

Vermont EV Market Overview

VERMONT HOUSE TRANSPORTATION COMMITTEE
FEBRUARY 17, 2021

Drive
Electric
Vermont

About Drive Electric Vermont

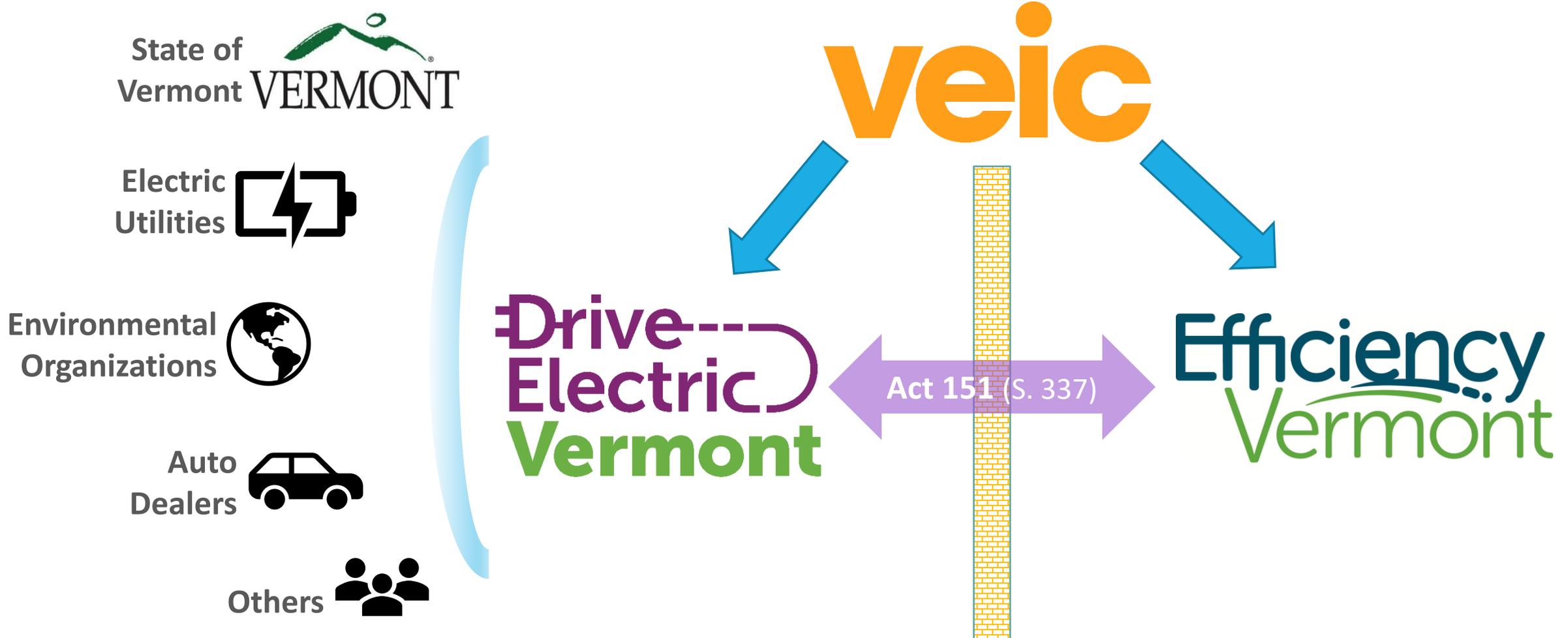
- Drive Electric Vermont is a public-private partnership established in 2012 by VEIC and the State of Vermont
- Working to advance transportation electrification through:
 - Stakeholder coordination
 - Policy engagement
 - Consumer education & outreach
 - Infrastructure development



Drive
Electric
Vermont

<https://www.driveelectricvt.com/>

Drive Electric Vermont Connections



Why Go Electric?

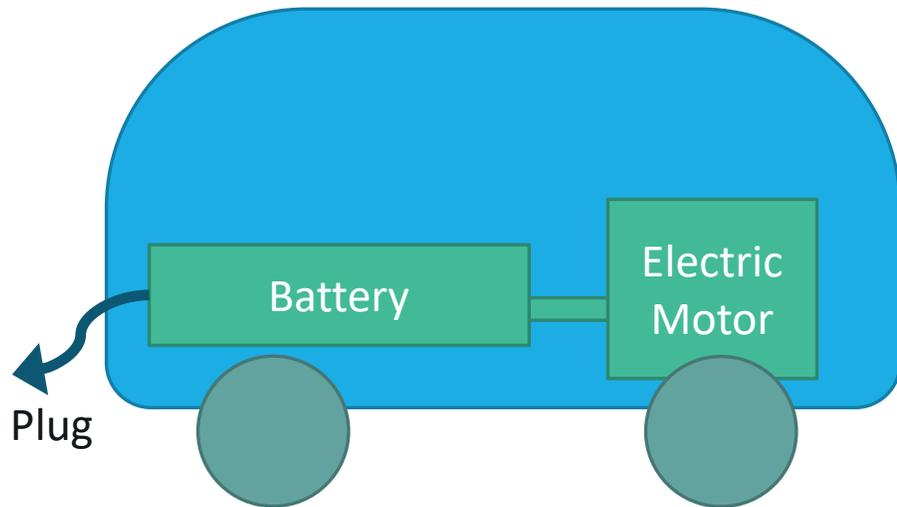
- Reduce emissions
- Great performance
- Quiet
- Convenient charging at home
- Savings

