## GET CONNECTED

## electric vehicle Quarterly report

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## Electric Vehicle Sales Overview (2022)

In the fourth quarter of 2022, automakers sold about 283,000 electric vehicles (EVs, including battery, plug-in hybrid, and fuel cell electric vehicles) in the United States, representing 8.5 percent of overall light-duty vehicle sales, a 2.52 percentage point ( pp ) increase over the fourth quarter of 2021 , and a 1.5 pp increase from the third quarter of $2022^{1}$. For all of 2022, automakers sold almost $935,000 \mathrm{EV}$ s, amounting to 7.03 percent of all light vehicle sales and an increased market share of 2.7 pp over 2021. EV sales in 2022 were up by 44 percent despite an overall decrease of 11 percent in total light-duty vehicle sales. For comparison, internal combustion engine (ICE) vehicle market share decreased by 3.4 pp during 2022 compared to $2021^{2}$.


[^0]${ }^{2}$ Hybrid vehicles comprised the remainder of the gains in vehicle share.

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## Electric Vehicle Sales by Segment

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), more models and deliveries are expected soon. As a result, non-car segments are continuing to make gains, and in the fourth quarter of 2022, light truck (UVs, minivans, and pickups) sales comprised more than 68 percent of the EV market.

Quarterly sales of BEV and PHEV UVs have grown from about 19 percent of EVs at the start of 2020 to 61 percent in the fourth quarter of, and for all of 2022.

EV MODEL AVAILABILITY
91 Vehicle Models Sold in Q4 2022:
47 Battery Electric Vehicles

- 17 Cars
- 25 Utility Vehicles
- 3 Pickups
- 2 Vans

42 Plug-in Hybrid Vehicles

- 17 Cars
- 24 Utility Vehicles
- 1 Van

2 Fuel Cell Electric Vehicles

- 1 Car
- 1 Utility Vehicle

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## Electric Vehicle Transaction Prices

The cost of the average EV in the fourth quarter of 2022 was about $\$ 63,600$ while the average cost of all new lightduty vehicles in that time period was about $\$ 48,800$. Year-over-year, EV prices rose more than $\$ 5,000$ from the fourth quarter of 2021 while the average cost of all new light vehicles rose just under $\$ 2,400 .^{3}$


## Electric Vehicle Sales by State

## For the Fourth Quarter of 2022:

California continued to lead the nation in EV sales, with BEVs, PHEVs and FCEVs making up more than 23 percent of new light-duty vehicle registrations in the fourth quarter of 2022. There are currently 24 additional states ${ }^{4}$ and the District of Columbia with new vehicle EV registrations above 5 percent.

The market share of new EVs registered increased in all but two states ${ }^{5}$, year-over-year, in the fourth quarter of 2022. Eighteen states and the District of Columbia witnessed increased market share of EVs by 2 pp or more. Making the largest increases were Washington ( 7.9 pp ), California ( 6.9 pp ), Oregon ( 4.9 pp ), Maryland and Nevada ( 3.4 pp ).

For The Full Year, 2022:

[^1]More than 20 percent of sales in California were EVs, which also had the largest year-over-year increase for the period at 7.2 pp . Following California, the states with the largest market share gains were Washington ( 5.1 pp), Nevada ( 4.5 pp ), Oregon ( 3.9 pp ) and New Jersey ( 3.6 pp). Fifteen states and the District of Columbia increased their year-over-year EV market share by 2 pp or more. Eleven states increased by less than 1 pp. While some states continue to have strong EV sales, 13 states had new EV registrations of less than three percent; six of those states were under two percent. All states had a market share above 1.0 percent for EV sales.

