

Southern New Hampshire
Planning Commission

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Principal Transportation Planner

Regional Electric Vehicle (EV) Fast-charge Plan



2022

Electric Vehicles expected to arrive in 2022

BMW iX	Benz EQE
xDrive50	NIO ET5
Cadillac Lyriq	Nissan Ariya
Canoo	Polestar 3
Lifestyle Vehicle	Rivian R1S
Fisker Ocean	Subaru Solterra
Ford F-150 Lightning	Tesla Cybertruck
Genesis GV60	Toyota bZ4X
GMC Hummer EV Pickup	Volkswagen ID.5
(EV ^{3x})	XPeng G9
Hyundai IONIQ5	Honorable mention
Kia EV6	Aptera SEV
Lucid Air Pure	
Lotus "Type 122" SUV	



US EVs (BEV & PHEV) Sales & Sales Share Forecast: 2021-2030

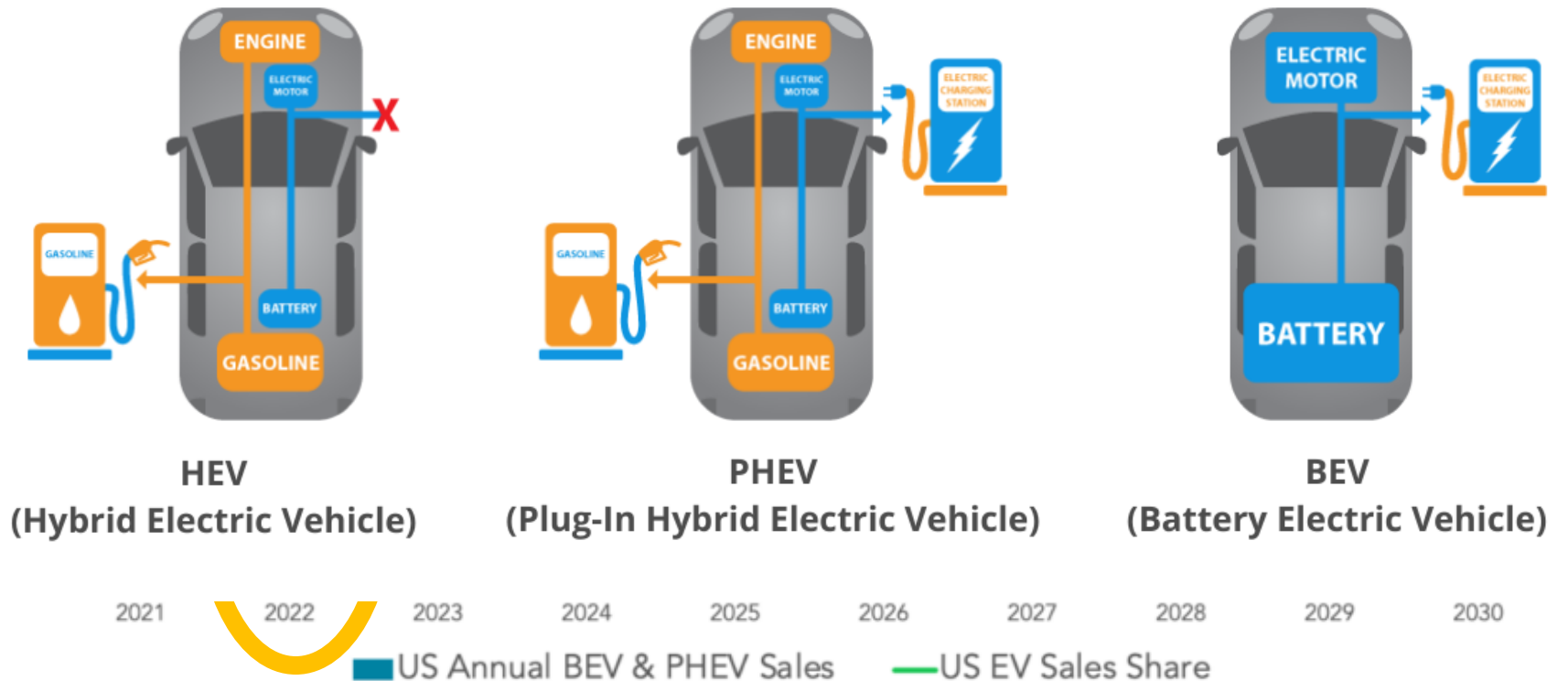
5,000,000

4,719,375

35%

What are the 3 Main Types of Electric Vehicles?