**It's time for
a better drive.**



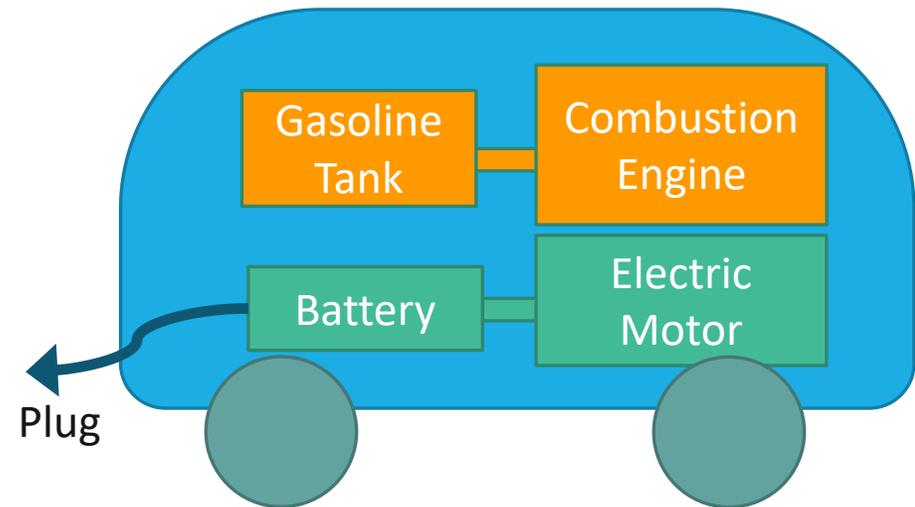
Types of Plug-in Vehicles

All Electric



70 – 300+ Mile Range on Battery

Plug-in Hybrid



15 – 80 Mile Range on Battery
+
300 or More Miles on Gasoline

Popular EV Models

All-Electric Vehicles



Nissan LEAF
150-225 Miles
\$30-37k



Tesla Model 3
250-322 Miles
\$35-50k



Chevrolet Bolt
260 Miles
\$37k

Plug-in Hybrid Vehicles



Toyota Prius Prime
25 Miles
\$28k



Mitsubishi Outlander PHEV
22 Miles
\$36k



Subaru Crosstrek Hybrid
17 Miles
\$35k

Recent Arrivals and Coming Soon

Tesla Model Y

244-326 miles, \$42k



Ford Mustang Mach-E

211-300 miles, \$43k



Ford Escape PHEV

38 miles, \$33k



VW ID.4

250 miles, \$40k



Chevrolet Bolt EUV

250 miles, \$34k



Toyota RAV4 Prime

42 miles, \$38k



Website EV Model Explorer

Plug-in Cars Available in Vermont

Vehicle Type: Electric Range†: All Wheel Drive: Base MSRP: Number of Seats: Vermont Incentive:

Filters for vehicle characteristics

Audi e-tron



All Electric (SUV)
Electric Range: 204 miles

Chevrolet Bolt



All Electric (Crossover)
Electric Range: 259 miles
Vermont Incentive Eligible

Hyundai Kona Electric



All Electric (Crossover)
Electric Range: 258 miles
Vermont Incentive Eligible

Hyundai Kona Electric



All Electric (Crossover)
Electric Range: 258 miles
Vermont Incentive Eligible

Total Range: 258 miles
Battery Size: 64
Seats: 5
Cargo: 19.2 ft³
Base MSRP: \$36,950
Federal Tax Credit Amount: \$7,500
Standard Monthly Lease: \$329
Lease Down Payment: \$3,899
[Manufacturer Website](#)

Jaguar I-Pace



All Electric (SUV)
Electric Range: 234 miles

Kia Niro EV



All Electric (Crossover)
Electric Range: 239 miles
Vermont Incentive Eligible

Nissan Leaf Plus



All Electric (Hatchback)
Electric Range: 226 miles
Vermont Incentive Eligible

www.DriveElectricVT.com

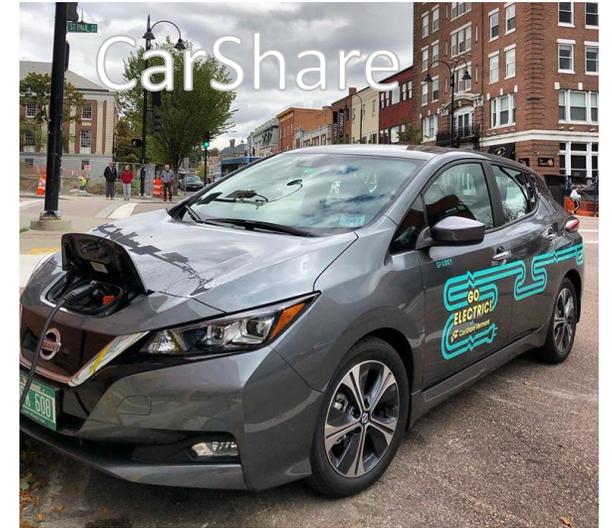
Other Electric Options



Buses



Commercial Vehicles



CarShare



Lawn care equipment



Bicycles



Motorcycles

EVs in Vermont Conditions

Cold weather reduces electric range 20-50%



Charging Equipment

Level 1 Charging

120V

5 miles range / hr



Level 2 Charging

240V

10-20 miles / hr



DC Fast Charging

480V

70+ miles / hr



Multifamily EV Charging

- About 23% of Vermont housing stock is multifamily
 - About 61,000 out of 260,000 total housing units
- Renter willingness / ability to invest
- Dedicated parking vs Shared access
- Metering / usage fees
- Potential service upgrades required for existing structures
- Condo/HOA agreements for homeowner/tenant charging
- Range of equipment and management options
- Electric utility pilot programs

veic



Multi-Unit Dwelling Electric Vehicle Charging

Overview, Developer Survey & Program Recommendations

Prepared for: Chittenden County Regional Planning Commission
110 West Canal St, Suite 202