For the year, $\mathbf{2 0}$ states and the District of Columbia had an EV market share above 5 percent, including four states and DC above 10 percent.


| 2022 eV Market Share by State |  |  |  |  |  |  |  |  |  |  |  |  |  |  |
| :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: |
| 1 | CA* | 20.1\% | 11 | CT* | 7.6\% | 21 | R1* | 5.2\% | 31 | MT | 3.6\% | 41 | AK | 2.7\% |
| 2 | DC | 13.8\% | 12 | $V A^{*}$ | 7.5\% | 22 | NC | 4.9\% | 32 | TN | 3.5\% | 42 | IA | 2.7\% |
| 3 | WA* | 12.9\% | 13 | $V T^{*}$ | 7.1\% | 23 | $\mathrm{MN} *$ | 4.8\% | 33 | KS | 3.4\% | 43 | KY | 2.5\% |
| 4 | OR* | 11.5\% | 14 | UT | 7.1\% | 24 | ME* | 4.7\% | 34 | MI | 3.4\% | 44 | AL | 2.1\% |
| 5 | NV* | 10.2\% | 15 | AZ | 6.6\% | 25 | PA | 4.4\% | 35 | WI | 3.4\% | 45 | AR | 2.0\% |
| 6 | CO* | 9.7\% | 16 | IL | 6.2\% | 26 | TX | 4.3\% | 36 | IN | 3.3\% | 46 | WY | 1.9\% |
| 7 | $\mathrm{NJ}^{*}$ | 8.8\% | 17 | FL | 5.8\% | 27 | NM | 3.9\% | 37 | OK | 3.1\% | 47 | SD | 1.6\% |
| 8 | HI | 8.4\% | 18 | DE | 5.6\% | 28 | NH | 3.8\% | 38 | OH | 3.1\% | 48 | LA | 1.5\% |
| 9 | MA* | 8.2\% | 19 | NY* | 5.5\% | 29 | ID | 3.7\% | 39 | SC | 3.0\% | 49 | MS | 1.2\% |
| 10 | MD* | 7.9\% | 20 | GA | 5.2\% | 30 | MO | 3.6\% | 40 | NE | 2.9\% | 50 | WV | 1.2\% |
|  |  |  |  |  |  |  |  |  |  |  |  | 51 | ND | 1.1\% |

