Electric Vehicle Infrastructure in Vermont

TRI-VALLEY TRANSIT EXECUTIVE STAFF MEETING, MARCH 13, 2024

PATRICK Ó. MURPHY, SUSTAINABILITY + INNOVATIONS PROJECT MANAGER, AGENCY OF TRANSPORTATION

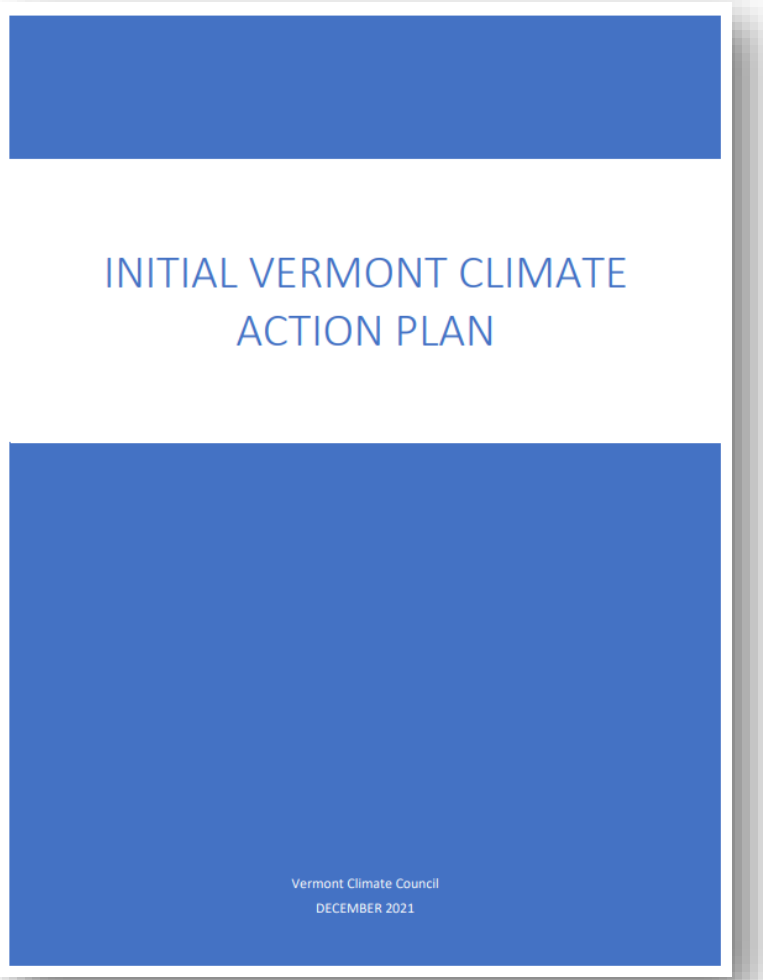
Climate Action Plan

Initial plan finalized in December 2021

EV Adoption Goals:

- **27,000** PEVs by **2025** (17% of sales)
- **126,000** PEVs by **2030** (68% of sales)

- Reduce GHG emissions below 2005 GHG emissions in Vermont by no less than 26% below 2005 GHG emission levels by January 1, 2025;
- by no less than 40% below 1990 GHG emission levels by January 1, 2030;
- and no less than 80% below 1990 GHG emission levels by January 1, 2050.



