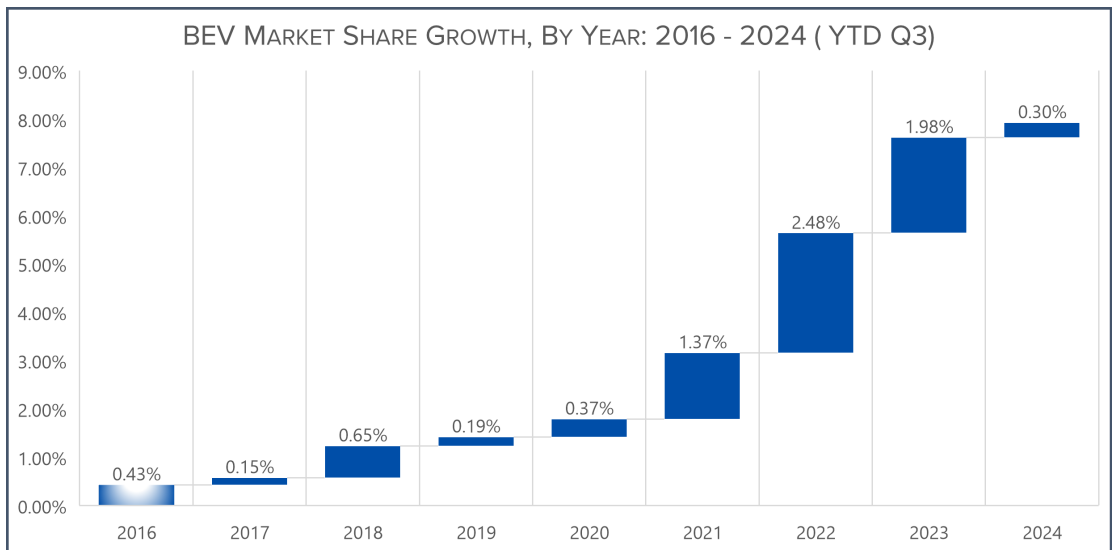
ICE market share decreased from 97 percent in 2016 to 77 percent through Q3 2024 (-20 pp):



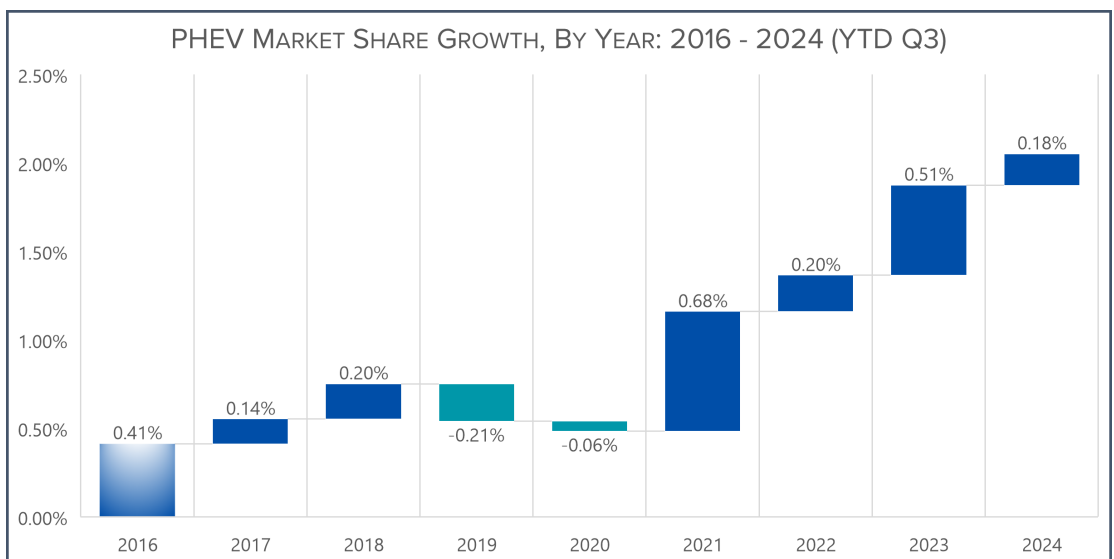
Hybrid market share grew from 2 percent in 2016 to 12.8 percent through Q3 2024 (+10.9 pp):



BEV market share grew from .43 percent in 2016 to 7.9 percent through Q3 2024 (+7.5 pp):



PHEV market share grew from .41 percent in 2016 to 2.1 percent through Q3 2024 (+1.6 pp):



[See Additional
Historic Data on
EV Sales](#)

ELECTRIC VEHICLE SALES BY SEGMENT

EV Model Availability

125 Vehicle Models Sold in Q3 2024:

71 Battery Electric Vehicles

- » 19 Cars
- » 40 Utility Vehicles
- » 6 Pickups
- » 6 Vans

51 Plug-in Hybrid Vehicles

- » 20 Cars
- » 30 Utility Vehicles
- » 1 Van

3 Fuel Cell Electric Vehicles*

- » 1 Car
- » 2 Utility Vehicle

*Includes Plug-In Hybrid Fuel Cell

See more information about [EV CHOICE HERE](#)

While passenger cars once dominated the EV market, manufacturers continue to introduce new models to satisfy a variety of consumer needs. Utility vehicle (UV) offerings continue to grow, and while electric pickup trucks are a relatively new entry to the market (making their commercial debut in September 2021), there are 6 models available now, with more expected soon. As a result, non-car segments are continuing to make gains, and in the third quarter of 2024, light truck (UVs, minivans, and pickups) sales comprised 80 percent of the EV market – a 6 pp increase over the third quarter of 2023.

Quarterly sales of BEV and PHEV UVs have grown from about 19 percent of EVs at the start of 2020 to 70 percent in the third quarter of 2024. Nearly 26,000 more UVs were sold in the third quarter of 2024 than the third quarter of 2023.

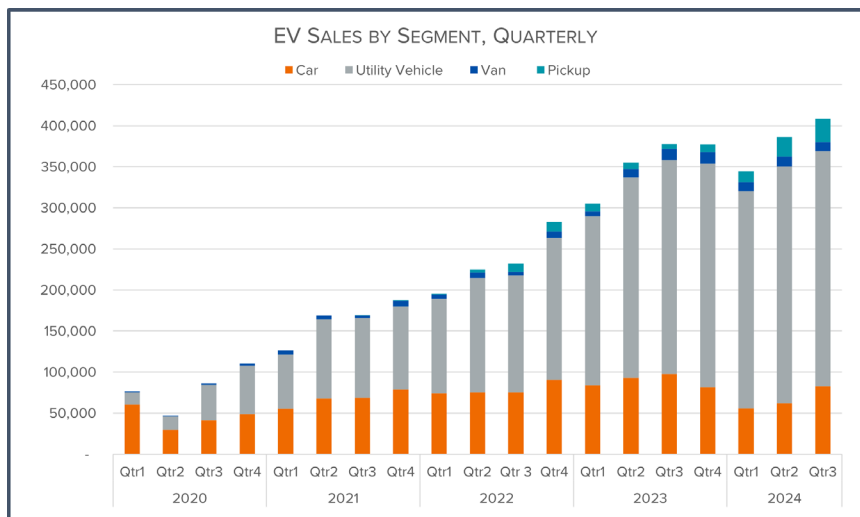
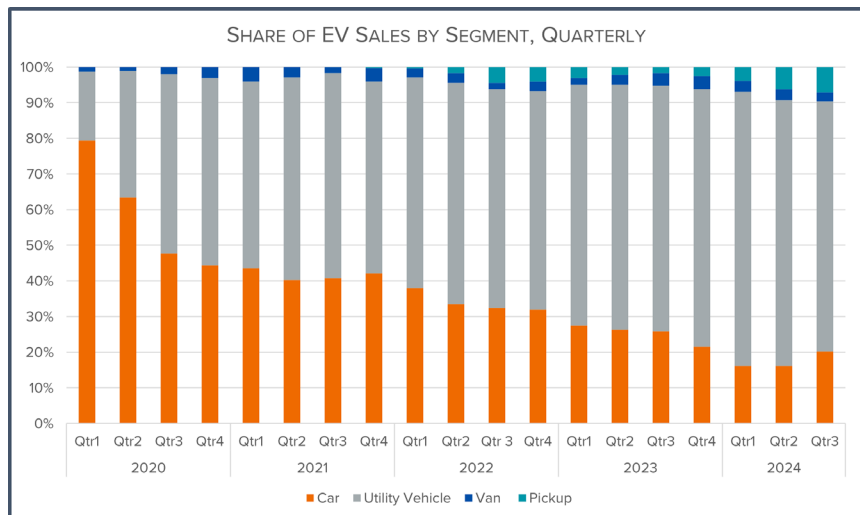