[^2]| Fourth Quarter 2022, New Light-Duty Vehicle Registrations By Powertrain |  |  |  |  | Change In Market Share ( 2022 Q4 vs 2021 Q4), New Light-Duty Vehicle Registrations Powertrain |  |  |  |
| :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: |
| State | Advanced Powertrain Market Share |  |  |  | Advanced Powertrain Market Share (Percentage Point Change) |  |  |  |
|  | PHEV | BEV | FCEV | ZEV | PHEV | BEV | FCEV | ZEV |
| AK | 0.63\% | 2.82\% | 0.00\% | 3.45\% | 0.11 | 1.77 | 0.00 | 1.88 |
| AL | 0.62\% | 1.83\% | 0.00\% | 2.44\% | -0.08 | 0.62 | 0.00 | 0.54 |
| AR | 0.53\% | 1.35\% | 0.00\% | 1.89\% | 0.05 | 0.27 | 0.00 | 0.32 |
| AZ | 1.31\% | 6.38\% | 0.00\% | 7.69\% | 0.23 | 1.72 | 0.00 | 1.95 |
| CA* | 3.16\% | 20.40\% | 0.17\% | 23.73\% | 0.13 | 6.74 | 0.00 | 6.87 |
| CO* | 2.67\% | 8.56\% | 0.00\% | 11.24\% | 0.51 | 2.52 | 0.00 | 3.03 |
| CT* | 2.52\% | 6.32\% | 0.00\% | 8.84\% | 0.34 | 1.71 | 0.00 | 2.05 |
| DC | 3.61\% | 11.38\% | 0.00\% | 14.98\% | -0.60 | 3.07 | 0.00 | 2.47 |
| DE | 1.51\% | 5.39\% | 0.00\% | 6.89\% | -0.04 | 1.38 | 0.00 | 1.34 |
| FL | 0.98\% | 5.60\% | 0.00\% | 6.58\% | 0.28 | 1.25 | 0.00 | 1.53 |
| GA | 0.89\% | 5.39\% | 0.00\% | 6.28\% | 0.01 | 2.11 | 0.00 | 2.12 |
| HI | 1.61\% | 8.30\% | 0.00\% | 9.92\% | 0.08 | 2.20 | -0.01 | 2.27 |
| IA | 0.99\% | 2.08\% | 0.00\% | 3.07\% | 0.20 | 0.41 | 0.00 | 0.61 |
| ID | 1.43\% | 2.64\% | 0.00\% | 4.07\% | 0.49 | 0.90 | 0.00 | 1.40 |
| IL | 1.43\% | 6.00\% | 0.00\% | 7.42\% | 0.38 | 2.86 | 0.00 | 3.24 |
| IN | 0.95\% | 2.99\% | 0.00\% | 3.94\% | 0.00 | 1.22 | 0.00 | 1.21 |
| KS | 1.14\% | 3.12\% | 0.00\% | 4.27\% | 0.14 | 1.58 | 0.00 | 1.72 |
| KY | 0.76\% | 2.14\% | 0.00\% | 2.90\% | 0.23 | 0.76 | 0.00 | 0.99 |
| LA | 0.54\% | 1.23\% | 0.00\% | 1.77\% | -0.08 | 0.44 | 0.00 | 0.36 |
| MA* | 2.94\% | 7.31\% | 0.00\% | 10.26\% | 0.62 | 2.74 | 0.00 | 3.36 |
| MD* | 2.21\% | 7.71\% | 0.00\% | 9.92\% | 0.19 | 3.25 | 0.00 | 3.44 |
| ME* | 2.35\% | 3.20\% | 0.00\% | 5.55\% | 0.09 | 1.36 | 0.00 | 1.45 |
| MI | 1.33\% | 2.84\% | 0.00\% | 4.17\% | 0.33 | 1.25 | 0.00 | 1.58 |
| M ${ }^{*}$ | 1.52\% | 4.72\% | 0.00\% | 6.24\% | 0.51 | 1.93 | 0.00 | 2.45 |
| MO | 1.72\% | 3.95\% | 0.00\% | 5.67\% | 0.58 | 2.28 | 0.00 | 2.86 |
| MS | 0.38\% | 0.86\% | 0.00\% | 1.24\% | -0.19 | 0.15 | 0.00 | -0.05 |
| MT | 0.86\% | 3.14\% | 0.00\% | 4.00\% | 0.10 | 0.92 | 0.00 | 1.01 |
| NC | 1.27\% | 4.76\% | 0.00\% | 6.03\% | 0.29 | 1.63 | 0.00 | 1.92 |
| ND | 0.58\% | 0.81\% | 0.00\% | 1.39\% | 0.22 | 0.37 | 0.00 | 0.59 |
| NE | 1.28\% | 2.09\% | 0.00\% | 3.37\% | 0.38 | 0.82 | 0.00 | 1.20 |
| NH | 1.44\% | 2.96\% | 0.00\% | 4.40\% | 0.12 | 0.98 | 0.00 | 1.09 |
| NJ* | 1.78\% | 9.15\% | 0.00\% | 10.93\% | 0.29 | 2.62 | 0.00 | 2.92 |
| NM | 1.18\% | 3.25\% | 0.00\% | 4.43\% | 0.41 | 0.77 | 0.00 | 1.18 |
| NV* | 1.46\% | 11.22\% | 0.00\% | 12.68\% | 0.17 | 3.27 | 0.00 | 3.44 |
| NY* | 1.89\% | 4.58\% | 0.00\% | 6.48\% | 0.15 | 1.43 | 0.00 | 1.58 |
| OH | 1.03\% | 2.40\% | 0.00\% | 3.44\% | 0.32 | 0.71 | 0.00 | 1.02 |
| OK | 1.05\% | 3.36\% | 0.00\% | 4.41\% | -3.84 | 1.93 | 0.00 | -1.91 |
| OR* | 3.50\% | 11.31\% | 0.00\% | 14.81\% | 0.13 | 4.78 | 0.00 | 4.92 |
| PA | 1.37\% | 4.21\% | 0.00\% | 5.58\% | 0.41 | 1.84 | 0.00 | 2.25 |
| RI* | 2.09\% | 3.95\% | 0.00\% | 6.05\% | 0.13 | 1.30 | 0.00 | 1.44 |
| SC | 0.78\% | 2.42\% | 0.00\% | 3.20\% | 0.03 | 0.42 | 0.00 | 0.45 |
| SD | 0.82\% | 1.22\% | 0.00\% | 2.03\% | 0.15 | 0.45 | 0.00 | 0.60 |
| TN | 0.80\% | 2.87\% | 0.00\% | 3.67\% | 0.04 | 0.45 | 0.00 | 0.49 |
| TX | 0.78\% | 4.21\% | 0.00\% | 4.99\% | 0.10 | 1.23 | 0.00 | 1.33 |
| UT | 1.52\% | 6.68\% | 0.00\% | 8.20\% | 0.37 | 1.90 | 0.00 | 2.26 |
| VA* | 1.82\% | 7.93\% | 0.00\% | 9.74\% | 0.56 | 2.77 | 0.00 | 3.33 |
| VT* | 3.03\% | 5.99\% | 0.00\% | 9.02\% | 0.23 | 2.32 | 0.00 | 2.55 |
| WA* | 2.15\% | 16.32\% | 0.00\% | 18.47\% | 0.60 | 7.24 | 0.00 | 7.85 |
| WI | 1.09\% | 3.12\% | 0.00\% | 4.21\% | 0.27 | 1.44 | 0.00 | 1.71 |
| WV | 0.47\% | 1.03\% | 0.00\% | 1.51\% | -0.04 | 0.26 | 0.00 | 0.22 |
| WY | 1.00\% | 1.33\% | 0.00\% | 2.32\% | 0.01 | 0.43 | 0.00 | 0.44 |
| U.S. | 1.57\% | 6.93\% | 0.02\% | 8.52\% | 0.14 | 2.38 | 0.00 | 2.52 |