https://climatechange.vermont.gov/

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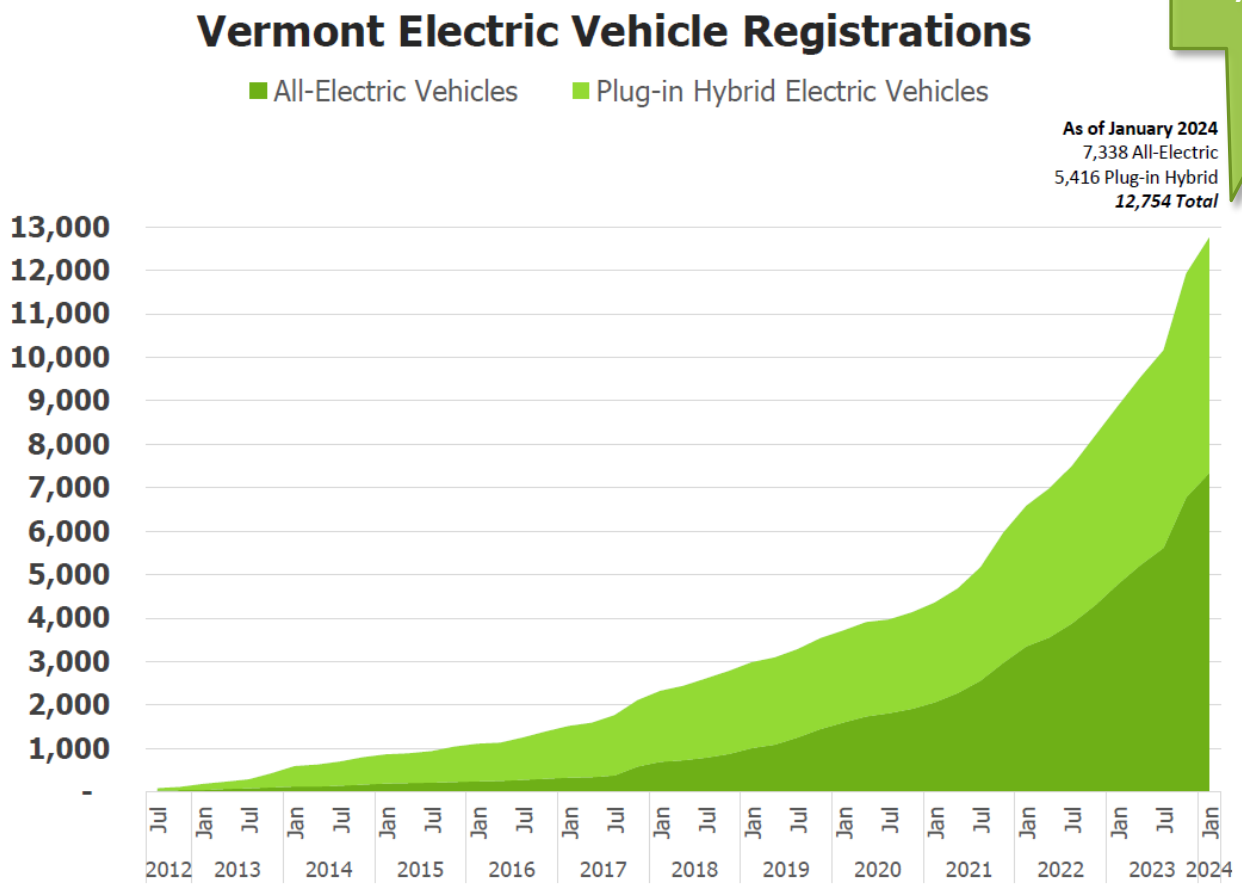
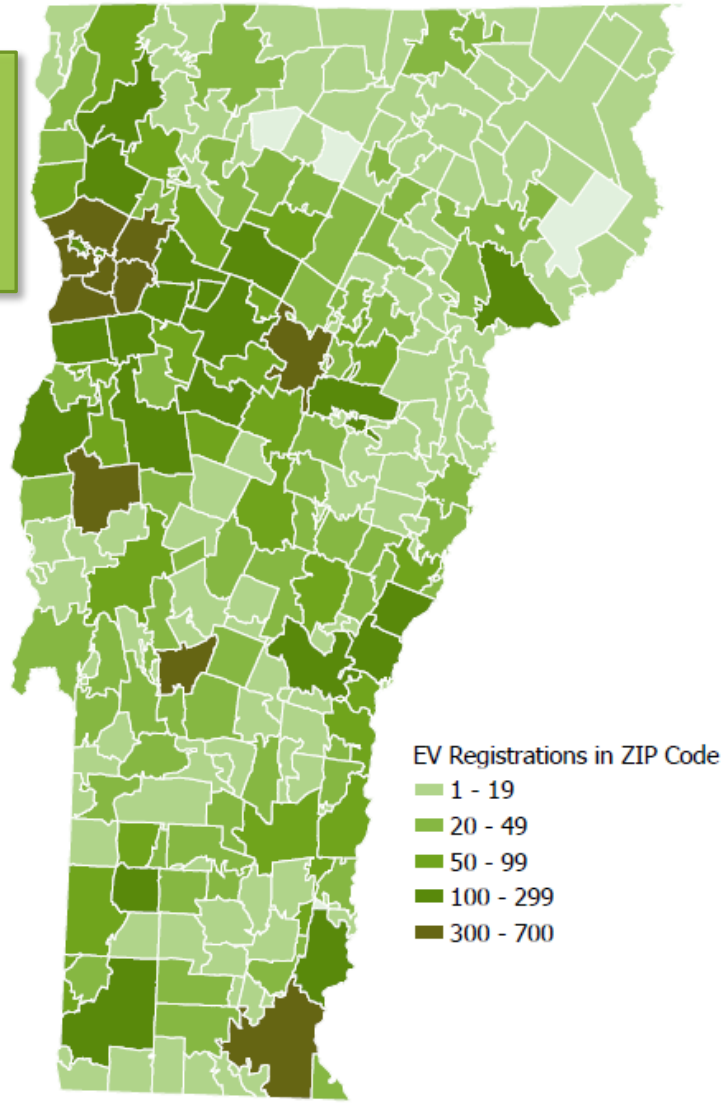
EV Adoption in Vermont