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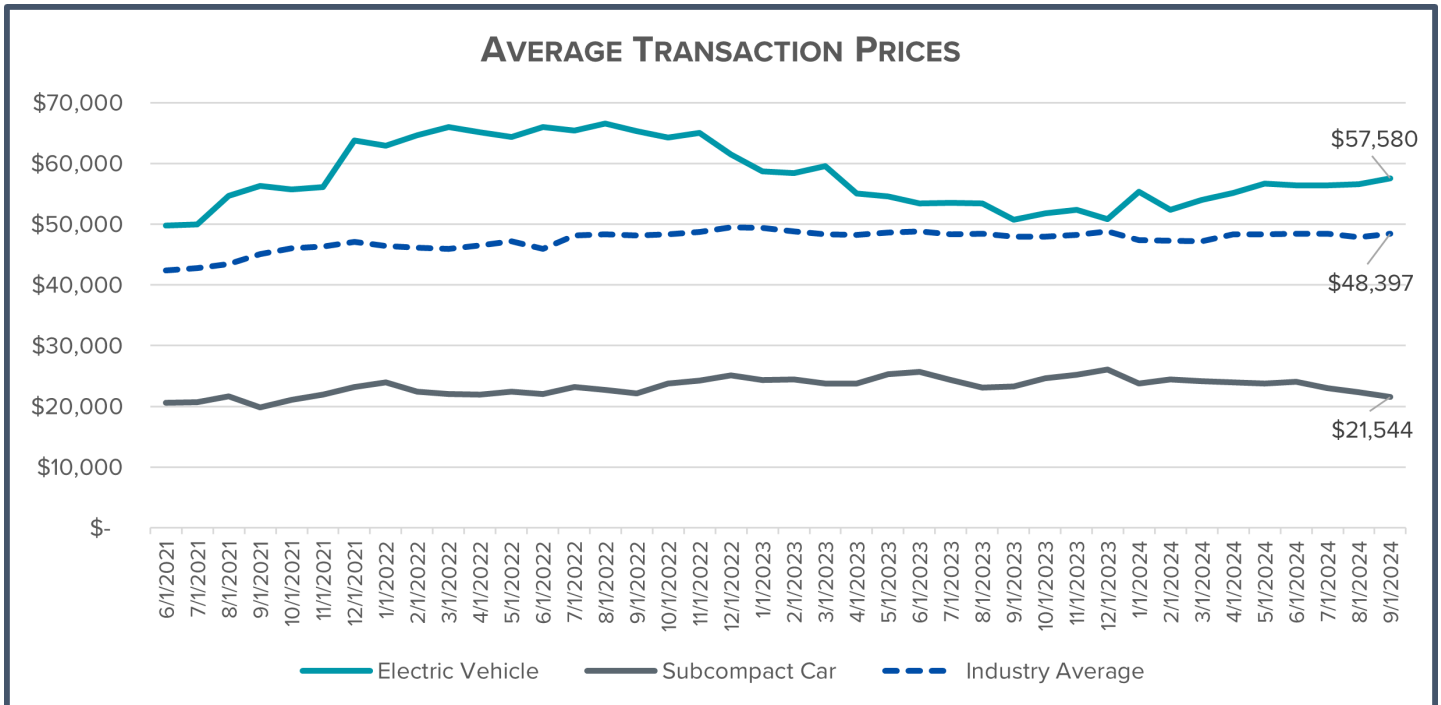
SMARTER.



Source: Figures compiled by Alliance for Automotive Innovation with new registrations for retail and fleet data provided by S&P Global Mobility covering January 1, 2020 –September 30, 2024

ELECTRIC VEHICLE TRANSACTION PRICES

“Electric vehicle prices were higher year over year in Q3 but by less than 1%. The average price paid for an EV in Q3 was just over \$57,000, a premium of approximately 19% compared to the industry-wide ATP of just over \$48,000.”¹



(Compiled from Kelley Blue Book Press Releases, 6/2021 – 9/2024)

¹ Cox Automotive, “Electric Vehicle Sales Mark Another Record in Q3, Thanks to Higher Incentives, More Choices,” 10/11/2024

ELECTRIC VEHICLE SALES BY STATE

For the Third Quarter of 2024:

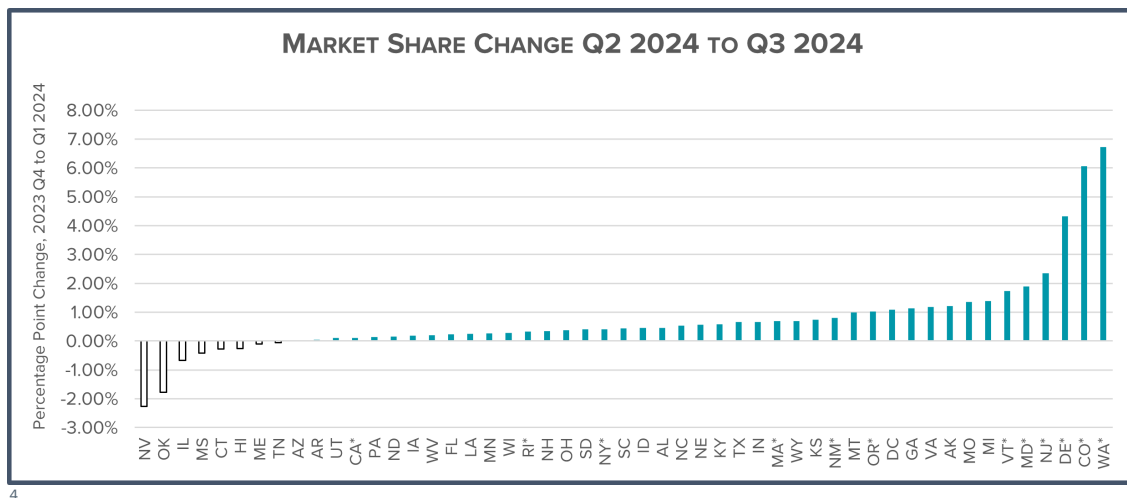
California continued to lead the nation in EV sales, with BEVs, PHEVs and FCEVs making up nearly 27 percent of new light-duty vehicle registrations in the third quarter of 2024. However, with a nearly 8 pp gain year-over-year, Colorado is narrowing in on California for the lead, after posting a 26 percent market share in Q3.

California, Colorado, Washington, and the District of Columbia were all above 20 percent market share in Q3. There are currently ten additional states² with new EV registrations above 10 percent (but below 20 percent).

2024 EV MARKET SHARE BY STATE (Q3)														
1	CA*	26.83%	11	MA*	12.26%	21	IL	7.54%	31	OH	5.41%	41	AK	4.00%
2	CO*	25.50%	12	DE*	11.88%	22	NC	7.52%	32	KS	5.36%	42	IA	3.83%
3	WA*	24.59%	13	CT	11.15%	23	MO	7.29%	33	IN	5.30%	43	AL	3.47%
4	DC	20.44%	14	VA	10.09%	24	MN	7.17%	34	TN	5.15%	44	WY	3.18%
5	OR*	16.99%	15	NY*	9.84%	25	PA	6.83%	35	ID	4.98%	45	AR	2.68%
6	NJ*	15.59%	16	FL	9.70%	26	TX	6.77%	36	WI	4.74%	46	SD	2.62%
7	HI	14.12%	17	UT	9.52%	27	ME	6.76%	37	NE	4.69%	47	OK	2.57%
8	VT*	13.66%	18	AZ	9.31%	28	MI	6.49%	38	SC	4.53%	48	WV	2.30%
9	MD*	13.20%	19	GA	8.74%	29	NH	5.83%	39	MT	4.52%	49	LA	2.15%
10	NV	13.13%	20	RI*	8.36%	30	NM*	5.59%	40	KY	4.21%	50	ND	1.81%
												51	MS	1.44%

Year-over-year, for the third quarter of 2024, the market share of new EVs registered increased in three-quarters of the states. Seven states witnessed an increased market share of EVs by 2 pp or more. Making the largest increases were Colorado³ (7.6 pp), Washington (2.9), Hawaii (2.9 pp), and Vermont (2.7 pp).

All but eight states saw market share growth in Q3 vs. Q2 – thirteen states saw a market share increase of one percentage point or more. Washington led all states, quarter over quarter, with an increase of 6.7 pp; Nevada decreased the most (-2.3 pp).



² States with more than a 10 percent (but less than 20 percent) market share of EVs: Oregon, New Jersey, Hawaii, Vermont, Maryland, Nevada, Massachusetts, Delaware, Connecticut, and Virginia.

³ Colorado taxpayers are eligible for a state tax credit of \$5,000 for the purchase or lease of a new EV on or after July 1, 2023 with a manufacturer's suggested retail price (MSRP) up to \$80,000. Lease agreements must have an initial term of at least two years. Beginning January 1, 2024, Coloradans purchasing an EV with an MSRP up to \$35,000 will be eligible for an additional \$2,500 tax credit.