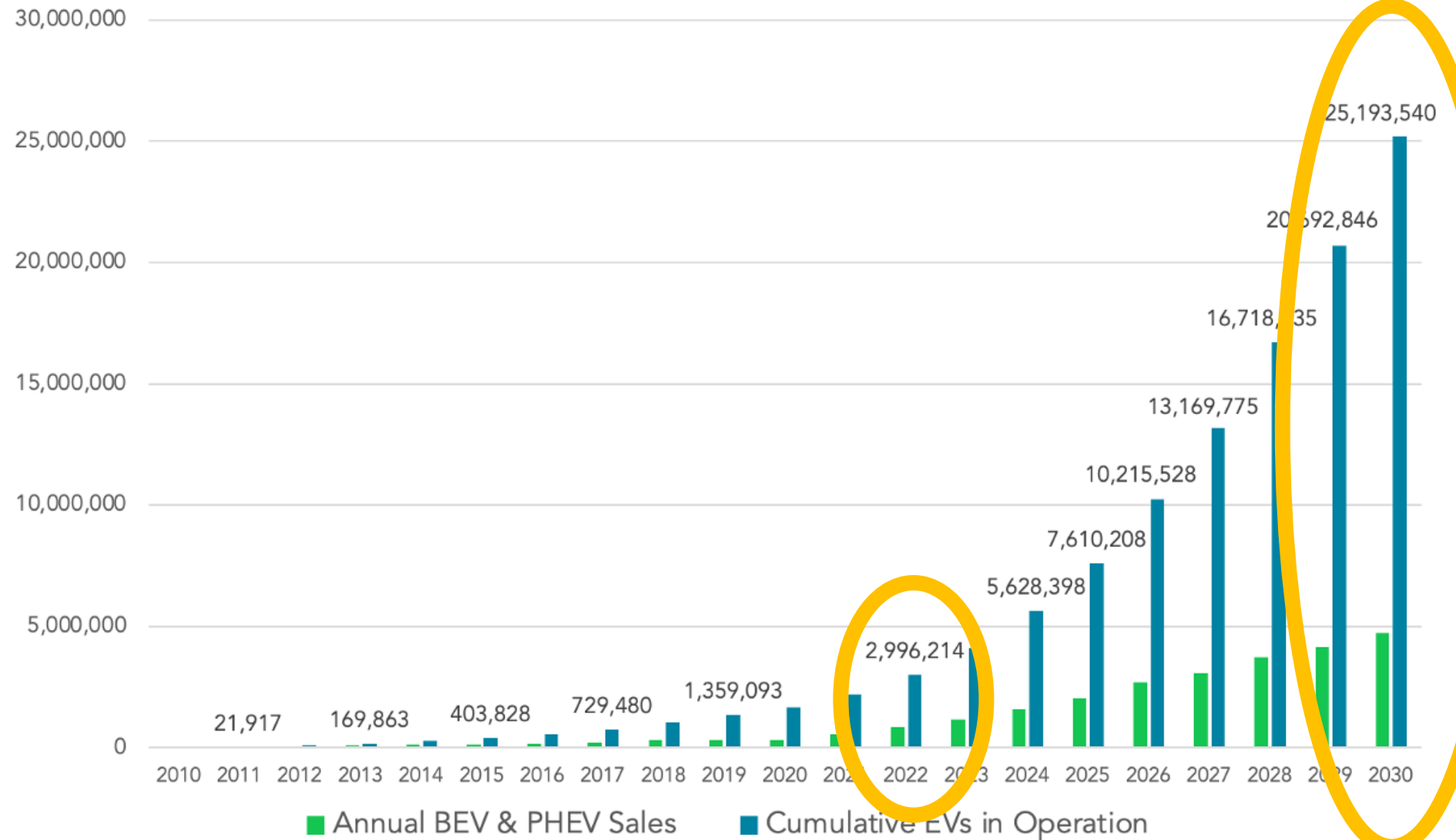
Overview -Sales



Historical Sales Data: GoodCarBadCar.net, InsideEVs, IHS Markit / Auto Manufacturers Alliance,
Advanced Technology Sales Dashboard | Research & Chart: Loren McDonald/EVAdoption