August 2020 Partner Review Draft

VT Building Energy Code

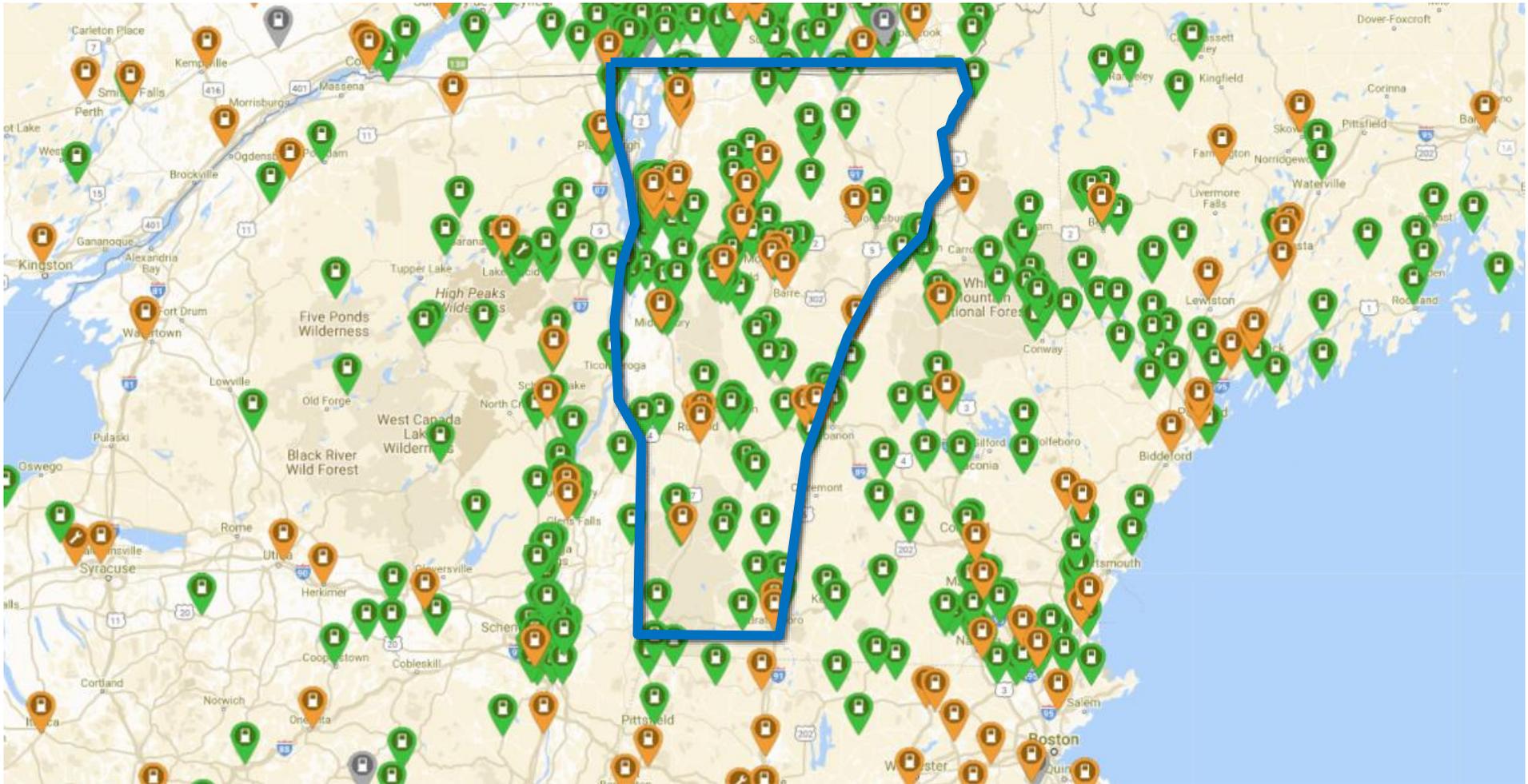
Commercial (2015 Stretch Code Section C708.1)

- Stretch code compliance required for Act 250
- About 2% of parking EV ready
- Half ready to go on occupancy
- Level 1 and/or 2