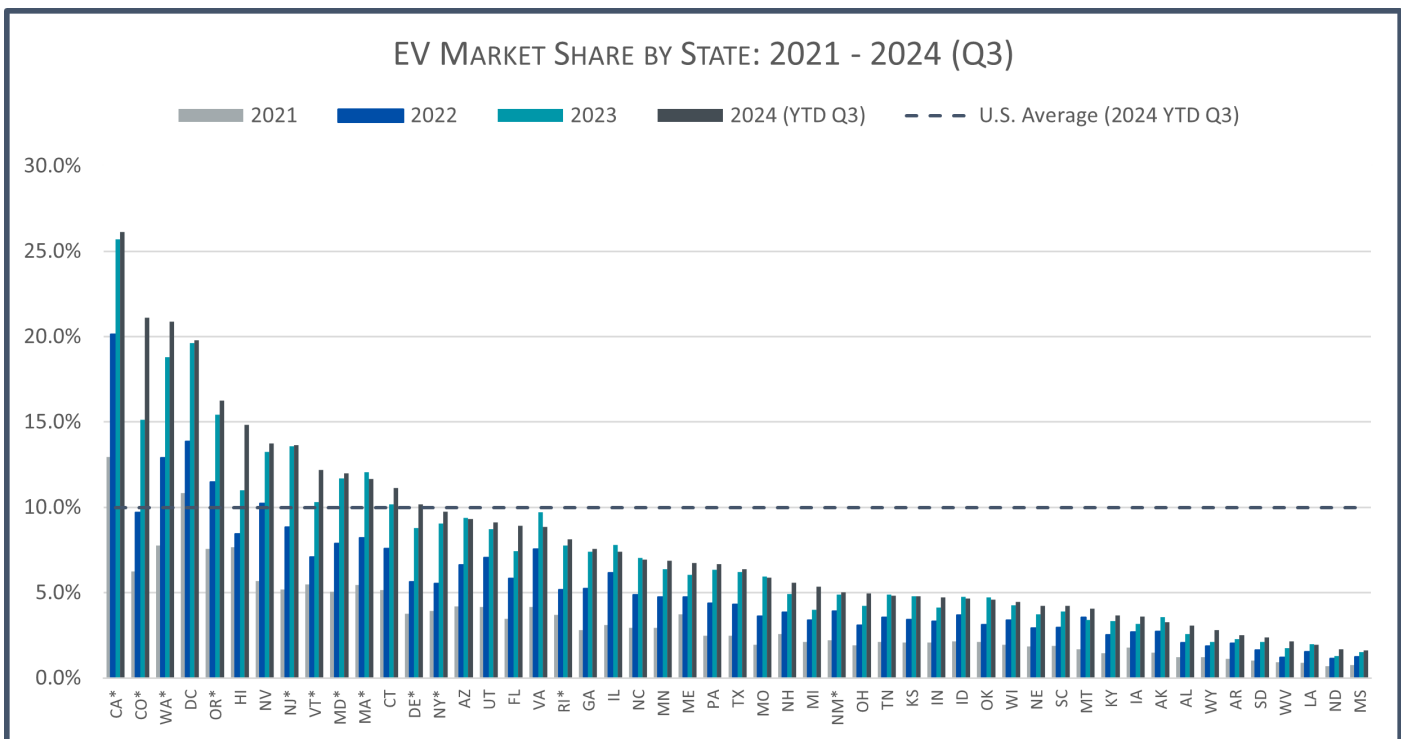
⁴ Denotes states that have adopted California's ACC II ZEV Mandate

For the First Three-Quarters of 2024:

Through the first three quarters of the year, EV sales represented 10 percent of the market – a 0.7 pp increase over the same period of 2023. More than 26 percent of sales in California were EVs, but Colorado realized the greatest increase in market share, year-over-year with a 7.0 pp increase. Following Colorado, the states with the largest market share gains were Hawaii (4.0 pp), Vermont (2.8 pp), Washington (2.3 pp) and Florida (2.0). Eleven states increased their year-over-year EV market share by 1 pp or more. Six states decreased.

While some states continue to have strong EV sales, seven states had new EV registrations of less than 3 percent; three of those states were under 2 percent. All states had a market share above 1 percent for new EV sales.

Year to date (through Q3), twelve states and the District of Columbia had an EV market share above 10 percent while three states had an EV market share under 2 percent; California, Colorado, and Washington were the only states above 20 percent.⁵



*Denotes states that have adopted California's ACC II ZEV mandate

2024 EV MARKET SHARE BY STATE (YTD Q3)														
1	CA*	26.14%	11	MA*	11.66%	21	IL	7.39%	31	OH	4.95%	41	KY	3.66%
2	CO*	21.12%	12	CT	11.15%	22	NC	6.94%	32	TN	4.81%	42	IA	3.59%
3	WA*	20.88%	13	DE*	10.17%	23	MN	6.88%	33	KS	4.80%	43	AK	3.27%
4	DC	19.77%	14	NY*	9.73%	24	ME	6.75%	34	IN	4.73%	44	AL	3.08%
5	OR*	16.25%	15	AZ	9.30%	25	PA	6.67%	35	ID	4.64%	45	WY	2.80%
6	HI	14.84%	16	UT	9.13%	26	TX	6.37%	36	OK	4.58%	46	AR	2.50%
7	NV	13.75%	17	FL	8.91%	27	MO	5.88%	37	WI	4.47%	47	SD	2.38%
8	NJ*	13.64%	18	VA	8.84%	28	NH	5.59%	38	NE	4.24%	48	WV	2.13%
9	VT*	12.20%	19	RI*	8.13%	29	MI	5.35%	39	SC	4.22%	49	LA	1.94%
10	MD*	11.98%	20	GA	7.58%	30	NM*	5.01%	40	MT	4.06%	50	ND	1.69%
												51	MS	1.63%

⁵ Figures compiled by Alliance for Automotive Innovation with new registrations for retail and fleet data provided by S&P Global Mobility covering January 1, 2021 – September 30, 2024

Third Quarter 2024, New Light-Duty Vehicle Registrations By Powertrain					Change In Market Share (2024 Q3 vs 2023 Q3), New Light-Duty Vehicle Registrations Powertrain				
State	Advanced Powertrain Market Share				Advanced Powertrain Market Share (Percentage Point Change)				
	PHEV	BEV	FCEV	EV Total	PHEV	BEV	FCEV	EV Total	
AK	0.70%	3.30%	0.00%	4.00%	-0.05	0.79	0.00	0.73	
AL	0.62%	2.85%	0.00%	3.47%	0.13	0.73	0.00	0.86	
AR	0.62%	2.06%	0.00%	2.68%	0.15	0.26	0.00	0.41	
AZ	1.12%	8.19%	0.00%	9.31%	-0.01	0.47	0.00	0.46	
CA*	3.51%	23.29%	0.03%	26.83%	-0.22	-0.90	-0.18	-1.30	
CO*	5.21%	20.29%	0.00%	25.50%	0.71	6.84	0.00	7.56	
CT	3.56%	7.59%	0.00%	11.15%	-0.44	0.40	0.00	-0.04	
DC	5.74%	14.70%	0.00%	20.44%	1.89	-0.75	0.00	1.14	
DE*	2.12%	9.77%	0.00%	11.88%	-0.53	2.73	0.00	2.19	
FL	1.33%	8.37%	0.00%	9.70%	0.40	1.90	0.00	2.30	
GA	0.96%	7.78%	0.00%	8.74%	0.22	0.44	0.00	0.66	
HI	2.85%	11.27%	0.00%	14.12%	1.68	1.21	-0.01	2.88	
IA	1.05%	2.78%	0.00%	3.83%	0.13	0.28	0.00	0.41	
ID	1.34%	3.64%	0.00%	4.98%	-0.09	-0.10	0.00	-0.19	
IL	1.44%	6.10%	0.00%	7.54%	0.19	-0.48	0.00	-0.28	
IN	0.96%	4.34%	0.00%	5.30%	0.14	0.63	0.00	0.78	
KS	0.99%	4.36%	0.00%	5.36%	-0.03	0.51	0.00	0.48	
KY	0.83%	3.38%	0.00%	4.21%	0.05	0.28	0.00	0.33	
LA	0.44%	1.71%	0.00%	2.15%	-0.08	0.34	0.00	0.26	
MA*	3.68%	8.58%	0.00%	12.26%	-1.04	0.06	0.00	-0.98	
MD*	2.87%	10.33%	0.00%	13.20%	-0.61	1.04	0.00	0.43	
ME	2.99%	3.77%	0.00%	6.76%	-0.40	0.47	0.00	0.07	
MI	1.04%	5.45%	0.00%	6.49%	0.27	2.24	0.00	2.51	
MN	1.76%	5.41%	0.00%	7.17%	0.46	-0.10	0.00	0.36	
MO	2.91%	4.38%	0.00%	7.29%	-1.31	1.04	0.00	-0.28	
MS	0.29%	1.15%	0.00%	1.44%	-0.13	0.01	0.00	-0.12	
MT	1.48%	3.04%	0.00%	4.52%	0.34	0.96	0.00	1.31	
NC	1.24%	6.28%	0.00%	7.52%	0.12	0.35	0.00	0.47	
ND	0.47%	1.34%	0.00%	1.81%	-0.02	0.32	0.00	0.30	
NE	1.27%	3.43%	0.00%	4.69%	0.14	0.41	0.00	0.56	
NH	1.97%	3.86%	0.00%	5.83%	0.20	0.71	0.00	0.91	
NJ*	2.55%	13.04%	0.00%	15.59%	-0.90	2.15	0.00	1.25	
NM*	1.11%	4.47%	0.00%	5.59%	-0.17	0.24	0.00	0.07	
NV	1.97%	11.16%	0.00%	13.13%	0.24	-0.94	0.00	-0.70	
NY*	3.05%	6.79%	0.00%	9.84%	-1.13	1.80	0.00	0.67	
OH	1.05%	4.36%	0.00%	5.41%	0.16	1.10	0.00	1.25	
OK	1.23%	1.34%	0.00%	2.57%	-2.38	-0.40	0.00	-2.78	
OR*	3.85%	13.14%	0.00%	16.99%	-0.17	0.85	0.00	0.68	
PA	2.05%	4.78%	0.00%	6.83%	-0.61	0.32	0.00	-0.28	
RI*	2.89%	5.47%	0.00%	8.36%	-1.50	0.52	0.00	-0.98	
SC	0.97%	3.56%	0.00%	4.53%	0.23	0.09	0.00	0.32	
SD	1.02%	1.60%	0.00%	2.62%	0.16	0.29	0.00	0.46	
TN	0.71%	4.44%	0.00%	5.15%	0.06	0.13	0.00	0.20	
TX	0.78%	5.99%	0.00%	6.77%	0.13	0.05	0.00	0.18	
UT	1.66%	7.86%	0.00%	9.52%	0.00	0.56	0.00	0.56	
VA	1.78%	8.31%	0.00%	10.09%	0.33	0.29	0.00	0.62	
VT*	3.85%	9.81%	0.00%	13.66%	-0.28	2.95	0.00	2.66	
WA*	3.07%	21.52%	0.00%	24.59%	0.18	2.74	0.00	2.92	
WI	0.98%	3.76%	0.00%	4.74%	0.00	0.11	0.00	0.12	
WV	0.73%	1.57%	0.00%	2.30%	-0.02	0.26	0.00	0.24	
WY	1.10%	2.08%	0.00%	3.18%	0.21	0.75	0.00	0.96	
U.S.	1.89%	8.70%	0.00%	10.60%	-0.16	0.64	-0.02	0.47	