Cumulative US Electric Vehicles In Operation: 2010-2030

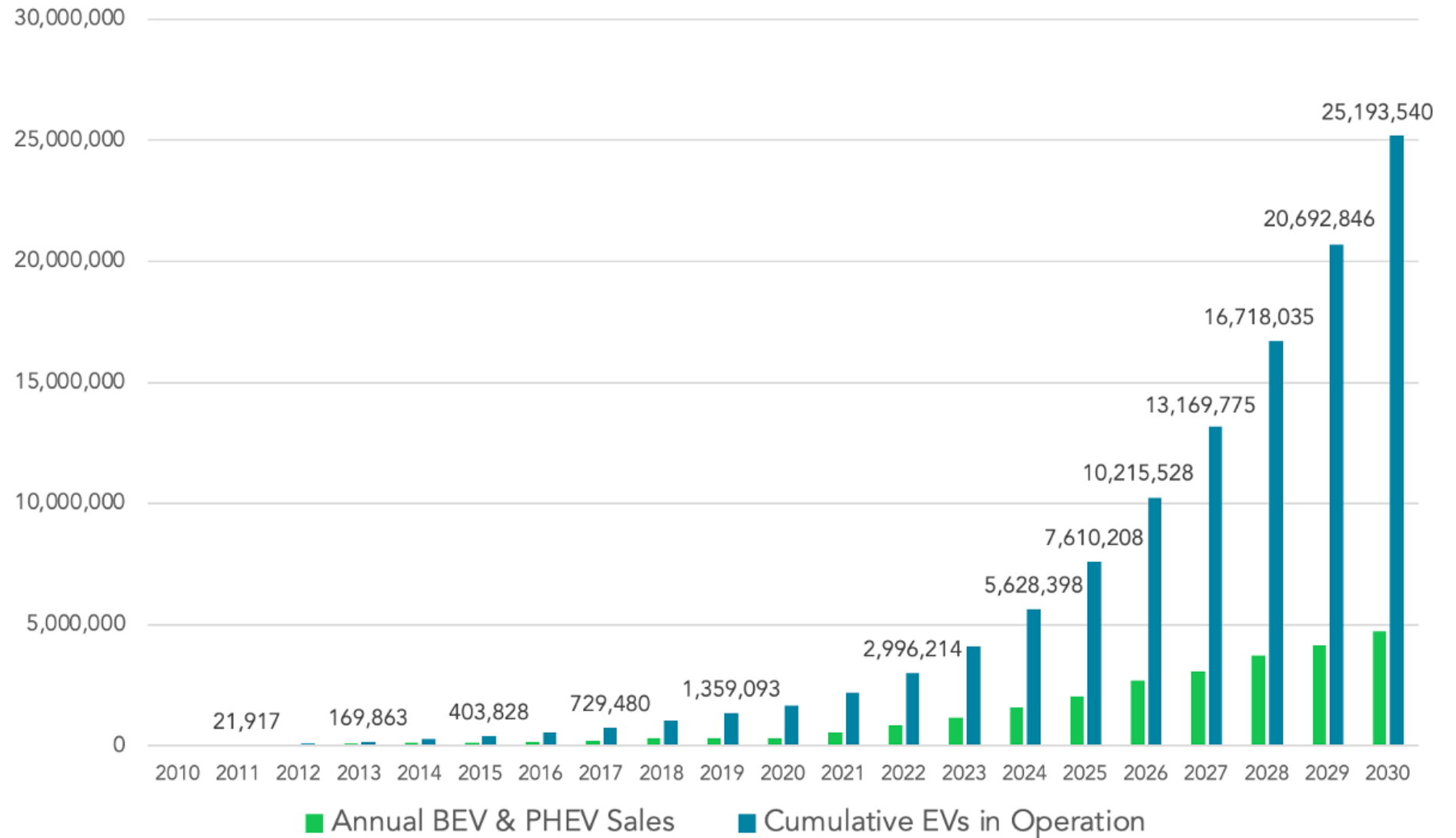
Overview – EVs in Operation



Historical Data: GoodCarBadCar.net, InsideEVs, IHS Markit | Auto Manufacturers Alliance, Advanced Technology Sales Dashboard | Research, Forecast & Chart: Loren McDonald / EVAdoption

Cumulative US Electric Vehicles In Operation: 2010-2030

Overview – EVs in Operation



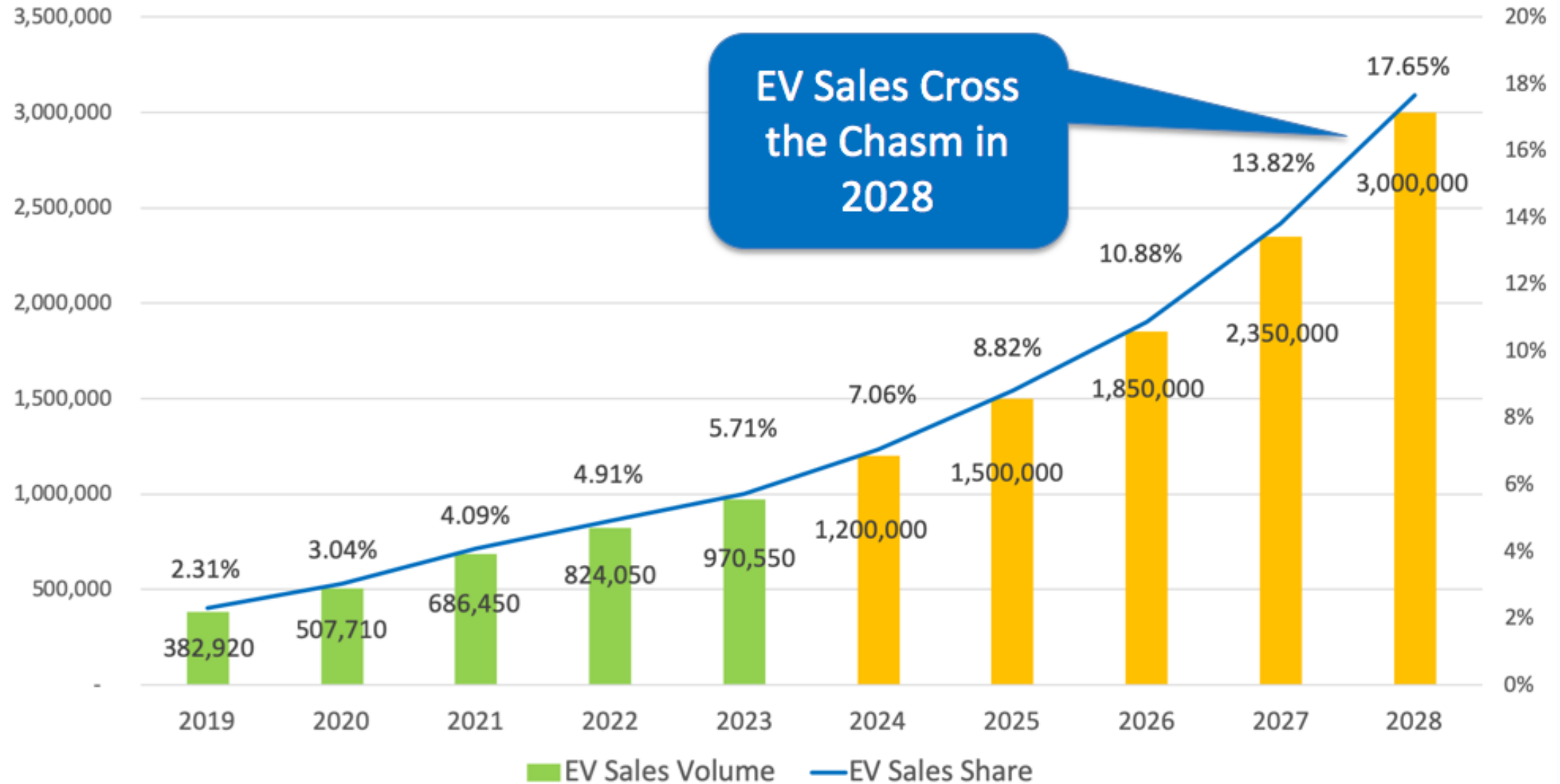
Historical Data: GoodCarBadCar.net, InsideEVs, IHS Markit | Auto Manufacturers Alliance, Advanced Technology Sales Dashboard | Research, Forecast & Chart: Loren McDonald / EVAdoption