12,754 ZEVs:
5,416 PHEVs
7,338 AEVs





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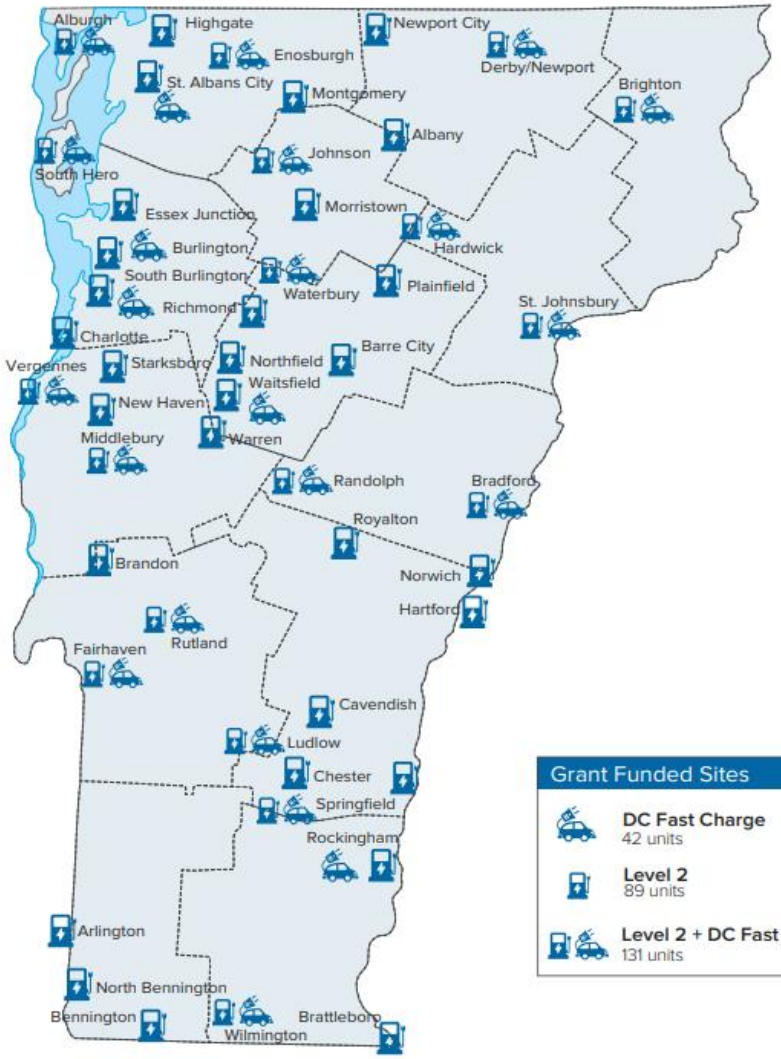
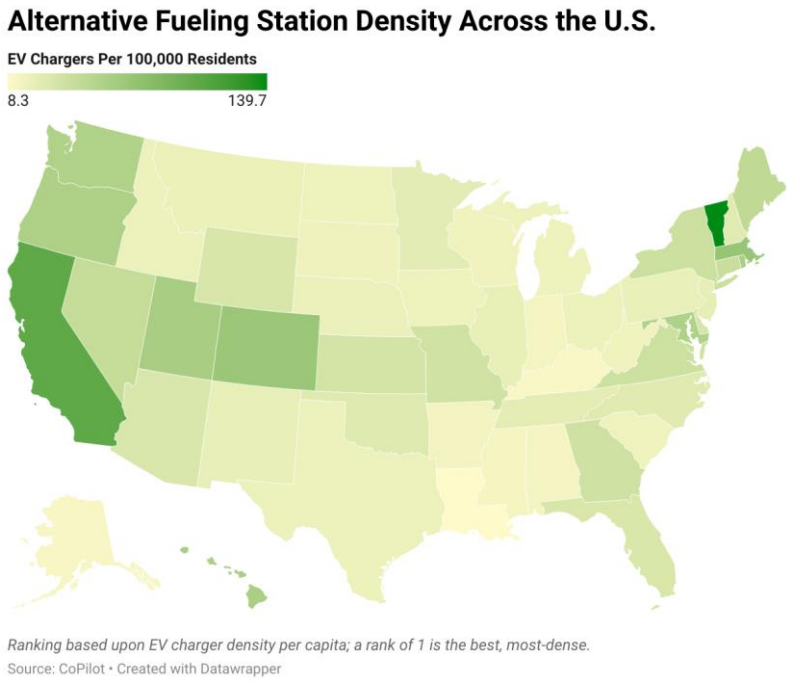
Funding Timeline