*Denotes states that have adopted California's ACC II ZEV mandate
Source: Figures compiled by Alliance for Automotive Innovation with new registrations for retail and fleet data provided by S&P Global Mobility covering January 1 – September 30, 2023, and January 1 – September 30, 2024

2024 New Light-Duty Vehicle Registrations By Powertrain (YTD Q3)					Change In Market Share (2024 vs 2023 YTD Q3), New Light-Duty Vehicle Registrations Powertrain			
State	Advanced Powertrain Market Share				Advanced Powertrain Market Share (Percentage Point Change)			
	PHEV	BEV	FCEV	EV Total	PHEV	BEV	FCEV	EV Total
AK	0.65%	2.63%	0.00%	3.27%	-0.20	-0.06	0.00	-0.25
AL	0.60%	2.48%	0.00%	3.08%	-0.08	-0.53	0.00	0.61
AR	0.52%	1.99%	0.00%	2.50%	-0.01	-0.31	0.00	0.32
AZ	1.33%	7.97%	0.00%	9.30%	-0.16	-0.09	0.00	0.25
CA*	3.50%	22.60%	0.03%	26.14%	-0.06	-0.27	0.17	0.15
CO*	5.86%	15.26%	0.00%	21.12%	-1.73	-5.31	0.00	7.04
CT	3.84%	7.31%	0.00%	11.15%	-0.50	-0.69	0.00	1.19
DC	5.39%	14.39%	0.00%	19.77%	-1.41	0.98	0.00	0.43
DE*	2.29%	7.88%	0.00%	10.17%	-0.19	-1.26	0.00	1.45
FL	1.21%	7.71%	0.00%	8.91%	-0.31	-1.66	0.00	1.96
GA	0.90%	6.67%	0.00%	7.58%	-0.20	-0.02	0.00	0.23
HI	4.67%	10.17%	0.00%	14.84%	-3.63	-0.38	0.00	4.01
IA	1.01%	2.58%	0.00%	3.59%	-0.14	-0.37	0.00	0.51
ID	1.35%	3.29%	0.00%	4.64%	-0.05	-0.12	0.00	0.17
IL	1.39%	6.00%	0.00%	7.39%	-0.24	0.40	0.00	-0.17
IN	0.99%	3.74%	0.00%	4.73%	-0.15	-0.67	0.00	0.82
KS	1.09%	3.71%	0.00%	4.80%	-0.20	-0.13	0.00	0.34
KY	0.73%	2.93%	0.00%	3.66%	0.04	-0.39	0.00	0.35
LA	0.50%	1.44%	0.00%	1.94%	-0.05	0.00	0.00	0.05
MA*	3.83%	7.83%	0.00%	11.66%	0.17	0.03	0.00	-0.20
MD*	2.76%	9.22%	0.00%	11.98%	-0.06	-0.85	0.00	0.91
ME	3.14%	3.61%	0.00%	6.75%	-0.46	-0.48	0.00	0.94
MI	1.05%	4.30%	0.00%	5.35%	-0.06	-1.34	0.00	1.40
MN	1.76%	5.11%	0.00%	6.88%	-0.49	-0.29	0.00	0.78
MO	2.20%	3.68%	0.00%	5.88%	0.59	-0.27	0.00	-0.32
MS	0.38%	1.25%	0.00%	1.63%	0.01	-0.27	0.00	0.26
MT	1.31%	2.75%	0.00%	4.06%	-0.26	-0.69	0.00	0.95
NC	1.13%	5.81%	0.00%	6.94%	-0.09	0.11	0.00	-0.02
ND	0.54%	1.15%	0.00%	1.69%	0.04	-0.41	0.00	0.37
NE	1.27%	2.97%	0.00%	4.24%	-0.20	-0.53	0.00	0.72
NH	2.26%	3.33%	0.00%	5.59%	-0.63	-0.24	0.00	0.87
NJ*	2.78%	10.85%	0.00%	13.64%	-0.09	-0.29	0.00	0.39
NM*	1.07%	3.93%	0.00%	5.01%	0.12	-0.30	0.00	0.19
NV	1.77%	11.98%	0.00%	13.75%	-0.13	-0.45	0.00	0.58
NY*	3.96%	5.77%	0.00%	9.73%	-0.53	-1.07	0.00	1.61
OH	1.13%	3.82%	0.00%	4.95%	-0.21	-0.78	0.00	0.99
OK	3.55%	1.03%	0.00%	4.58%	-2.08	0.34	0.00	1.73
OR*	4.27%	11.98%	0.00%	16.25%	-0.72	-0.37	0.00	1.09
PA	2.34%	4.33%	0.00%	6.67%	-0.25	-0.18	0.00	0.44
RI*	3.37%	4.76%	0.00%	8.13%	-0.15	-0.56	0.00	0.71
SC	1.02%	3.20%	0.00%	4.22%	-0.25	-0.14	0.00	0.39
SD	0.86%	1.52%	0.00%	2.38%	-0.04	-0.34	0.00	0.38
TN	0.61%	4.20%	0.00%	4.81%	0.03	-0.05	0.00	0.02
TX	0.82%	5.55%	0.00%	6.37%	-0.17	-0.06	0.00	0.23
UT	1.61%	7.52%	0.00%	9.13%	-0.09	-0.70	0.00	0.79
VA	1.59%	7.25%	0.00%	8.84%	-0.27	1.10	0.00	-0.83
VT*	4.14%	8.07%	0.00%	12.20%	-0.76	-2.07	0.00	2.83
WA*	3.17%	17.72%	0.00%	20.88%	-0.19	-2.09	0.00	2.28
WI	0.95%	3.51%	0.00%	4.47%	-0.04	-0.35	0.00	0.38
WV	0.70%	1.43%	0.00%	2.13%	-0.07	-0.32	0.00	0.40
WY	0.95%	1.85%	0.00%	2.80%	-0.14	-0.68	0.00	0.82
U.S.	2.05%	7.92%	0.00%	9.98%	-0.28	-0.44	0.02	0.70

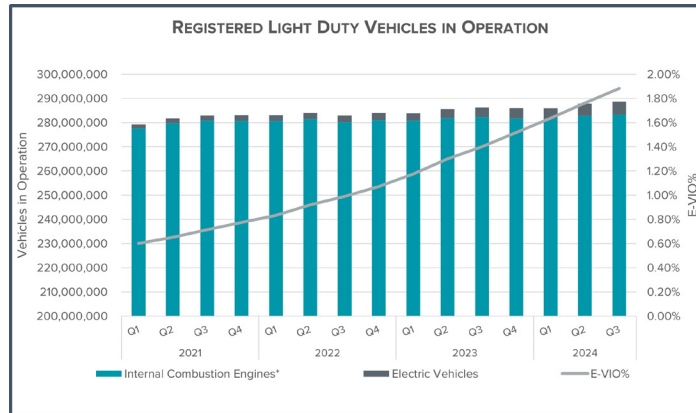
*Denotes states that have adopted California's ACC II ZEV mandate

Source: Figures compiled by Alliance for Automotive Innovation with new registrations for retail and fleet data provided by S&P Global Mobility covering January 1 – September 30, 2023, and January 1 – September 30, 2024

**Note: Colorado taxpayers are eligible for a state tax credit of \$5,000 for the purchase or lease of a new EV on or after July 1, 2023 with a manufacturer's suggested retail price (MSRP) up to \$80,000. Lease agreements must have an initial term of at least two years. Beginning January 1, 2024, Coloradans purchasing an EV with an MSRP up to \$35,000 will be eligible for an additional \$2,500 tax credit.

REGISTRATIONS AND CHARGING / REFUELING

Share of Registered EVs In U.S. Light-Duty Fleet Continues to Increase Incrementally. As sales of EVs increase, so does the total number of EVs operating on U.S. roads. There are now more than 5.4 million EVs in operation in the United States (1.9 percent of all light vehicles in operation). EVs represented more than 1 percent of total vehicles in operation (VIO) for the first time at the end of 2022. The electric vehicles in operation (E-VIO) of 1.9 percent is an increase of 0.48 pp since the third quarter of 2023 and more than three times the EV VIO from the first quarter in 2021 (0.60 percent).⁶



U.S. Public Charging Infrastructure: Overview

While the U.S. Department of Energy notes that roughly 80 percent of all EV charging occurs at home, reliable and convenient access to workplace and public charging and refueling stations help to support customers who purchase EVs or are considering purchasing an EV. Workplace and public charging infrastructure not only eases perceived “range anxiety” concerns but also increases consumer awareness of the technology. In addition, achieving the EV market share envisioned by state and/or federal regulators will require moving beyond customers who have access to charging via privately-owned single-family dwellings.

How Available is NEVI Funding?