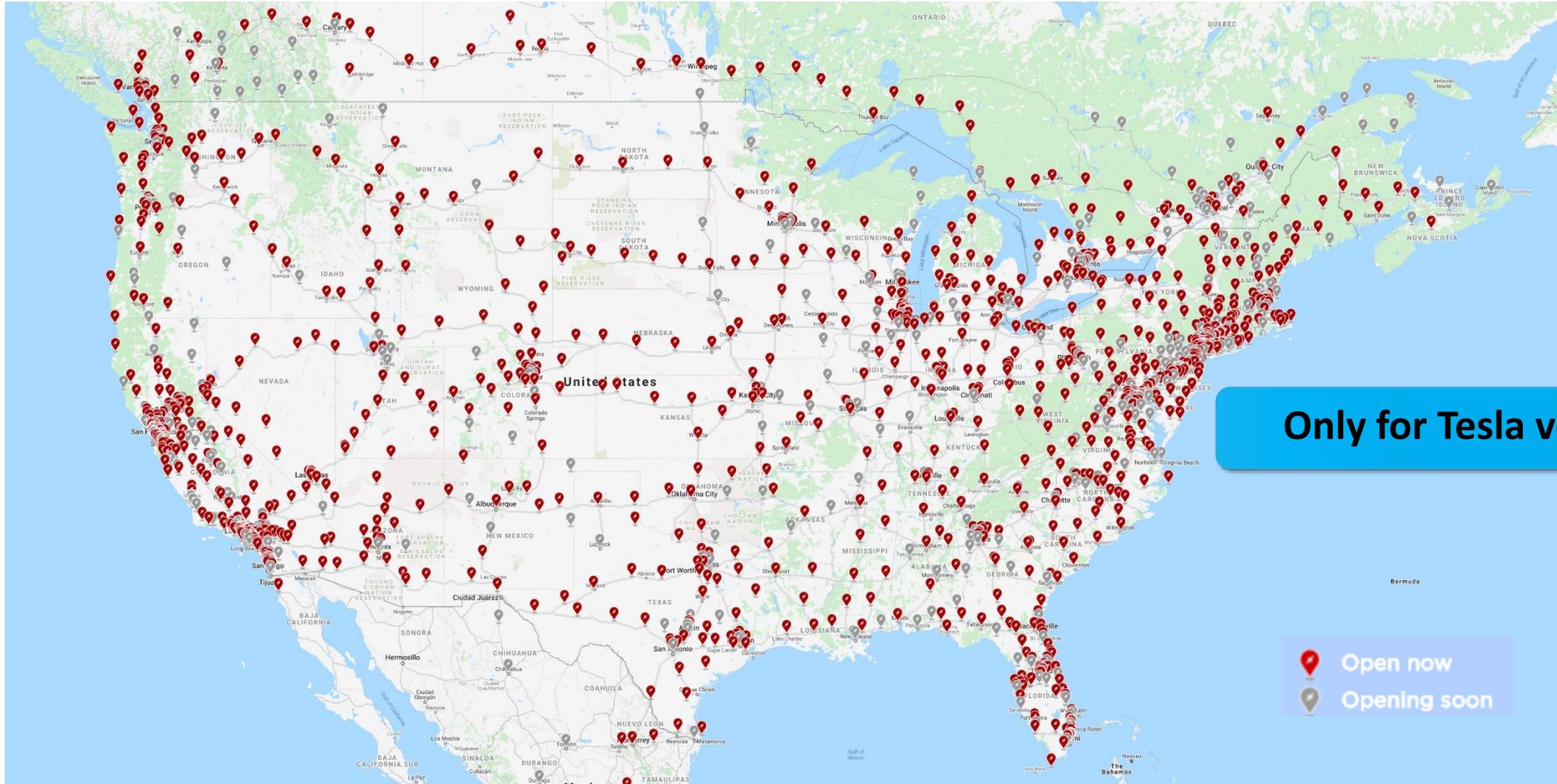
Residential

- Base Code: Multifamily with 10+ units, 4% of parking
- Stretch Code: Single family requires level 1,