*Denotes states that have adopted California's ZEV program
Source: Figures compiled by Alliance for Automotive Innovation with new registrations for retail and fleet data provided by S\&P Global Mobility covering October 1 - December, 2021, and October 1 - December 31, 2022

| 2022 New Light-Duty Vehicle Registrations By Powertrain |  |  |  |  | Change In Market Share (2022 vs 2021), New LightDuty Vehicle Registrations Powertrain |  |  |  |
| :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: |
| State | Advanced Powertrain Market Share |  |  |  | Advanced Powertrain Market Share (Percentage Point Change) |  |  |  |
|  | PHEV | BEV | FCEV | ZEV | PHEV | BEV | FCEV | ZEV |
| AK | 0.61\% | 2.12\% | 0.00\% | 2.74\% | 0.16 | 1.09 | 0.00 | 1.25 |
| AL | 0.50\% | 1.57\% | 0.00\% | 2.06\% | 0.08 | 0.75 | 0.00 | 0.83 |
| AR | 0.49\% | 1.53\% | 0.00\% | 2.02\% | 0.12 | 0.79 | 0.00 | 0.91 |
| AZ | 1.06\% | 5.56\% | 0.00\% | 6.62\% | 0.24 | 2.17 | 0.00 | 2.41 |
| CA* | 2.78\% | 17.17\% | 0.17\% | 20.13\% | -0.31 | 7.49 | -0.02 | 7.16 |
| CO* | 2.17\% | 7.51\% | 0.00\% | 9.68\% | 0.51 | 2.93 | 0.00 | 3.44 |
| CT* | 2.37\% | 5.22\% | 0.00\% | 7.59\% | 0.41 | 2.03 | 0.00 | 2.44 |
| DC | 3.44\% | 10.37\% | 0.00\% | 13.81\% | -0.47 | 3.43 | 0.00 | 2.96 |
| DE | 1.38\% | 4.24\% | 0.00\% | 5.62\% | 0.30 | 1.56 | 0.00 | 1.87 |
| FL | 0.94\% | 4.88\% | 0.00\% | 5.82\% | 0.35 | 1.97 | 0.00 | 2.32 |
| GA | 0.80\% | 4.42\% | 0.00\% | 5.22\% | 0.20 | 2.22 | 0.00 | 2.42 |
| HI | 1.76\% | 6.66\% | 0.01\% | 8.43\% | 0.33 | 0.44 | 0.00 | 0.76 |
| IA | 0.87\% | 1.83\% | 0.00\% | 2.70\% | 0.21 | 0.71 | 0.00 | 0.92 |
| ID | 1.00\% | 2.67\% | 0.00\% | 3.68\% | 0.28 | 1.24 | 0.00 | 1.53 |
| IL | 1.22\% | 4.94\% | 0.00\% | 6.15\% | 0.38 | 2.67 | 0.00 | 3.05 |
| IN | 0.86\% | 2.45\% | 0.00\% | 3.31\% | 0.17 | 1.05 | 0.00 | 1.22 |
| KS | 0.89\% | 2.54\% | 0.00\% | 3.43\% | 0.23 | 1.13 | 0.00 | 1.36 |
| KY | 0.70\% | 1.84\% | 0.00\% | 2.54\% | 0.26 | 0.83 | 0.00 | 1.09 |
| LA | 0.44\% | 1.10\% | 0.00\% | 1.54\% | 0.11 | 0.53 | 0.00 | 0.64 |
| MA* | 2.60\% | 5.60\% | 0.00\% | 8.20\% | 0.47 | 2.28 | 0.00 | 2.75 |
| MD* | 1.86\% | 6.00\% | 0.00\% | 7.86\% | 0.21 | 2.59 | 0.00 | 2.80 |