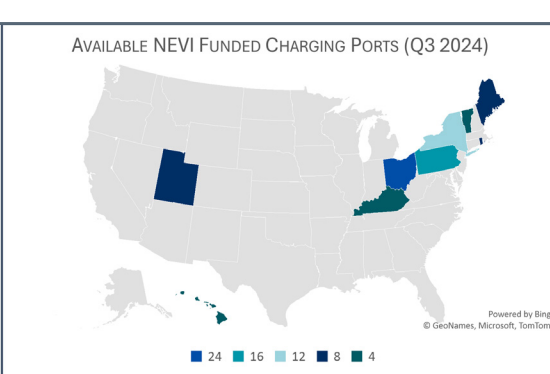
Through Q3 of 2024:

- » 9 States Have Installed Charging Ports
- » 88 Fast Charging Ports Installed in 15 Locations

States with NEVI funded charging ports:

1. Ohio (24)
2. Pennsylvania (16)
3. New York (12)
4. Maine (8)
5. Rhode Island (8)
6. Utah (8)
7. Hawaii (4)
8. Kentucky (4)
9. Vermont (4)

The bipartisan Infrastructure Investment and Jobs Act (IIJA) that was signed into law in November 2021 includes \$5 billion in funding for states to establish a nationwide EV charging network (NEVI) every 50 miles along highway corridors and provides \$2.5 billion in competitive grants to deploy publicly available EV charging and other alternative fuel stations through 2026. NEVI funding provides funding to states to strategically deploy charging infrastructure and to establish an interconnected network of publicly available charging.



There are currently 46,909 distinct locations with 138,582 Level 2 (L2) ports and/or 46,484 DC Fast charging ports. See more on charging locations by state below.

⁶ Registered vehicles in operation compiled by Alliance for Automotive Innovation with data provided by S&P Global Mobility as of September 30, 2024

Here is a snapshot of publicly available EV charging and refueling infrastructure⁷ available across the United States at the end of the second quarter of 2024⁸:

Level 2: 57,022 Locations, 138,582 EVSE Ports
DC Fast: 11,049 Locations, 46,660 EVSE Ports
Hydrogen Refueling: 58 Stations (57 are in California)
U.S. Total: 66,821⁹ Locations, 185,124 EVSE Ports

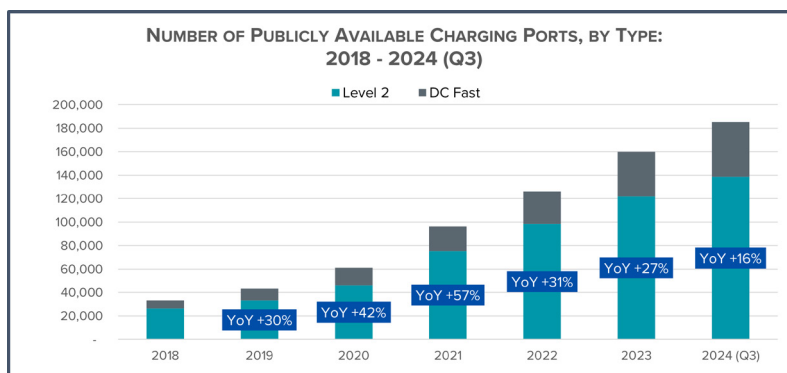
[See Recommended Attributes for EV Charging Stations](#)

State	Locations	L2 Ports	DC Fast Ports	State	Locations	L2 Ports	DC Fast Ports
AK	57	87	33	MT	128	195	220
AL	341	679	524	NC	1266	3,119	1,219
AR	294	731	158	ND	88	134	104
AZ	944	2,789	1,080	NE	222	396	195
CA*	8956	34,638	12,355	NH	205	406	236
CO*	1643	4,263	1,061	NJ*	1063	2,871	1,289
CT	982	2,864	547	NM*	250	443	319
DC	252	1,002	60	NV	424	1,352	833
DE*	177	380	248	NY*	3367	13,278	1,767
FL	2794	7,612	2,786	OH	1321	3,050	983
GA	1343	3,870	1,291	OK	313	468	871
HI	269	676	97	OR*	1058	2,341	944
IA	354	557	370	PA	1392	3,590	1,212
ID	179	328	168	RI*	210	678	100
IL	1038	2,455	1,123	SC	438	920	509
IN	500	1,019	699	SD	93	138	126
KS	321	903	241	TN	660	1,622	698
KY	299	636	272	TX	2644	6,986	2,909
LA	221	476	280	UT	596	2,000	482
MA*	1916	6,987	966	VA	1185	3,359	1,249
MD*	1376	3,835	993	VT*	344	877	192
ME	407	823	250	WA*	1480	4,488	1,405
MI	1154	2,662	919	WI	541	1,057	504
MN	710	1,579	628	WV	135	294	153
MO	720	2,239	554	WY	95	142	124
MS	144	288	138	All States	46,909	138,582	46,484

**Denotes states that have adopted California's ACC II ZEV mandate*

Level 2 Chargers and DC Fast Chargers. Both Level 2 and DC Fast charging play important roles in electrifying the light-duty vehicle fleet. However, the key difference between Level 2 and DC Fast chargers is how quickly each will charge an EV's battery. Level 2 equipment is common for home, workplace, and public charging with longer dwell times. Level 2 chargers can fully charge a BEV from empty in 4-10 hours and a PHEV from empty in 1-2 hours. DC Fast charging equipment enables rapid charging of BEVs in 20 minutes to 1 hour along heavy-traffic corridors, in city centers, at transportation hubs, and fleet depots. Wider installation of Level 2 chargers, DC Fast chargers, and hydrogen fueling will be necessary to support wider-scale adoption of EVs.

The number of public Level 2 charging increased 14 percent at the end of the third quarter of 2024 over 2023. DC Fast chargers increased 23 percent. Total charging ports increased 16 percent from the end of 2023.¹⁰ (For context, E-VIO increased 25 percent from the end of 2023 to the end of the third quarter of 2024.) Effectively, this ratio is going in the wrong direction since sales of EVs is increasing faster than the ratio of public charging – which can be a hinderance to public acceptance and convenience for vehicle owners.



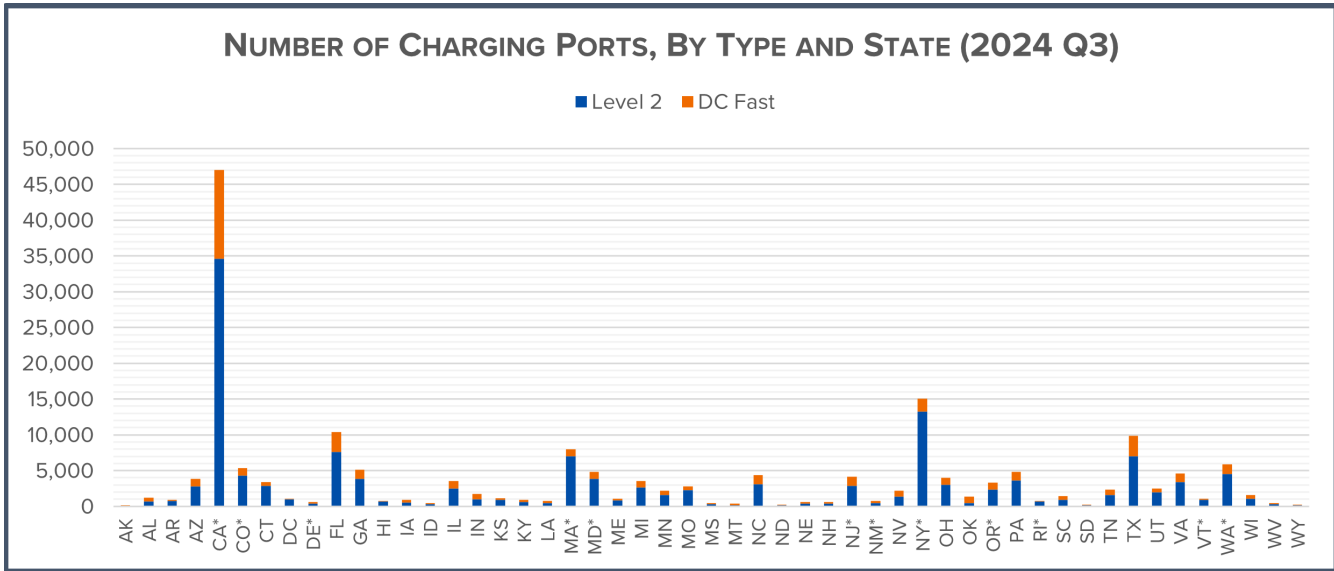
⁷ "Stations" denotes stations as counted and identified by U.S. Department of Energy Alternative Fuels Data Center. Stations differs from number of locations as many stations can be at a singular location. Locations denotes unique addresses.

⁸ Charging information from U.S. Department of Energy Alternative Fuels Data Center, stations in operation as of September 30, 2024

Note: prior editions of this report excluded proprietary chargers, however Tesla opened their previously proprietary chargers in November 2022 and their "North American Charging Standard" will be widely adopted by automakers.

⁹ Some station locations have both Level 2 and DC Fast installed.