Public EV Charging Availability



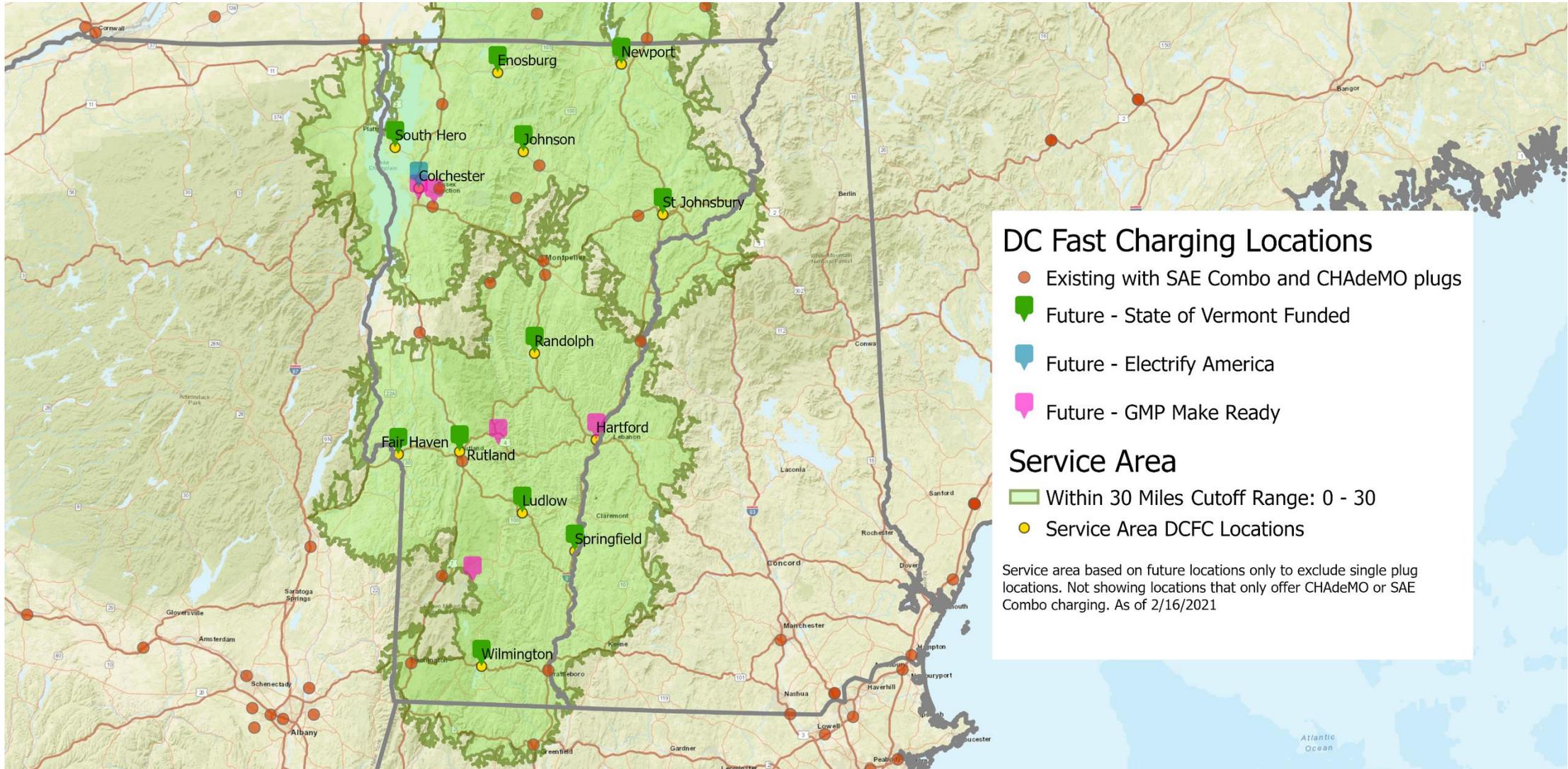
Tesla Supercharging



Only for Tesla vehicles

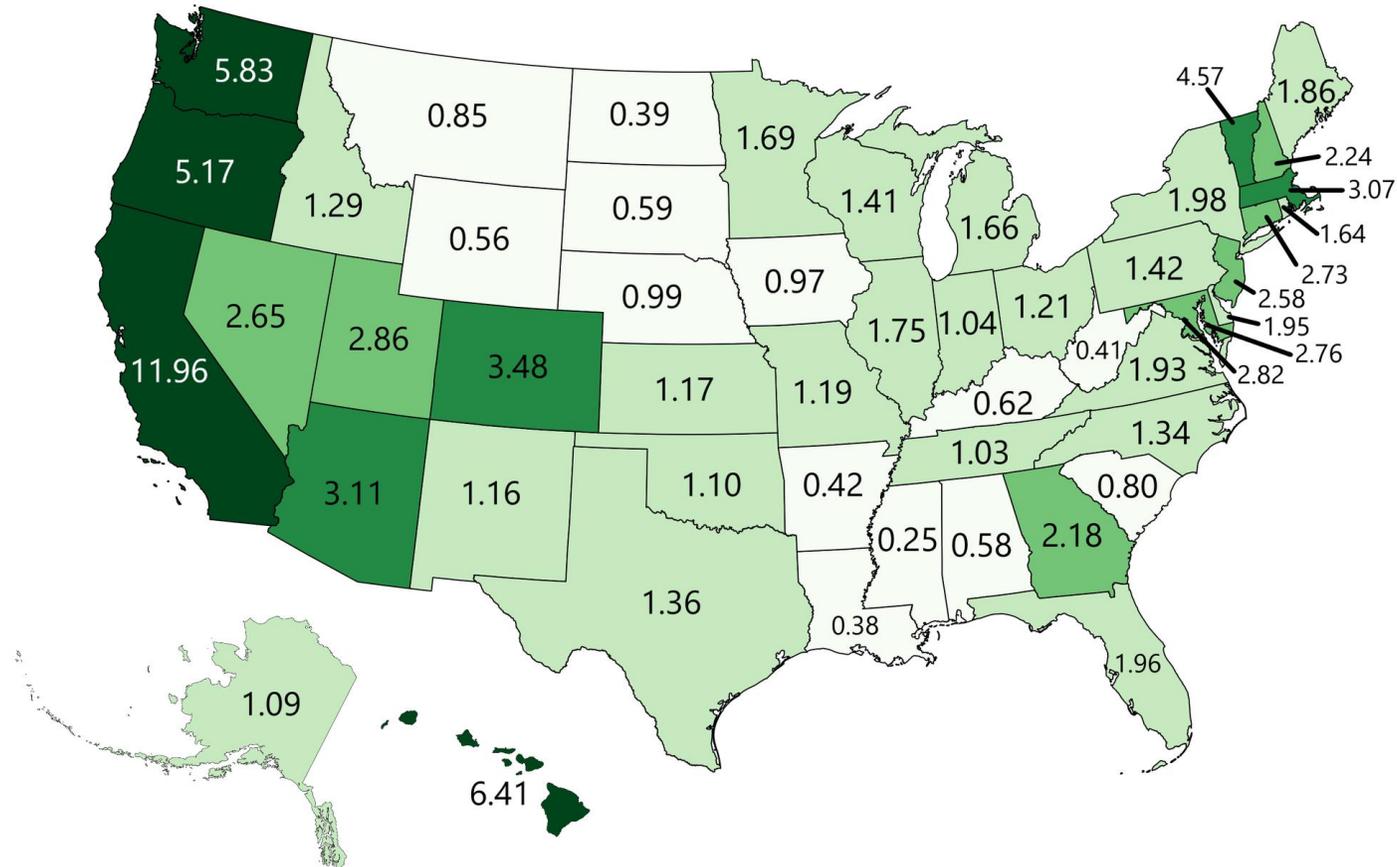
📍 Open now
📍 Opening soon

Vermont DC Fast Charging Availability



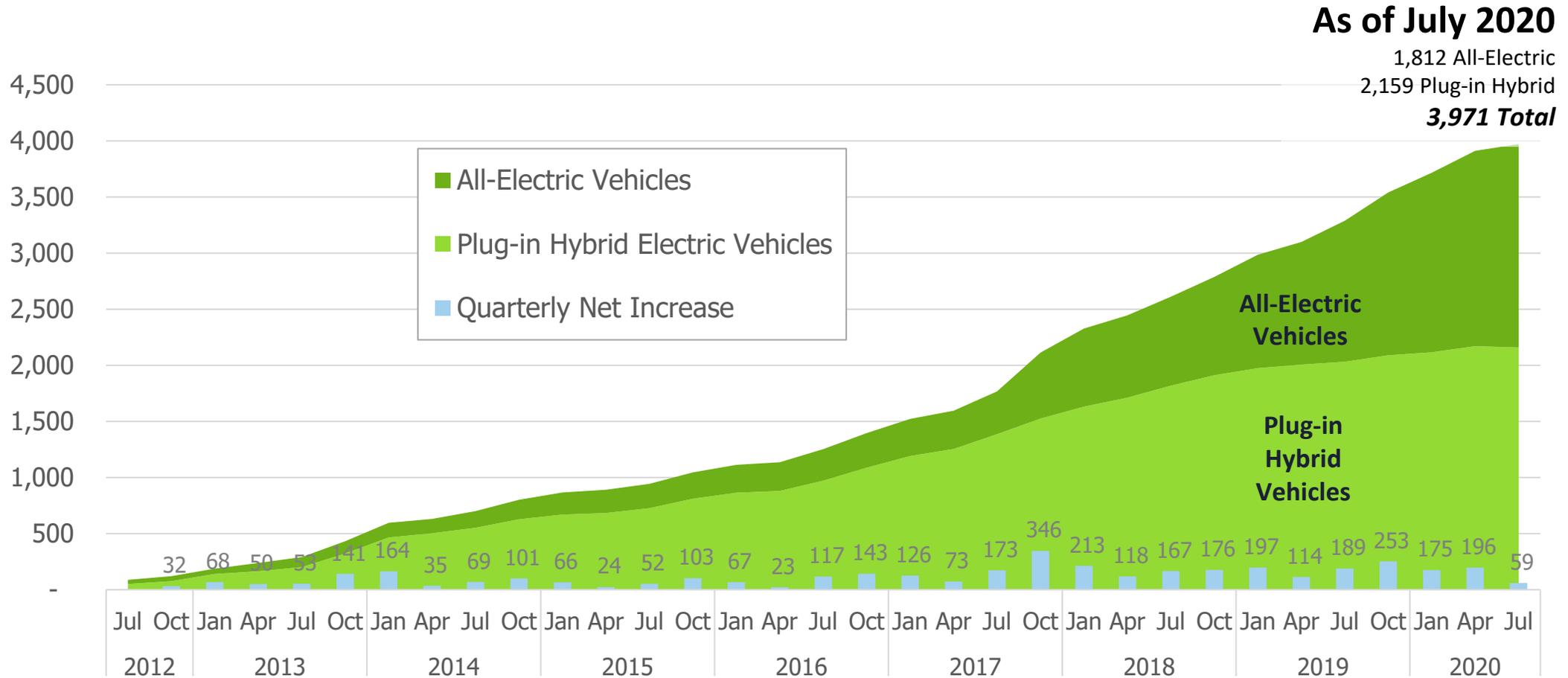
EV Registration Rates by State

Plug-in Electric Vehicle Registrations per 1,000 People, 2018



Source:
US Dept of Energy,
2021

Vermont EV Registrations



Source:
 VT DMV / VT DEC
 2021

Top-Selling EV Makes & Models in Vermont

	Automaker	New	Used	Total
1	Nissan	209	26	235
2	Tesla	181	13	194
3	Chevrolet	121	27	148
4	Toyota	126	16	142
5	Hyundai	101	1	102
6	Ford	65	20	85
7	Subaru	65	0	65
8	Mitsubishi	43	0	43
9	Volkswagen	36	3	39
10	Kia	28	1	29
11	Audi	19	4	23
12	BMW	11	10	21
13	Honda	13	2	15
14	Volvo	11	2	13

Based on added VT registrations between July 2019 – June 2020

	Model	New	Used	Total
1	Nissan LEAF	209	26	235
2	Tesla Model 3	141	1	142
3	Toyota Prius Prime	122	6	128
4	Chevrolet Bolt	99	5	104
5	Ford Fusion PHEV	61	5	66
6	Subaru Crosstrek PHEV	65	0	65
7	Hyundai Kona EV	49	0	49
8	Volkswagen e-Golf	36	3	39
9	Chevrolet Volt PHEV	19	20	39
10	Hyundai Ioniq PHEV	38	0	38
11	Mitsubishi Outlander	26	0	26
12	Tesla Model X	21	0	21
13	Kia Niro EV	21	0	21
14	Tesla Model S	14	7	21