| ME* | 2.14\% | 2.53\% | 0.00\% | 4.67\% | 0.03 | 0.90 | 0.00 | 0.93 |
| MI | 1.20\% | 2.19\% | 0.00\% | 3.38\% | 0.37 | 0.88 | 0.00 | 1.25 |
| MN* | 1.12\% | 3.63\% | 0.00\% | 4.74\% | 0.31 | 1.50 | 0.00 | 1.81 |
| MO | 1.11\% | 2.51\% | 0.00\% | 3.63\% | 0.48 | 1.21 | 0.00 | 1.69 |
| MS | 0.36\% | 0.86\% | 0.00\% | 1.22\% | 0.06 | 0.40 | 0.00 | 0.46 |
| MT | 0.82\% | 2.73\% | 0.00\% | 3.56\% | 0.27 | 1.59 | 0.00 | 1.86 |
| NC | 1.00\% | 3.86\% | 0.00\% | 4.86\% | 0.23 | 1.68 | 0.00 | 1.91 |
| ND | 0.36\% | 0.78\% | 0.00\% | 1.13\% | 0.06 | 0.39 | 0.00 | 0.45 |
| NE | 1.01\% | 1.91\% | 0.00\% | 2.92\% | 0.25 | 0.82 | 0.00 | 1.07 |
| NH | 1.27\% | 2.56\% | 0.00\% | 3.83\% | 0.17 | 1.10 | 0.00 | 1.27 |
| $\mathrm{NJ}{ }^{*}$ | 1.63\% | 7.20\% | 0.00\% | 8.83\% | 0.40 | 3.24 | 0.00 | 3.64 |
| NM | 0.94\% | 2.97\% | 0.00\% | 3.91\% | 0.28 | 1.41 | 0.00 | 1.69 |
| NV* | 1.38\% | 8.84\% | 0.00\% | 10.22\% | 0.37 | 4.16 | 0.00 | 4.52 |
| NY* | 1.79\% | 3.76\% | 0.00\% | 5.54\% | 0.19 | 1.41 | 0.00 | 1.61 |
| OH | 0.84\% | 2.25\% | 0.00\% | 3.10\% | 0.27 | 0.91 | 0.00 | 1.18 |
| OK | 1.08\% | 2.04\% | 0.00\% | 3.12\% | -0.13 | 1.15 | 0.00 | 1.02 |
| OR* | 3.02\% | 8.47\% | 0.00\% | 11.49\% | 0.41 | 3.50 | 0.00 | 3.91 |
| PA | 1.15\% | 3.21\% | 0.00\% | 4.36\% | 0.36 | 1.52 | 0.00 | 1.88 |
| R1* | 1.91\% | 3.26\% | 0.00\% | 5.17\% | 0.29 | 1.19 | 0.00 | 1.48 |
| SC | 0.79\% | 2.15\% | 0.00\% | 2.94\% | 0.22 | 0.83 | 0.00 | 1.06 |
| SD | 0.58\% | 1.05\% | 0.00\% | 1.63\% | 0.13 | 0.47 | 0.00 | 0.59 |
| TN | 0.76\% | 2.78\% | 0.00\% | 3.54\% | 0.25 | 1.19 | 0.00 | 1.44 |
| TX | 0.65\% | 3.66\% | 0.00\% | 4.31\% | 0.16 | 1.67 | 0.00 | 1.83 |
| UT | 1.25\% | 5.80\% | 0.00\% | 7.05\% | 0.35 | 2.55 | 0.00 | 2.89 |
| VA* | 1.55\% | 5.99\% | 0.00\% | 7.54\% | 0.50 | 2.87 | 0.00 | 3.37 |
| VT** | 2.65\% | 4.44\% | 0.00\% | 7.09\% | 0.15 | 1.45 | 0.00 | 1.60 |
| WA* | 1.76\% | 11.14\% | 0.00\% | 12.90\% | 0.40 | 4.74 | 0.00 | 5.14 |
| WI | 0.88\% | 2.49\% | 0.00\% | 3.37\% | 0.28 | 1.14 | 0.00 | 1.41 |
| WV | 0.39\% | 0.83\% | 0.00\% | 1.22\% | 0.00 | 0.29 | 0.00 | 0.30 |
| WY | 0.58\% | 1.28\% | 0.00\% | 1.86\% | 0.00 | 0.66 | 0.00 | 0.66 |
| U.S. | 1.37\% | 5.64\% | 0.02\% | 7.03\% | 0.20 | 2.47 | 0.00 | 2.68 |