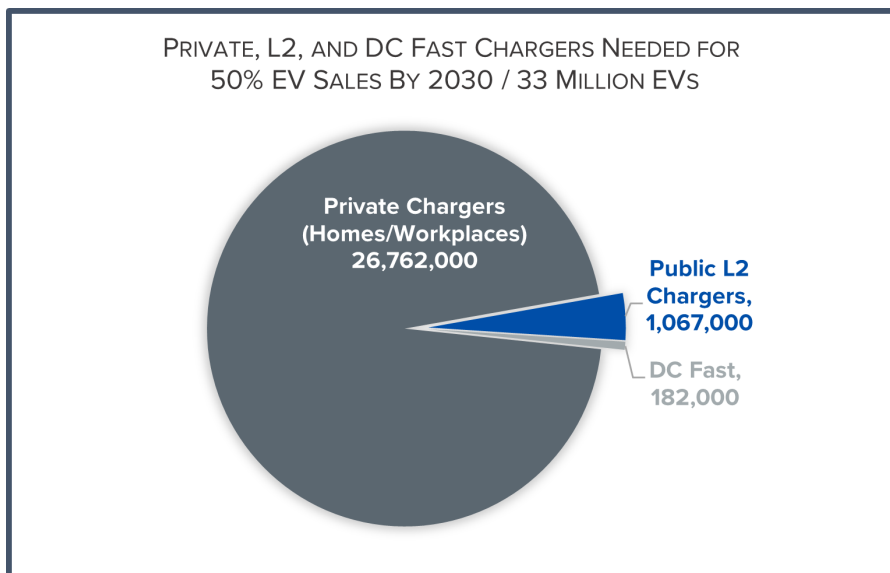
¹⁰ Charging information from U.S. Department of Energy Alternative Fuels Data Center, stations in operation as of 9/30/2024



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Infrastructure Investment Necessary

An assessment by the U.S. National Renewable Energy Laboratory (NREL) released in June 2023 estimated that a network of 28 million charging ports would be necessary to support 50 percent EV sales by 2030 (and 33 million EVs on the road).¹² NREL estimates that 96 percent of those charging ports would be privately accessible L1 and L2 chargers located at single-family homes, multifamily properties, and workplaces. The remaining 4 percent (1,249,000 ports) would be split between public L2 and high-speed DC Fast charging ports, with L2 making up 85 percent of those public chargers.



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At the end of Q3 2024, there were about 185,000 public charging ports across the country and 5.4 million EVs on the road. Total installed public charging ports are about 17 percent of the needed estimate to support EV penetration by 2030 according to NREL.

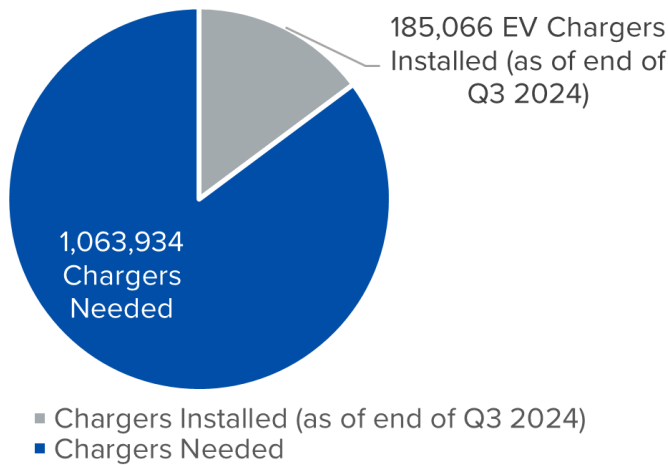
More than 1 million additional public chargers (928,418 L2 and 135,516 DC Fast) will need to be installed to satisfy the necessary infrastructure estimate by 2030. This means that between the end of Q3 2024 and December 31, 2030, 466 chargers need to be installed every day, for the next 6.25 years. Or 3 chargers every 10 minutes through the end of 2030.

¹¹ Charging information from U.S. Department of Energy Alternative Fuels Data Center, stations in operation as of 9/30/2024; *Denotes states that have adopted California's ACC II ZEV mandate

¹² National Renewable Energy Laboratory, "The 2030 National Charging Network: Estimating U.S. Light-Duty Demand for Electric Vehicle Charging Infrastructure," June 2023

¹³ National Renewable Energy Laboratory, "The 2030 National Charging Network: Estimating U.S. Light-Duty Demand for Electric Vehicle Charging Infrastructure," June 2023

1,249,000 Public Chargers Needed to Support
50% EV sales by 2030 / 33 million EVs



Between the end of Q3 2024 and December 31, 2030, 466 chargers need to be installed every day, for the next 6.25 years. Or 3 chargers every 10 minutes through the end of 2030.

The Cost of This Substantial Infrastructure Necessity Will Largely Fall on Consumers and Commercial Real Estate Owners as They Install Home and Workplace Charging. According to NREL,

a national capital investment of \$53–\$127 billion in charging infrastructure is needed by 2030 (including as much as \$72 billion for private residential charging) to support 33 million EVs. The

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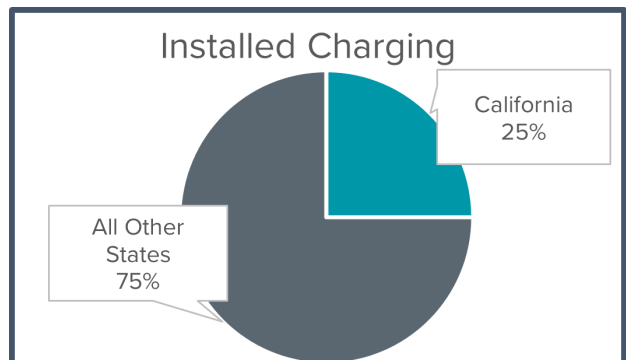
large range of potential costs is a result of variable and evolving equipment and installation costs across charging networks, locations, and site designs¹⁵. Notably, the estimates exclude the cost of grid upgrades and distributed energy resources. The estimated cumulative capital investment includes¹⁶:

- » \$22–\$72 billion for privately accessible Level 1 and Level 2 charging ports
- » \$27–\$44 billion for publicly accessible fast charging ports
- » \$5–\$11 billion for publicly accessible Level 2 charging ports

Infrastructure Disparities by Geography

Geographic disparities in charging infrastructure are pervasive. At the end of Q3 2024, a quarter of all public charging infrastructure was in California, which had 33 percent of all registered EVs.

Alliance for Automotive Innovation is proactively engaging to enable the automotive industry’s transformation to electric vehicles through state-level engagement actions such as participation in the Joint Office of Energy and Transportation’s [Electric Vehicle Working Group](#), development of a [lithium-ion battery recycling policy framework](#), [recommendations for attributes of EV charging stations](#), and recommendations for the implementation of IRA EV tax credits¹⁷.



¹⁴ National Renewable Energy Laboratory, “The 2030 National Charging Network: Estimating U.S. Light-Duty Demand for Electric Vehicle Charging Infrastructure,” June 2023

¹⁵ Various state and federal incentives are available to consumers or businesses that install EV charging infrastructure, including from power utilities.

¹⁶ National Renewable Energy Laboratory, “The 2030 National Charging Network: Estimating U.S. Light-Duty Demand for Electric Vehicle Charging Infrastructure,” June 2023

¹⁷ Alliance for Automotive Innovation, Blog, [What We Know \(and Don’t Know\) About the New EV Tax Credit Rules](#), 12/20/2022; Alliance for Automotive Innovation, blog [Foreign Entity of Concern: Finally... Some Clarity](#), 12/1/2023

Vehicles in Operation and Charging by State

Public Charging Outlets And Registered EVs (as of 9/30/2024)								
	EV Level 2	EV DC Fast	H2** Fueling	Total	Percent EVs of Total VIO***	Share of Registered EVs****	EVs Per Charger	EVs Per 10K Residents
AK	87	33	-	120	0.70%	0.08%	34	55.70
AL	679	524	-	1,203	0.40%	0.38%	17	40.92
AR	731	158	-	889	0.39%	0.20%	12	36.06
AZ	2,789	1,080	-	3,869	1.96%	2.49%	35	182.42
CA*	34,638	12,355	57	47,050	5.80%	33.32%	38	464.83
CO*	4,263	1,061	-	5,324	2.76%	2.81%	29	259.68
CT	2,864	547	-	3,411	1.82%	1.04%	17	155.90
DC	1,002	60	-	1,062	3.92%	0.24%	13	195.93
DE*	380	248	-	628	1.58%	0.27%	23	140.18
FL	7,612	2,786	-	10,398	1.86%	6.63%	35	159.46
GA	3,870	1,291	-	5,161	1.33%	2.35%	25	115.63
HI	676	97	1	774	3.22%	0.67%	47	253.99
IA	557	370	-	927	0.53%	0.31%	18	53.14
ID	328	168	-	496	0.76%	0.29%	31	78.87
IL	2,455	1,123	-	3,578	1.48%	2.76%	42	119.62
IN	1,019	699	-	1,718	0.71%	0.81%	26	64.43
KS	903	241	-	1,144	0.67%	0.36%	17	66.70
KY	636	272	-	908	0.47%	0.35%	21	42.16
LA	476	280	-	756	0.36%	0.25%	18	29.82
MA*	6,987	966	-	7,953	2.38%	2.45%	17	190.00
MD*	3,835	993	-	4,828	2.30%	2.17%	24	190.43
ME	823	250	-	1,073	1.30%	0.32%	16	125.18
MI	2,662	919	-	3,581	0.97%	1.53%	23	82.69
MN	1,579	628	-	2,207	1.15%	1.11%	27	104.84
MO	2,239	554	-	2,793	0.75%	0.78%	15	68.70
MS	288	138	-	426	0.21%	0.11%	14	20.77
MT	195	220	-	415	0.47%	0.15%	20	72.84
NC	3,119	1,219	-	4,338	1.13%	2.03%	25	101.80
ND	134	104	-	238	0.24%	0.04%	8	25.21
NE	396	195	-	591	0.58%	0.23%	21	62.60
NH	406	236	-	642	1.33%	0.33%	28	127.17
NJ*	2,871	1,289	-	4,160	2.63%	3.63%	47	212.50
NM*	443	319	-	762	0.85%	0.32%	23	81.76
NV*	1,352	833	-	2,185	2.78%	1.30%	32	221.29
NY*	13,278	1,767	-	15,045	2.16%	4.57%	16	126.84
OH	3,050	983	-	4,033	0.82%	1.62%	22	74.94
OK	468	871	-	1,339	1.30%	1.10%	45	148.14
OR*	2,341	944	-	3,285	2.70%	1.93%	32	247.67
PA	3,590	1,212	-	4,802	1.16%	2.35%	27	98.54
RI*	678	100	-	778	1.48%	0.23%	16	113.79
SC	920	509	-	1,429	0.62%	0.62%	24	62.68
SD	138	126	-	264	0.33%	0.06%	13	36.98
TN	1,622	698	-	2,320	0.75%	0.97%	23	73.62
TX	6,986	2,909	-	9,895	1.28%	5.86%	32	104.44
UT	2,000	482	-	2,482	1.97%	1.12%	25	178.01
VA	3,359	1,249	-	4,608	1.56%	2.23%	26	138.87
VT*	877	192	-	1,069	2.80%	0.28%	14	239.09
WA*	4,488	1,405	-	5,893	3.13%	4.04%	37	280.95
WI	1,057	504	-	1,561	0.77%	0.77%	27	70.87
WV	294	153	-	447	0.33%	0.10%	12	29.69
WY	142	124	-	266	0.34%	0.04%	9	38.85
U.S.	138,582	46,484	58	185,124	1.88%	100.00%	29	162.30