- 2014: VT launches Electric Vehicle Supply Equipment (EVSE) Program with $200k
- 2017: VW Settlement, $2.8 million
- 2019: ~ $1 million for 75 Level 2 + 5 DC Fast Chargers
- 2020: $1.7 million to Blink for 11 locations
- 2021: $750k in capital funds to Norwich Technologies for 6 locations
- 2022: $1 million to residential charging for multiunit housing
- 2023: $10 million in state funds for community charging
- $21.2 million in NEVI formula funds through 2026 + $2 million in ARPA funds
- Charging Fueling Infrastructure Grants/Competitive Gap-filling Grants

Public EVSE Investments in Vermont





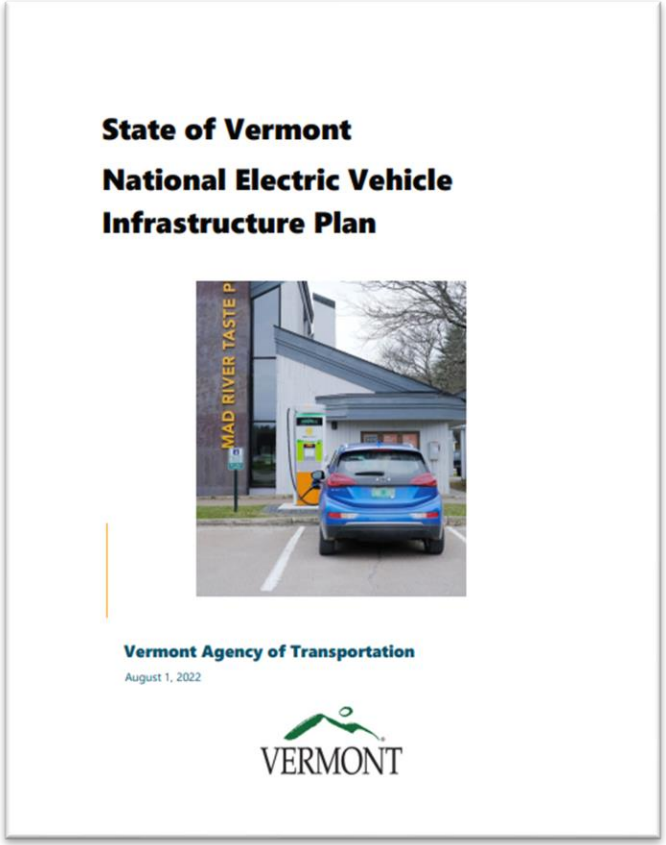
Vermont has highest number of public chargers per capita in U.S.