[^3]
## Registrations and Infrastructure

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. While there are nearly 284 million light-duty vehicles in operation (VIO) in the United States, electric vehicles represent just 1.1 percent of all light vehicles in the country (just over 3.0 million EVs). Fourth quarter 2022 marks the first time EVs represented more than 1 percent of total VIO. The EV VIO of 1.1 percent is an increase of 0.3 pp since the end of 2021 and an increase of 0.5 pp since the end of the first quarter in 2021 . $^{7}$


## U.S. Public Charging Infrastructure: Overview

While the U.S. Department of Energy notes that roughly 80 percent of all electric vehicle charging occurs at home, reliable and convenient access to workplace and public charging and refueling stations help to support customers that purchase EVs. Workplace and public charging infrastructure not only eases perceived "range anxiety" concerns but also increases consumer awareness of the technology. 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 and $\$ 2.5$ billion in competitive grants to deploy publicly available EV charging, hydrogen fueling, propane fueling, and natural gas fueling stations through 2026. Here is a snapshot of publicly available, non-proprietary EV charging and refueling infrastructure available across the United States at the end of $2022^{8}$ :

> Level 2: 41,398 Locations, 93,070 EVSE Ports*
> DC Fast: 4,880 Locations, 10,512 EVSE Ports*
> Hydrogen Refueling: 56 Stations ( 55 are in California)
> U.S. Total: 45,242 Locations, 103,582 EVSE Ports
> *Non-proprietary charging ports
> See Recommended Attributes for EV Charging Stations

[^4]Level 2 Chargers and DC Fast Chargers. Both Level 2 and DC fast charging play important roles in electrifying the fleet. However, the key difference between Level 2 and DC Fast is how fast each will charge an EV's battery. Level 2 equipment is common for home, workplace, and public charging. Level 2 chargers can 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 along heavytraffic corridors at installed stations and can charge a BEV to 80 percent in just 20 minutes to 1 hour. Wider installation of both Level 2 chargers, DC Fast chargers, and hydrogen fueling will be necessary for the transformation to electric vehicles. The number of non-proprietary Level 2, DC Fast, and total chargers all increased 31 percent, year-over-year (from about 79,000 in 2021 to about 103,000 in 2022)



Infrastructure Still Well Below Estimated Needed Ratio of 7:1. An assessment by the California Energy Commission concluded that 700,000 public and shared private chargers are needed to support 5 million EVs, amounting to a ratio of 7 EV s per public charger. At the end of 2022 , there were about 103,000 non-proprietary public charging outlets across the country and 3.04 million EVs on the road, a ratio of 29 EV s per charger. For charging to meet the $7: 1$ ratio, more than 330 thousand additional chargers are needed today, which is more than triple the currently available non-proprietary chargers across the U.S. as of December 31, 2022. Many additional chargers will be needed to support future sales of EVs through 2030 and beyond.