*Denotes states that have adopted California's ZEV program; **Hydrogen count denotes stations

*** VIO is vehicles in operation; **** State share of U.S. Total

Source: Figures compiled by Alliance for Automotive Innovation with registered vehicle data provided by S&P Global Mobility as of September 30, 2024; Charging information from U.S. Department of Energy Alternative Fuels Data Center, as of 9/30/2024

REGISTRATIONS

EV registrations as a share of all registered light-duty vehicles are 1.9 percent (as of September 30, 2024). There are more than 288 million registered light-duty vehicles in the U.S.

At the end of Q3 2024, California accounted for 33 percent of all registered light-duty EVs in the U.S.

States with highest portion of total EVs registered:

- 1) CA* (1,811,237, 5.8%)
- 2) DC (13,303, 3.9%)
- 3) HI (36,451, 3.2%)
- 4) WA* (219,500, 3.1%)
- 5) VT* (15,480, 2.8%)
- 6) NV* (70,685, 2.8%)
- 7) CO* (152,627, 2.7%)
- 8) OR* (104,846, 2.7%)
- 9) NJ* (197,428, 2.6%)
- 10) MA* (133,028, 2.4%)

States with worst ratio of registered EVs per public charger:

- 1) NJ*
- 2) HI
- 3) OK
- 4) IL
- 5) CA*
- 6) WA*
- 7) AZ
- 8) FL
- 9) AK
- 10) NV*

SPOTLIGHT ON: SECTION 177 STATES

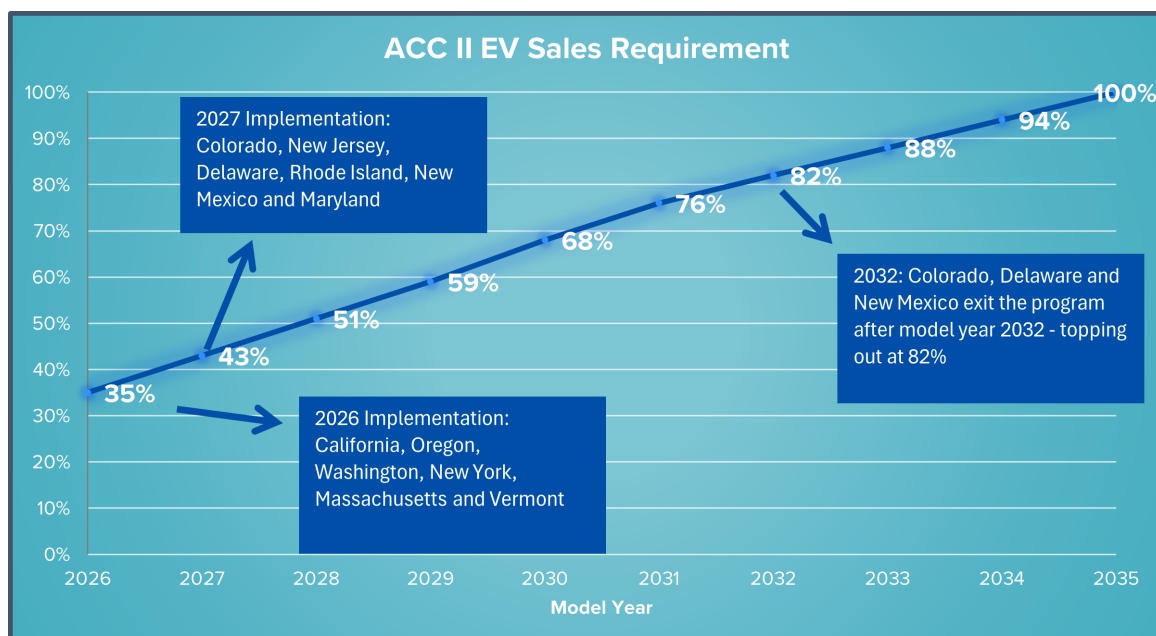
Background

Under the Clean Air Act, vehicle tailpipe emissions rules are set by the federal government (EPA) and govern all new vehicles sold in the U.S. However, the law allows California to set its own stricter emissions standards using waiver authority that must be formally approved by the U.S. EPA. Section 177 of the Clean Air Act allows states to adopt California's more stringent vehicle emissions standards instead of the federal standards. These states are known as Section 177 states.

Some Section 177 states follow California's Advanced Clean Cars II (ACC II) ZEV Mandate, requiring automakers to sell a specific (and escalating) percentage of zero emission vehicles (ZEVs) starting in model year 2026 through 2035 when 100 percent of new vehicles sales must be ZEVs. Necessarily, the number of new -powered vehicles sold in section 177 states must decline every year between 2026-2035 as well. Effectively, the ACC II ZEV Mandate is an actual electrification sales mandate and ultimately a ban on the sale of new gas-powered vehicles.

- ✓ About 30 percent of the U.S. vehicle market (11 states plus California) have adopted those standards.
- ✓ California, Oregon, Washington, New York, Massachusetts and Vermont have adopted the ACC II ZEV Mandate starting in model year 2026.
- ✓ Colorado, New Jersey, Delaware, Rhode Island, New Mexico and Maryland join the program in model year 2027.
- X Note: Colorado, Delaware and New Mexico adopted the program through model year 2032 (stopping at an 82 percent ZEV sales mandate).

Model year 2026 requirements are only about 6 months away, and only about a year and a half away from model year 2027.



State of the EV Market in Section 177 States

As noted previously, California leads the nation in EV sales. And while some Section 177 states have seen success in increasing EV adoption, many of those states remain at or near the national average through Q3 2024 (roughly 10 percent of all new vehicle sales – including BEVs, PHEVs, and Fuel Cells.

Colorado has made the most progress outside of California and more than doubled their EV market share since 2022. However, Colorado would need to nearly double their market share AGAIN to reach the standard set for 2028 (51 percent). That said, just to

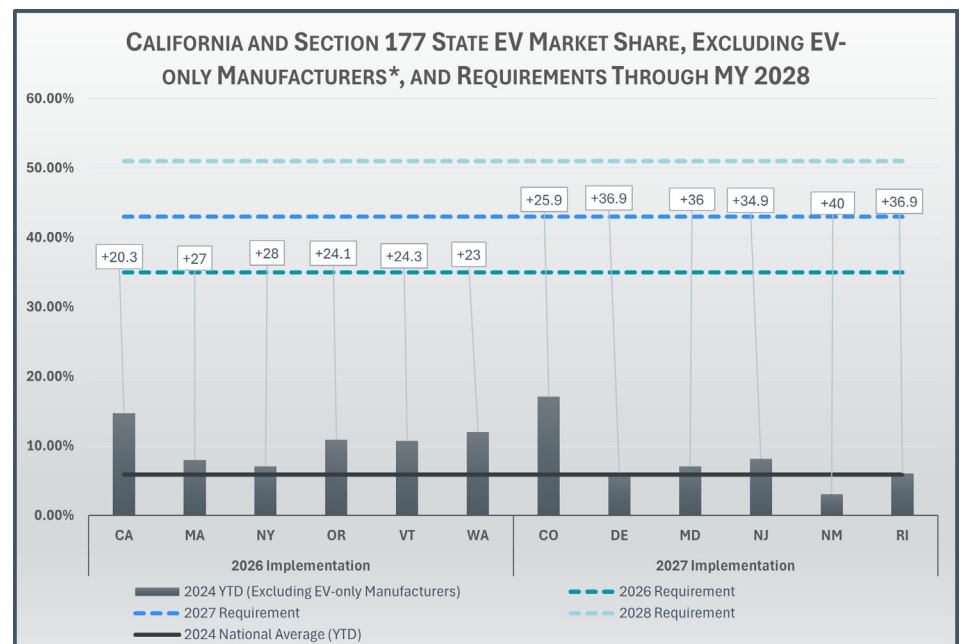
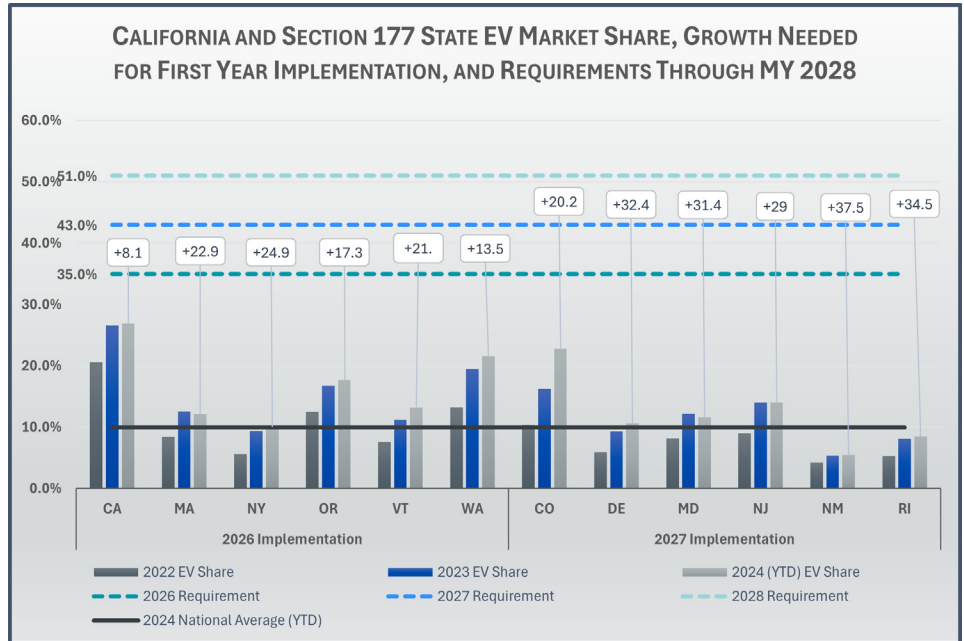
reach the standard for the first year of Colorado’s implementation (set for 2027) would require a 20 pp increase over 2024 YTD. In fact, every state but California needs to realize double-digit market share growth to reach the initial requirement for their first year of EV sales requirements. Most states need to increase market share by more than 20 pp. Washington and Oregon are the only other states (besides California) that require less than a 20 pp increase.