139.7 charging ports per 100,000 people

EV Charging Infrastructure

$13.875 million in federal funds authorized in SFY2023 and SFY2024 for fast charging along corridors; **$10 million in state funds** for community charging

- **Vermont National Electric Vehicle Infrastructure (NEVI)** Plan approved in September 2022 by FHWA unlocks **$21.2 million** over five years for corridor charging; annual plan update required
- **Inflation Reduction Act (IRA)** reinstates and expands EV charging tax credits to enable more projects throughout the state
- **Carbon Reduction Program** to allow more flexible investments on important, but non-designated corridors
- **Federal competitive grants** to further build out corridors and communities alike : News · Joint Office of Energy and Transportation (driveelectric.gov)
- **Medium- and heavy-duty electrification planning** and possible federal designations for electric freight corridors (TBD)



Alternative Fuel Corridors

FHWA Designation

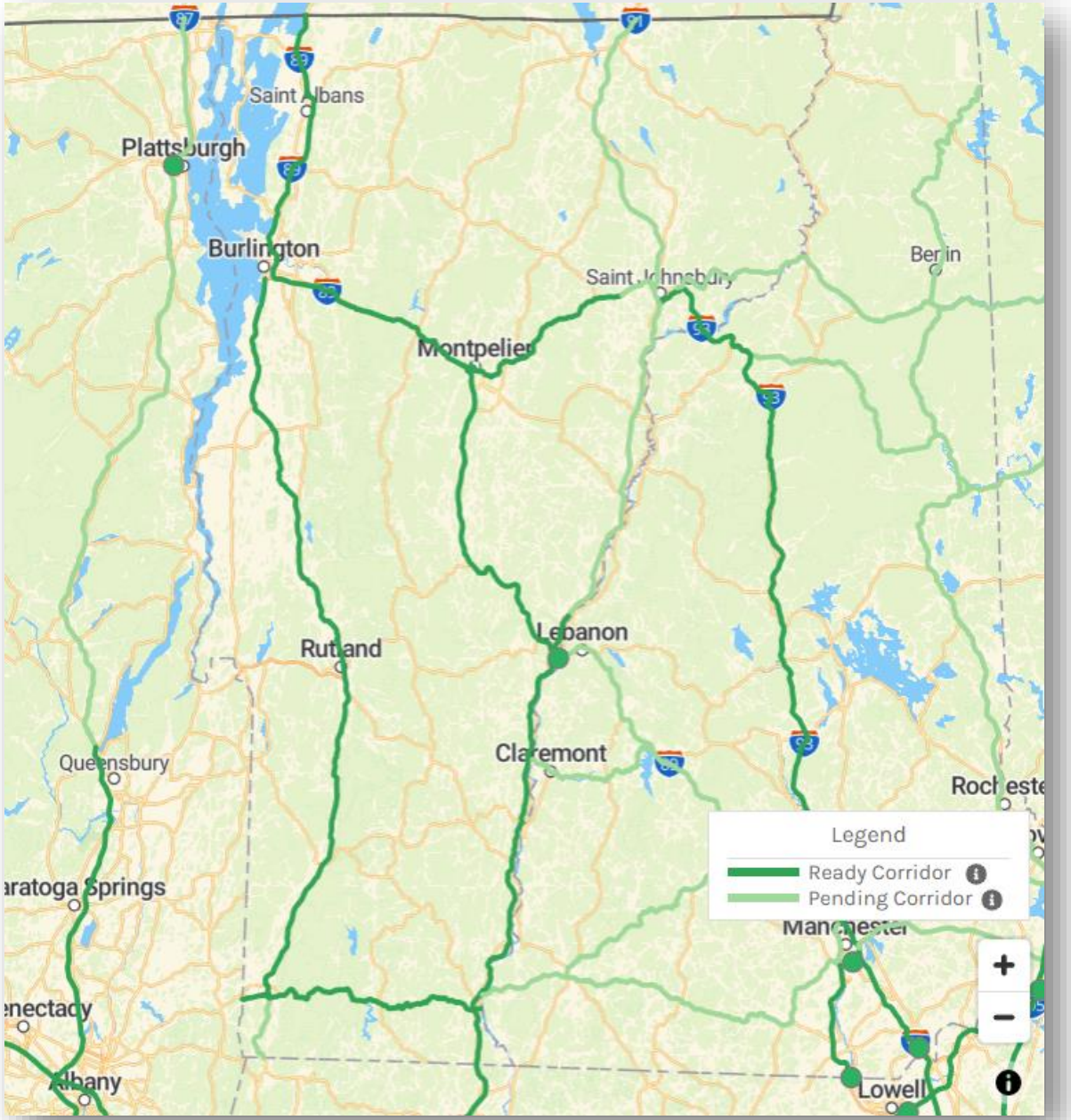
- Stations within 50 miles of the next on the highway system and within 1 mile of an exit, with few exceptions
- Site power capability should be no less than 600 kW (supporting at least 150 kW per port simultaneously across 4 ports).