A red Hyundai Ioniq electric car is parked at a public charging station. The car is connected to a charging cable. The station has two charging units with green and white panels. The background shows a residential area with houses and trees under a clear sky. The text "When will electric vehicles cross the chasm into the mainstream in the us?" is overlaid on the bottom half of the image.

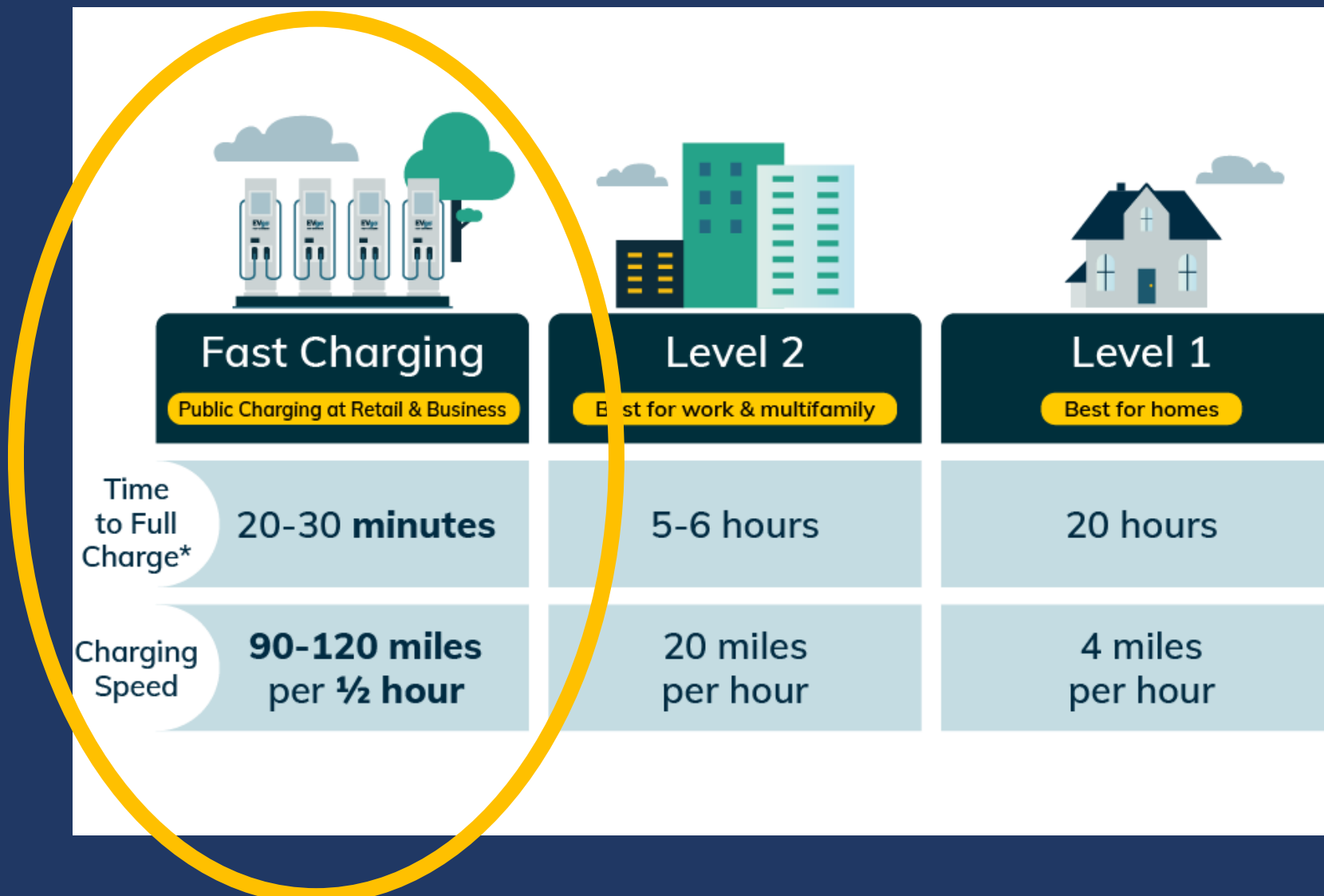
When will electric vehicles cross the chasm into the mainstream in the us?