## Infrastructure Disparities by Geography

Geographic disparities in charging infrastructure are pervasive. At the end of 2022, nearly $30 \%$ of all public charging infrastructure was located in California, which had 37 percent of all registered EVs.

Of the more than 3,100 counties and city-counties in the U.S., 63 percent had five or fewer chargers installed; 39 percent had zero. The top 14 counties with the highest number of chargers accounted for 30 percent of all U.S. EV charging infrastructure.


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## Available U.S. Public Charging at the End of $2022^{9}$



## New 2022 Charging Infrastructure

Progress Adding Chargers, But Still Behind: More than 934,958 new EVs were added to the roads in 2022, but only 24,622 new chargers were added -a ratio of 38 new EVs for every new public port - well behind the recommended ratio of 7:1. Every state and the District of Columbia was behind the recommended ratio. Contrary to recent narratives, the U.S. is falling further behind in installing publicly available chargers for the number of EVs that are being sold, and that government regulations require in the near future.

[^5]


New Charging Installations Also Face Geographic Disparities. In 2022, 24,622 non-proprietary chargers (+31 percent, YoY) were added across all 50 states and the District of Columbia (about 3,100 counties and citycounties), however, of that:

- $\quad 53$ percent of counties added NO new chargers
- 75 percent of U.S. counties added 5 or fewer chargers in 2022
- 51 percent of all new charging was added in just 2 percent of U.S. counties
- 25 percent of all new charging was added in California
- $\quad 160$ counties added only 1 new charger


Level 2 Public Charging Added in 2022, by County


[^6]
## Vehicles in Operation and Charging by State

|  |  |
| :--- | ---: | ---: | ---: | ---: | ---: | ---: | ---: | ---: | ---: | ---: | ---: | ---: |
|  | EV Level |

[^7]${ }^{* * *}$ VIO is vehicles in operation; ${ }^{* * * *}$ State share of U.S. Total; ${ }^{* * * *}$ Calculated at $1: 7$ ratio at 25 percent of the existing state fleet. Ratio derived from CEC AB 2127 Report of July 14,$2021 ;$ VIO at the end of the $4^{\text {th }}$ quarter was about 284 million vehicles ( $25 \%=71$ million)
Source: Figures compiled by Alliance for Automotive Innovation with registered vehicle data provided by S\&P Global Mobility as of December 31, 2022; Charging information from U.S.
Department of Energy Alternative Fuels Data Center, as of 12/31/2022.


[^0]:    'See past editions of "Get Connected: Electric Vehicle Report" for previous quarters.

[^1]:    ${ }^{3}$ Average transaction prices from Kelley Blue Book, monthly press releases
    ${ }^{4}$ States with more than a 5 percent market share of EVs: California, Washington, District of Columbia, Oregon, Nevada, Colorado, New Jersey, Massachusetts, Maryland, Hawaii, Virginia, Vermont, Connecticut, Utah, Arizona, Illinois, Delaware, Florida, New York, Georgia, Minnesota, Rhode Island, North Carolina, Missouri, Pennsylvania, and Maine.
    ${ }^{5}$ Mississippi and Oklahoma

[^2]:    ${ }^{6}$ Figures compiled by Alliance for Automotive Innovation with new registrations for retail and fleet data provided by S\&P Global Mobility covering January 1 - December 31, 2022 *Denotes states that have adopted California's ZEV program

[^3]:    Denotes states that have adopted California's ZEV program
     January 1 - December 31, 2022

[^4]:    ${ }^{7}$ Registered vehicles in operation compiled by Alliance for Automotive Innovation with data provided by S\&P Global Mobility covering January 1, 2021 -December 31, 2022
    ${ }^{8}$ Charging information from U.S. Department of Energy Alternative Fuels Data Center, stations in operation as of 12/31/2022;
    Note: prior editions of this report included proprietary chargers

[^5]:    ${ }^{9}$ Including proprietary chargers, there were about 147,000 public ports available at the end of 2022

[^6]:     Development Crosswalk files (zip code to county). Includes only public, non-proprietary chargers.

[^7]:    *Denotes states that have adopted California's ZEV program; **Hydrogen count denotes stations