VT Corridor-Ready:

- Interstates 89, 91; State Routes 9, 2, 7

VT Corridor-Pending:

- US-2: Between Danville and VT/NH border
- US-7: Between Bennington and VT/MA border



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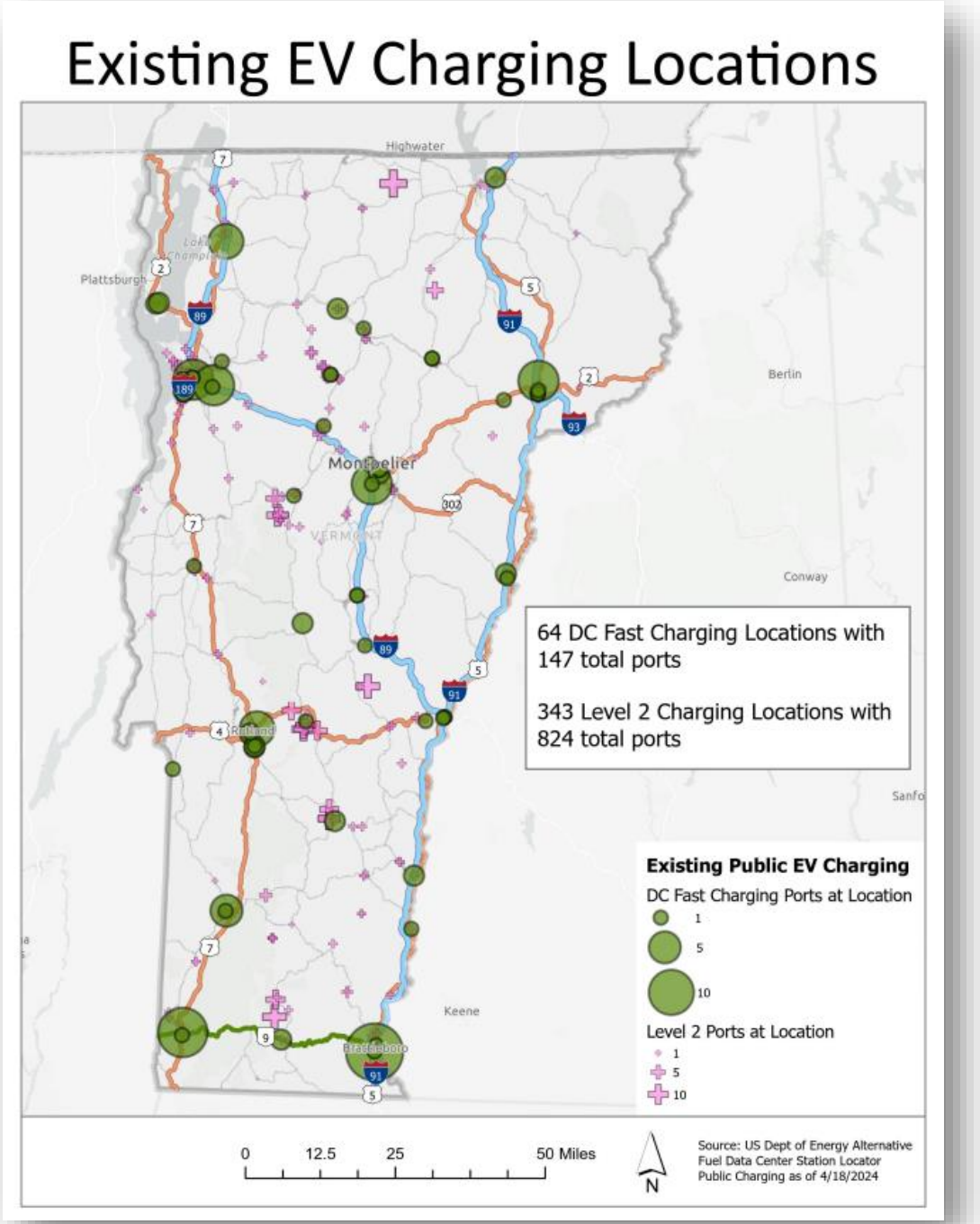
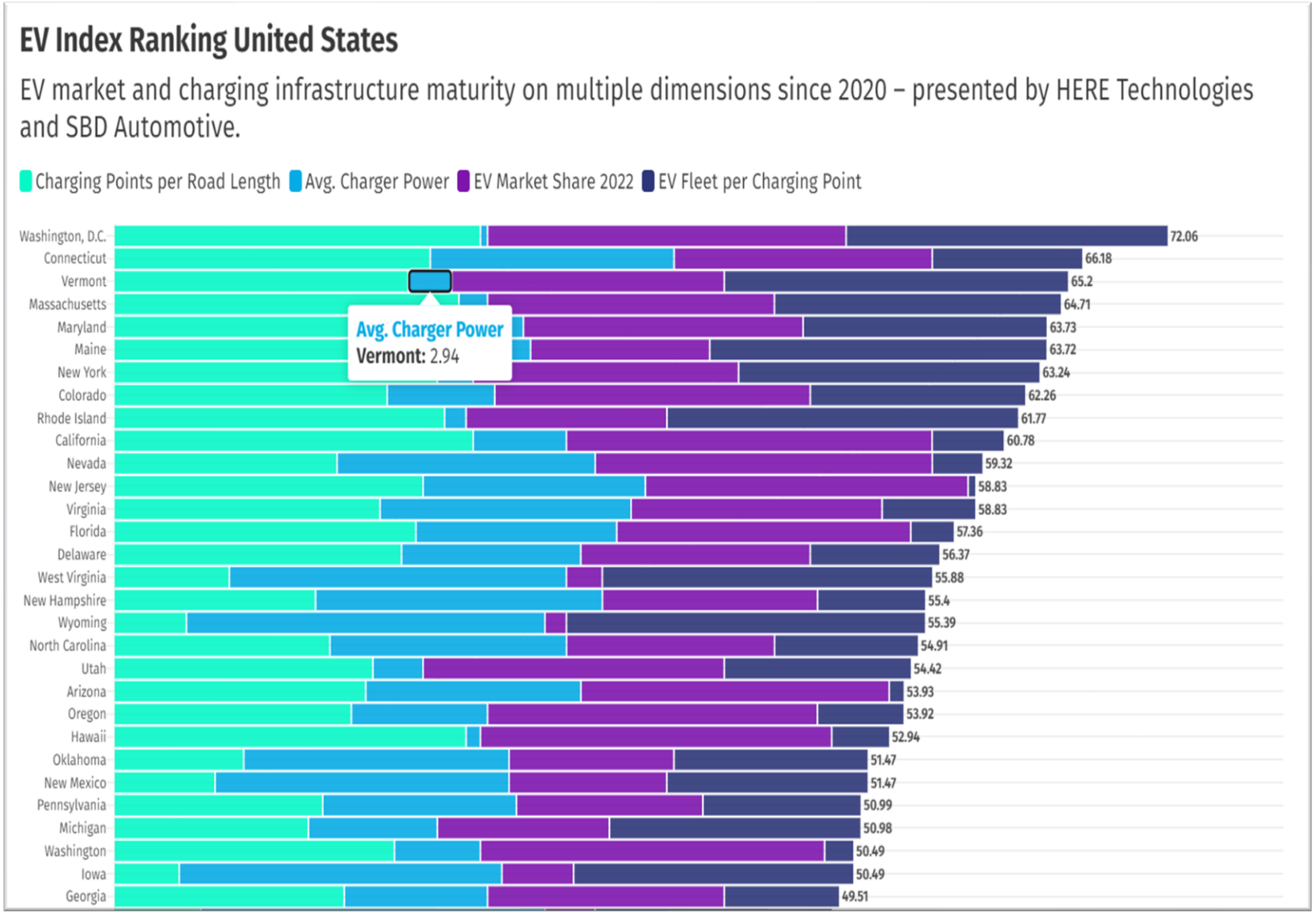