New EV Purchase Incentives - Federal

Federal Tax Credit

- Available for *new* EV purchases starting in 2010
- Up to \$7,500, based on battery size
- Begins to sunset when manufacturer reaches 200,000 EV sales
- Claim on income taxes (unless leasing)
- Does not carry-over into future years
- Tax credit also available for charging equipment installation

Current Federal Tax Credit Phase-Out

Automaker Reaches 200,000 USA EV Sales

EXAMPLE: Acme Automaker reaches 200,000 US sales on July 10, 2021



Wait Until Second Calendar Quarter After Cap Reached

Acme buyers can still claim full credit amount until second quarter after Quarter 3 2021



Tax Credit Reduced to 50% of Original Amount for 6 Months

Starting January 1, 2022 the tax credit for Acme vehicles is cut in half



Tax Credit Reduced to 25% of Original Amount for Another 6 Months

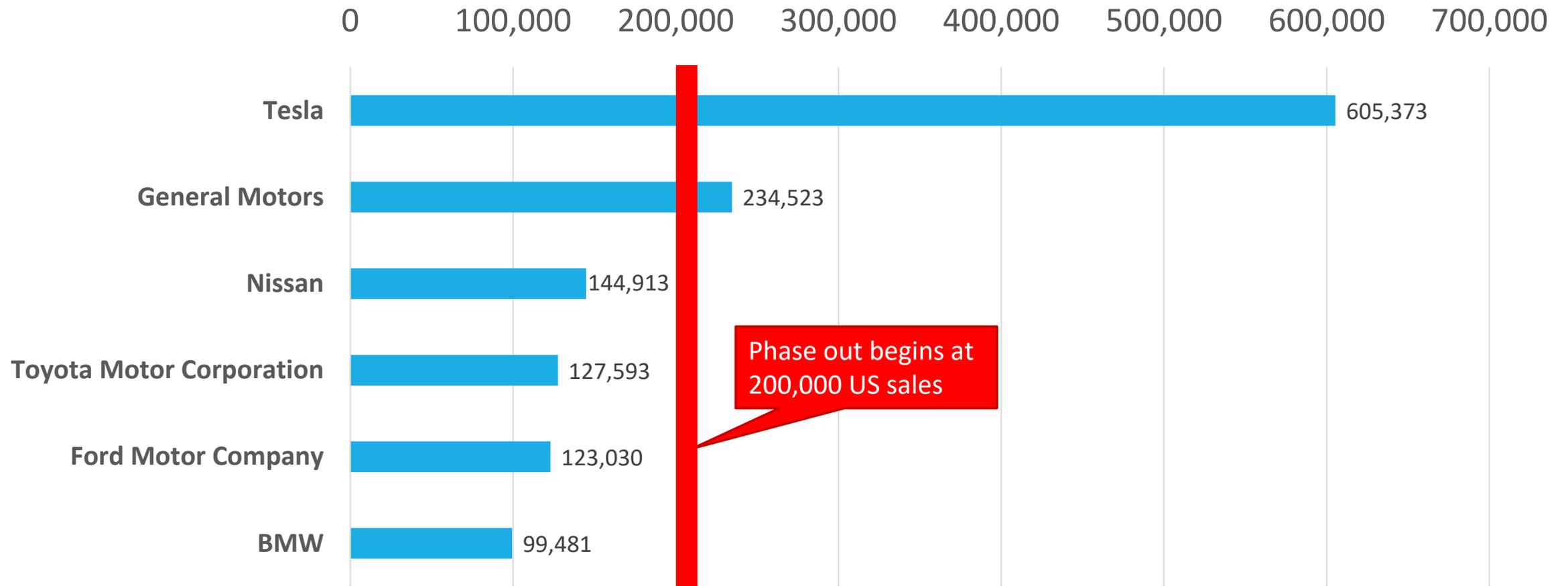
Starting July 1, 2022 the tax credit for Acme vehicles is further reduced to 25%



Tax Credit Completely Phased Out

Acme purchases made after December 31, 2022 not eligible for federal tax credit

US EV Sales by Automaker – Through June 2020



Federal GREEN Act EV Tax Credit Proposal

Growing Renewable Energy and Efficiency Now (GREEN) Act

- EV tax credit for new EVs extended to 600,000 per automaker
 - Not retroactive for Tesla or GM purchases made prior to enactment
 - Most Tesla/GM sales made after they reached 200k wouldn't count toward the new 600k cap
 - Would reduce the amount of the tax credit by \$500 for automakers going over 200,000 US sales
 - Faster phase-out: 50% first quarter phase-out applies, \$0 after that
- Adds a used EV tax credit
 - Half the value of the new EV credit (up to \$3,750)
 - Only available for lower income filers (up to \$45k AGI single; \$75k AGI joint)
- Does not include several provisions in Congressman Welch's [2019 proposal](#)
 - Cap based on time instead of sales by automaker
 - Allows filers to claim over 5 years or transfer at the point of sale (better for some low income)

New EV Purchase Incentives – State & Utility

State of Vermont

- Up to \$4,000, depending on income and type of EV
- About \$530,000 remaining
- For new EVs with *starting* MSRP under \$40,000
- Distributed in partnership with electric utilities

Electric Utilities

- Up to \$2,500, depending on income and type of EV
- Many also offering incentives for home level 2 charging equipment