US Electric Vehicle Sales Forecast: 2019-2028

Forecast & Chart: Loren McDonald/EVAdoption.com



EV Charging and in the SNHPC Region



		
Fast Charging Public Charging at Retail & Business	Level 2 Best for work & multifamily	Level 1 Best for homes
Time to Full Charge* 20-30 minutes	5-6 hours	20 hours
Charging Speed 90-120 miles per ½ hour	20 miles per hour	4 miles per hour

EV Charging in New Hampshire

New Hampshire remains a laggard in building EV charging station network

There are still no installations two years after \$4.6 million initiative began

December 3, 2020 by Bob Sanders,



Close photo of a Blue Sign indicating an Electric Vehicle Recharging Point. Green Trees are Visible in Background. Ecological Mode of Transport.

The New Hampshire Office of Strategic Initiatives, which is overseeing installation of electric vehicle charging stations around the state, reported on Tuesday that it hasn't made much progress. In fact, the office reported at the Business and Industry Association's annual Energy Summit that it hasn't made any.

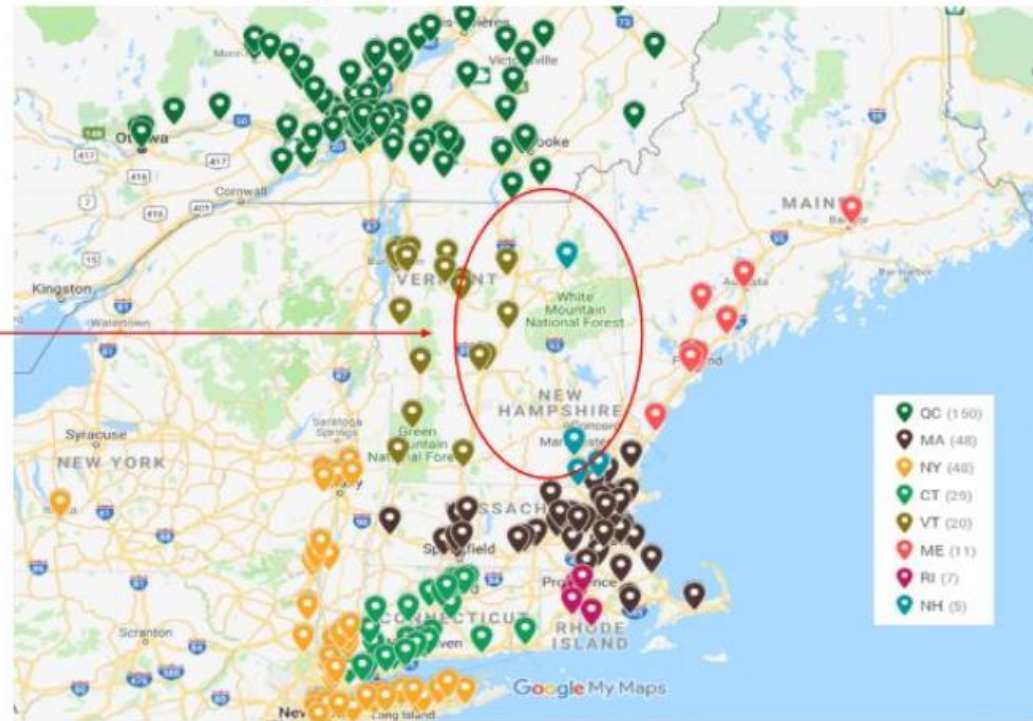
The project kicked off in September 2018,

when the state allocated \$4.6 million in Volkswagen diesel-manipulation settlement money to build an EV charging station network. But in that time, not one station has been installed.

New Hampshire is a laggard in terms of public vehicle-charging stations compared to its neighbors.

DC fast charge sites are being installed in neighboring states at a higher volume than New Hampshire, in large part to enable EV tourism

DC Fast Charging Corridor From Montreal to NY



NH is the missing link

One slide from a 2019 presentation by Eversource presentation about "electric vehicle charging infrastructure"