Double Digit Market Share Growth Needed to Reach 35 percent Standard in Every Section 177 State Joining the Program in 2026, Based on Industry Average; Even Steeper Climb for States Joining the Program in 2027

However, it is important to note that the numbers above are industry averages. The annual EV sales requirements apply to each automaker individually. Looking at incumbent auto manufacturer EV market share in California and the 177 states (and removing EV-only manufacturers like Tesla and Rivian) the sales requirements for legacy automakers to reach the targets is much steeper.

Legacy automakers will require more than a 20 pp increase in EV market share in California and every Section 177 state to reach the first year of the mandate. Legacy automakers in nearly every one of the MY2027 states are more than 30 pp away from the sales obligation.

**EV-only manufacturers excluded: Brightdrop, Cruise, Fisker, Lucid, Rivian, Tesla, and VinFast*



²³ "How Much Of The Global Battery Supply Chain Is Owned By Chinese Companies?" Benchmark Mineral, 8/22/2024

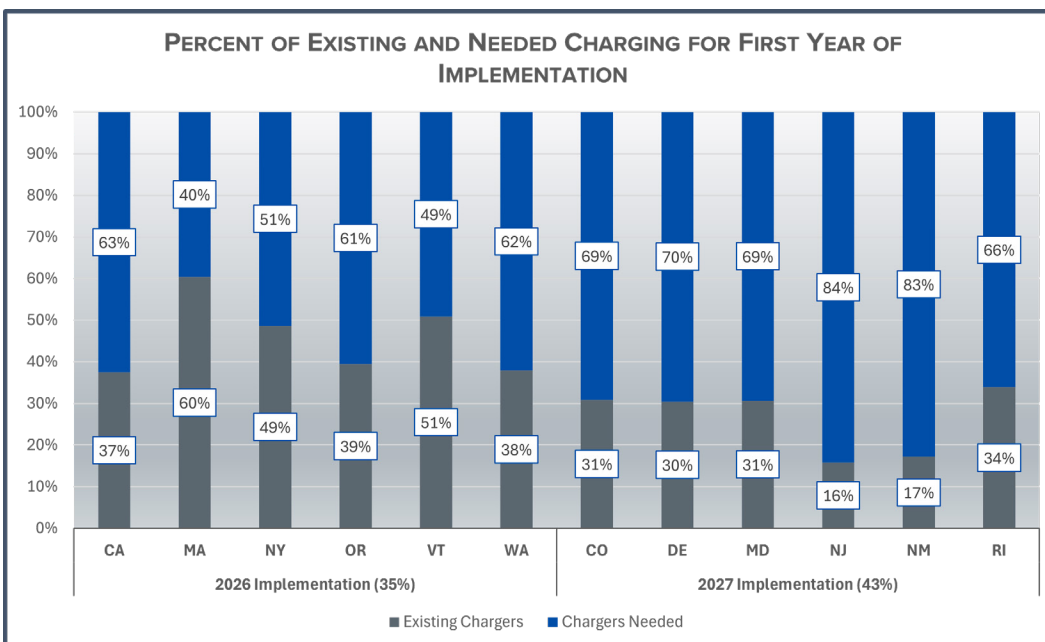
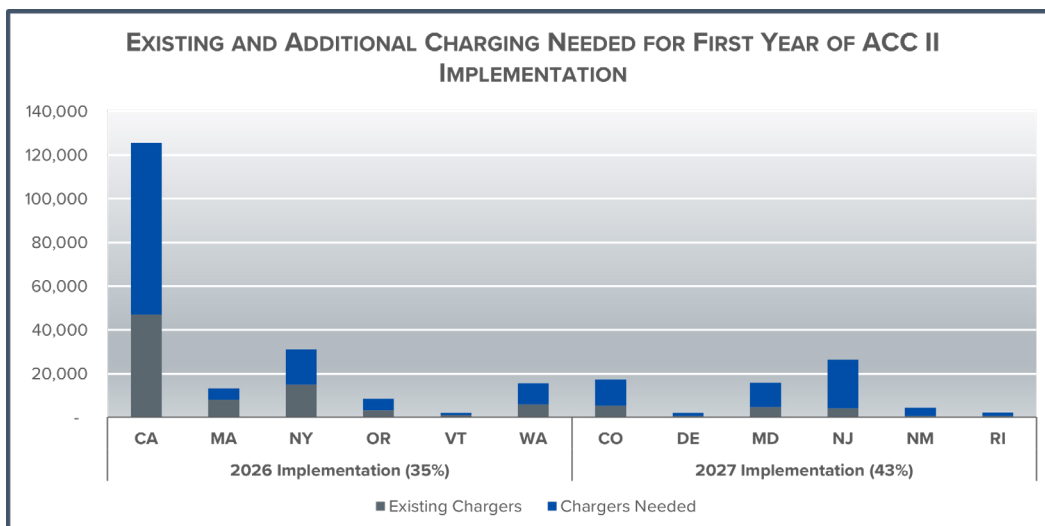
²⁴ Compiled from company reports, press statements, and other media; investments from 2020 – September 2024

State of Infrastructure in Section 177 States

Due to each state’s varying size, density, population, housing demographics, and market size, no “one-size-fits-all” approach to installing charging infrastructure can be put in place. However, the National Renewable Energy Laboratory¹⁸ forecasted the necessary public charging for each state as part of their simulated 2030 national pipeline. The necessary future charging can be viewed as a ratio of EVs to charging ports by dividing the anticipated EVs in operation by the number of recommended chargers. The lower the number, the more charging ports per EV.

Get Connected has been reporting the ratio of EVs to charging ports on a quarterly basis since 2021. Most states will need to make significant progress in bringing the ratio down to meet future requirements. States that are currently at, or near, the target ratio, will need to continue adding charging infrastructure to maintain the target.

The number of charging ports necessary vary widely by state, with California having installed more than most states will need. However, California only has 37 percent of the necessary infrastructure installed and needs to add about 78,000 more charging ports to satisfy the ratio for 35 percent of sales in 2026. New Jersey and New Mexico have the least amount of the recommended necessary charging infrastructure in place, with only 22 percent and 25 percent, respectively.



¹⁸ National Renewable Energy Laboratory, Report “The 2030 National Charging Network: Estimating U.S. Light-Duty Demand for Electric Vehicle Charging Infrastructure”

Repercussions of Sales Mandate

For automakers to meet the increasing sales mandate in 177 States, they have three options. Increase EV sales, decrease total sales, or buy credits. Each option is replete with unintended consequences for automakers and consumers.

In the first option – automakers can increase sales of EVs and decrease their sales of traditional hybrid vehicles and internal combustion engine vehicles. However, unless consumers begin to rapidly purchase EVs in record-breaking fashion, automakers will be forced to limit the number of non-EVs for purchase in each state. By limiting vehicle options and consumer choice, prices will increase, and economic activity and tax revenue will decrease.

The second option has many of the same ramifications. If automakers limit their sales of vehicles so their EV sales share meets the target, consumer choice will be limited, prices will increase, consumers will be forced to shop out of state where limits are not imposed on the sale of internal combustion engine vehicles. Under this second option, these states could also witness a decrease in economic activity and tax revenue that would have otherwise been collected.

With the third option, automakers can buy clean car credits from EV manufacturers like Tesla who “over-comply” with the mandates. The credits available for purchase in the coming years will decrease as requirements rise, and it’s unknown how many will be available on a year-to-year basis. In general, the number of available surplus credits will likely only equate to several percentage points of the requirements at most given the relative sales of EV-only manufacturers and legacy automakers. Effectively, any strategy that requires automakers to buy credits from an EV-only manufacturer will only raise the price of all vehicles to consumers – even if they buy a hybrid or internal combustion engine vehicle.

It appears clear that the start of the ACC II EV sales requirements in Calendar Year 2025 and 2026 will start to change the way consumers shop for a new vehicle that best suits their needs at a price they can afford.

APPENDIX - A