Combined Incentive Example

	New Nissan LEAF 150 Mile Range		Nissan Sentra
	Standard Incentive	< \$50k Income Incentive	
Starting Price	\$31,600	\$31,600	\$19,310
Federal Tax Credit	-\$7,500	-\$7,500	--
State Incentive	-\$2,500	-\$4,000	--
Automaker Discount	-\$6,000	-\$6,000	--
Utility Incentive	-\$1,500	-\$2,500	--
Price after Incentives	\$14,100	\$11,600	\$19,310

Drive Electric VT Incentive Calculator - Beta

Coming
Soon

Electric Vehicle Incentive Calculator

This tool estimates potential incentives for electric vehicle purchases or leases, including those from electric utilities, the State of Vermont and Federal incentives. Not all eligibility factors are accounted for. See the information below and check with incentive sources to confirm your eligibility prior to purchase.

This tool is in beta. *This information in this tool is based on the latest information available to Drive Electric Vermont, but actual incentive amounts may vary based on eligibility criteria. Please **let us know** if you encounter any issues using this tool.*

Your Utility	Green Mountain Power	▼
Vehicle Type	All-Electric (new)	▼
Car Make	Nissan	▼
Tax Filing Status	Individual filing as single or	▼
Adjusted gross income †	\$50,001 - \$100,000	▼

† Adjusted Gross Income can be found on your tax return

Estimated Utility Incentive: **\$1,500 - 2,500 ***

** Low/moderate income bonus of \$1000 available. Check your utility's website to see if you are eligible.*

Estimated State Incentive: **\$2,500**

Estimated Federal Incentive: **\$7,500**

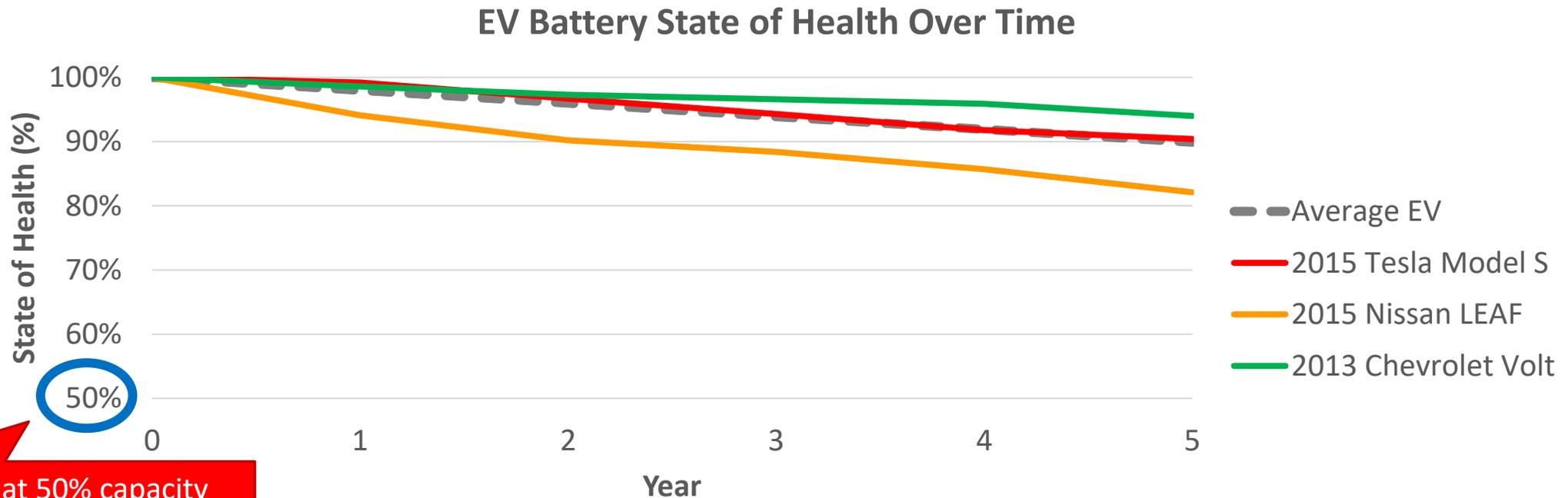
Estimated Total Incentive: **\$11,500 - 12,500**

Additional automaker or dealership incentives may be available. Check with your dealership to learn more.

EV Battery Health

Automaker Battery Warranties

- Typically 8 years / 100,000 miles; 70% capacity



Cost of Ownership Benefits

CR Consumer Reports *October 2020*

EVs Offer Big Savings Over Traditional Gas-Powered Cars

A CR study shows that total ownership cost savings can more than make up for an electric vehicle's typically higher purchase price

“Typical total ownership savings over the life of most EVs ranges from \$6,000 to \$10,000”

AND EV purchase incentives available to Vermonters combined with off-peak EV charging electric utility rates can boost these savings

Moving Forward – EV Market Transformation

Incentives / Funding

- EV Purchase Incentives – Federal, State, Electric Utility
- Charging Equipment Programs

Regulations & Laws

- Federal Fuel Economy Standards
- California Zero Emission Vehicle (ZEV) Program
- Vermont Renewable Energy Standard, including Tier 3
- State / Municipal Building Energy Code
- Act 151 Implementation – Efficiency VT and Burlington Electric Dept

Marketing Programs

- Campaigns
- Community-based initiatives

Thank you



Contact

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