EV Charging
in New
Hampshire



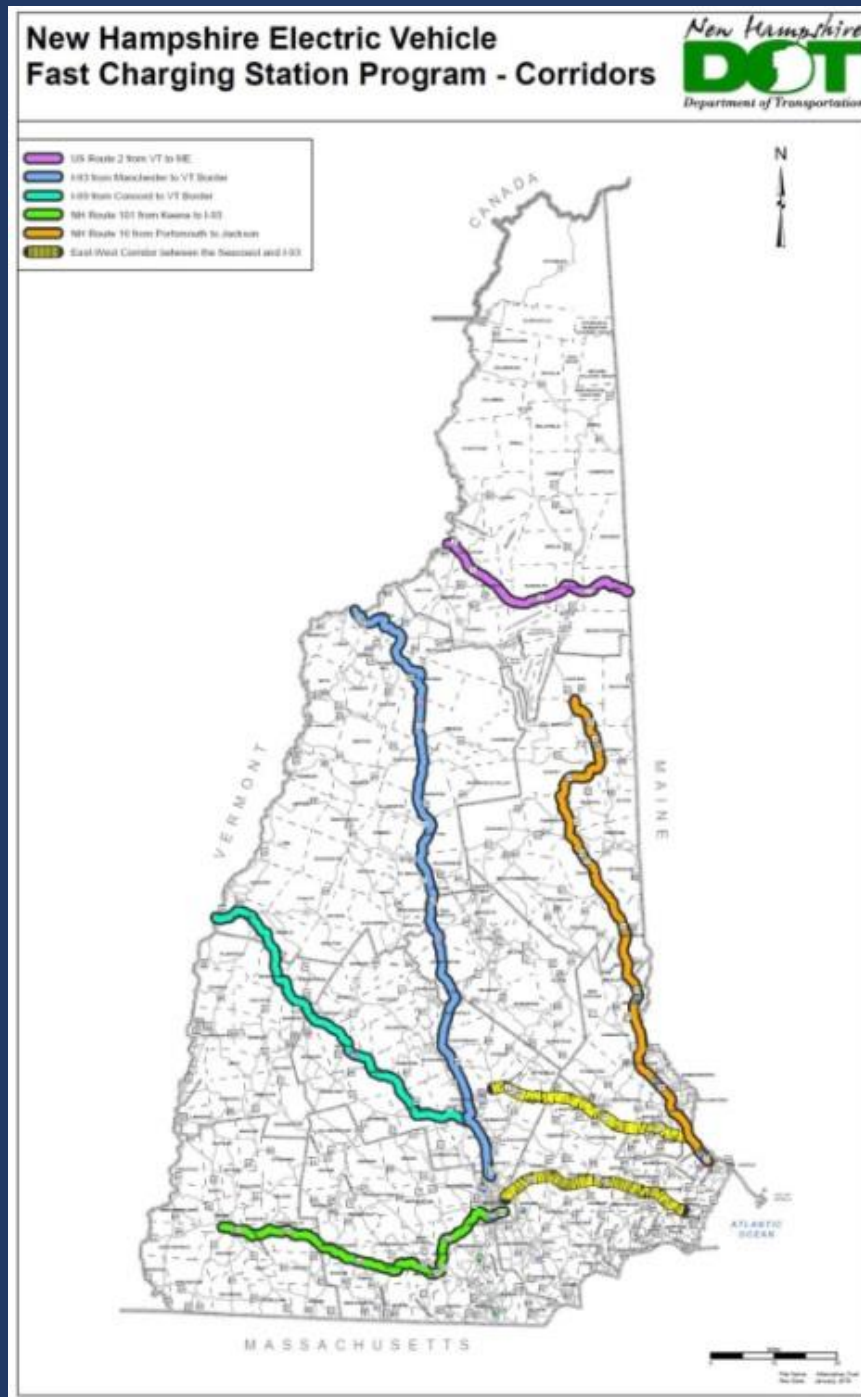
EVgo
FAST CHARGING

EV Funding in New Hampshire

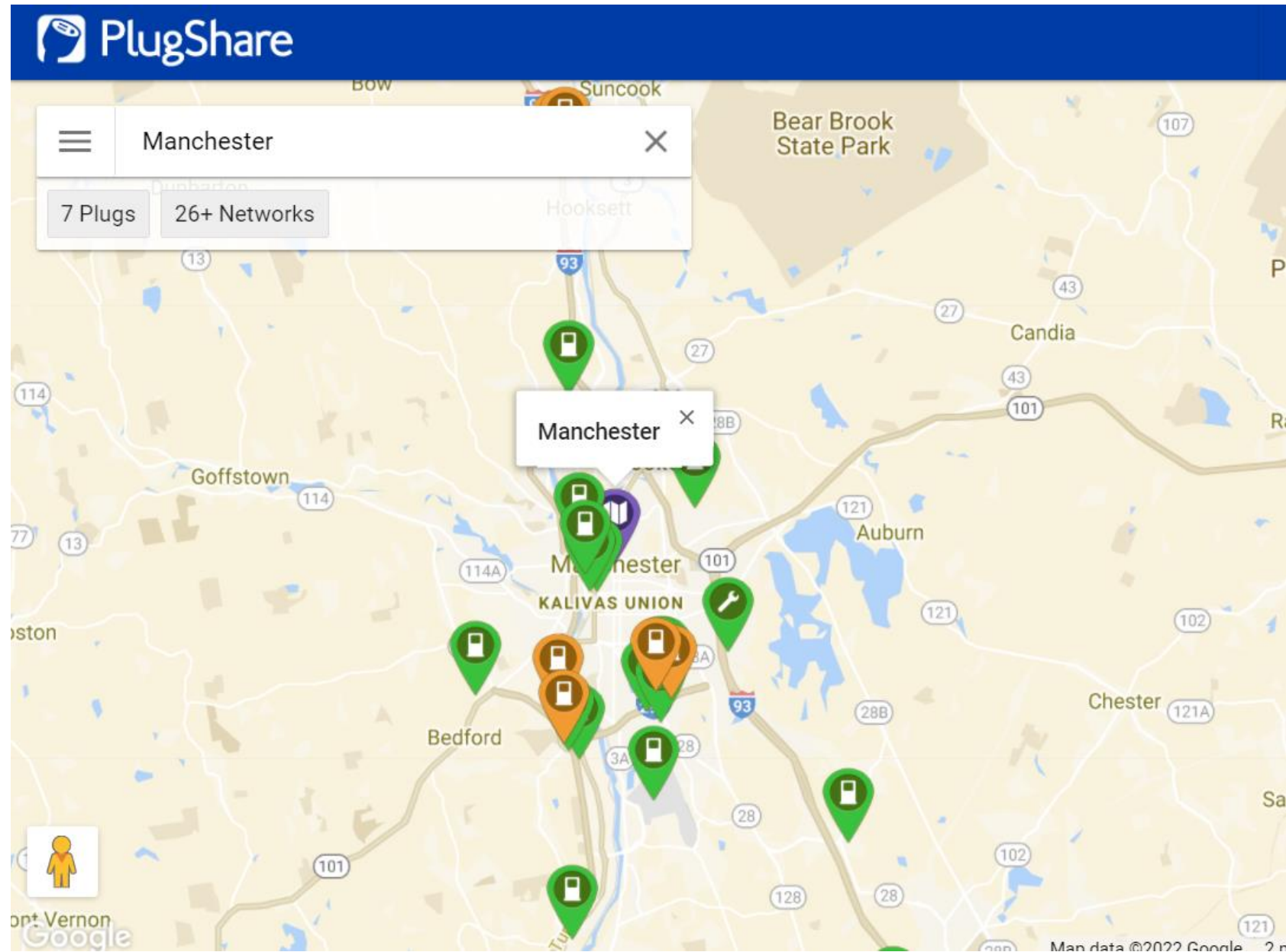
NH BUSINESS
REVIEW

- 2016: VW Settlement - New Hampshire: \$31 million
- 2021: Infrastructure Investment and Jobs Act (IIJA):
 - \$17 million for an electric vehicle charging network
 - Access to another \$2.5 billion in grant funding.

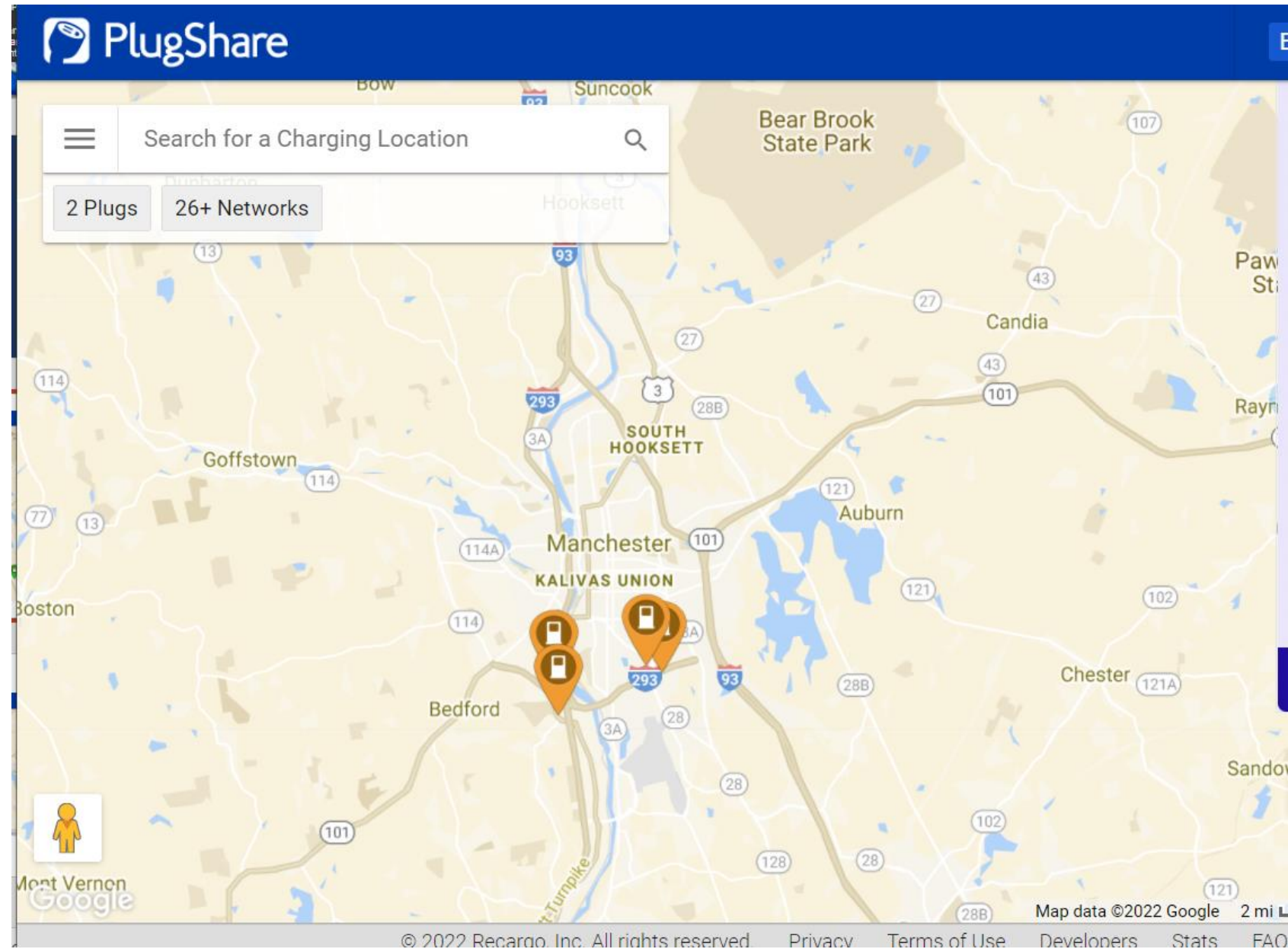
EV Charging in New Hampshire:



EV Charging in the SNHPC Region February 2022:



EV Charging in the SNHPC Region February 2022:



SNHPC DC Fast Charging Station Evaluation and Plan Scope

Task #1.1 – Project Administration

- Description: This task includes monthly project reporting, general administration, meeting coordination, and correspondence with stakeholders.
- Deliverables: Progress reports and supporting documentation.
- Responsible Party: SNHPC



SNHPC DC Fast Charging Station Evaluation and Plan Scope

Task #2.1 – Organize a Regional EV Charging Plan Work Group

- Description: This task includes organizing and leading a Regional EV Charging Plan Work Group, including developing relationships with businesses, organizations, and other stakeholders in creating a regional DC Fast Charge plan.
- This work group may include a subset of SNHPC TAC and/or Policy Committee members, partner agencies such as NH Department of Environmental Services (DES), NH Department of Transportation, and/or other agencies or organizations who may add value to the Work Group and Plan development.
- Deliverables: A list of members and contact information will be documented. With staff assistance, the Work Group will present the resulting Plan to the SNHPC TAC and Policy Committee for endorsement.
- Responsible Party: SNHPC



SNHPC DC Fast Charging Station Evaluation and Plan Scope

Task #3.1- Meetings with Regional EV Charging Plan Working Group

- Description: This task includes four meetings with the Regional EV Charging Plan Work Group, and up to 3 additional targeted meetings directly with SNHPC municipal staff or representatives.
- Deliverables: Documentation of meetings including agendas, minutes, and next steps and recommendations.
- Responsible Party: SNHPC



SNHPC DC Fast Charging Station Evaluation and Plan Scope

Task #4 – 4.1 and 4.2– Project Corridor Research: GIS Mapping and Charging Site Analysis and Prioritization

Task 4.1 – GIS Mapping

- Description: This task includes the development of GIS-based Regional DC Fast Charge Plan maps for workshops with the Working Group, and final maps for the plan. Maps will also be adapted for online viewing via the SNHPC website. Maps will be available for download by corridor or region-wide from the SNHPC website. The data collection will include, but not be limited to an overview of local/regional Fast Charge Corridor(s), and relevant transportation system elements such as local roads, park and rides, bike paths and walking trails, and scenic roads if any.
- Deliverables: Corridor-based and region-wide maps of potential charging locations and relevant transportation system elements.
- Responsible Party: SNHPC





SNHPC DC Fast Charging Station Evaluation and Plan Scope

Task #4 – 4.1 and 4.2– Project Corridor Research: GIS Mapping and Charging Site Analysis and Prioritization

Task 4.2 – Charging Site Analysis and Prioritization

- Description: This task includes all relevant and necessary research to identify potential EV rapid charging infrastructure site locations, specifically “DC Fast Charge” charging locations. This will include consideration of any existing NHDES and/or NHDOT EV charging station planning efforts, including implementation documentation related to the Volkswagen settlement. Through coordination with the EV Charging Plan Working Group, staff will develop prioritization factors and develop a ranking rubric of potential sites.

This research and documentation may also include interviews with municipal leadership in SNHPC communities, major businesses, and other identified stakeholders including potential site owners/landlords.

- Deliverables: Site identification and prioritization based on ranking factors in a narrative and illustrated with mapping. The narrative report will detail the feasibility and priority of each identified site in accordance with the criteria established by the EV Charging Plan Work Group.
- Responsible Party: SNHPC





Availability of 3-phase power...

SNHPC DC Fast Charging Station Evaluation and Plan Scope

Task #4 – 4.1 and 4.2– Project Corridor Research: GIS Mapping and Charging Site Analysis and Prioritization

Targeted corridors to be initially included:

- *New Hampshire EV Fast Charging Corridors*
 - I-93 from Hooksett to Manchester (within a mile of interchanges)
 - NH Route 101 from Bedford to Manchester
 - NH Route 101 from Candia to Manchester (within a mile of interchanges)
- *SNHPC Fast Charging Corridors* (tentative pending verification with the EV Charging Plan Work Group)
 - I-93 from Manchester to Windham (proximate to interchanges, including the pending Exit 4A)
 - NH Route 111 in Windham
 - NH Route 102 from Derry to Chester
 - NH Route 102 in Derry and Londonderry
 - NH Route 114 from Bedford to Weare

SNHPC DC Fast Charging Station Evaluation and Plan Scope

Task #5.1 - Plan Development and Revisions

- Description: SNHPC staff shall be responsible for organizing, developing, and drafting the regional EV Charging Plan document. A written draft plan and all GIS-based maps will be prepared and presented to the EV Regional Plan Work Group and once agreed upon, posted to the SNHPC website and other venues for public review and comment. The draft plan document will also be shared with the NHDES, NHDOT, and other partner agencies for review and comment.
- Deliverables: Draft Regional EV Charging Plan
- Responsible Party: SNHPC

Task #6.1 – Plan Approval

- Description: SNHPC staff will be responsible for presenting the final Regional EV Charging Plan to the TAC and Policy Committee for adoption.
- Deliverables: Final EV Fast Charging Plan in electronic and printable format.
- Responsible Party: SNHPC

Electric Vehicles are ~~coming~~ here!!!



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