Increasing EV Charging Standards

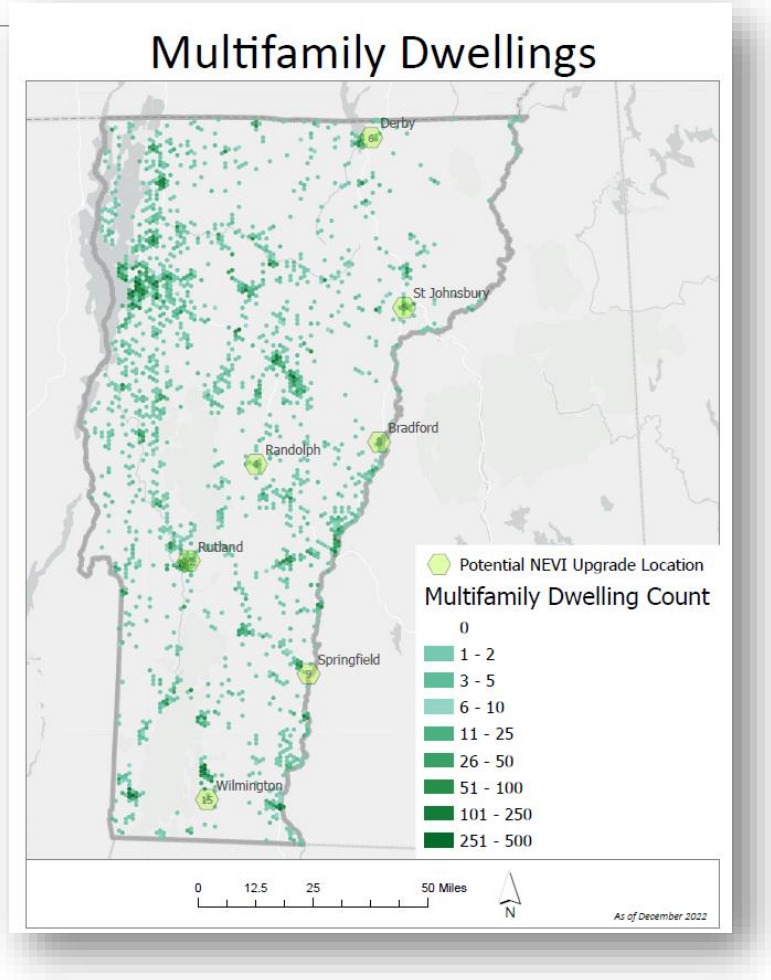
- Minimum of four (4) ports in each location; up to eight (8) in proposed Chargehubs
- Minimum capacity to supply 150kW per port simultaneously ; many will be 175-180kW up to 350kW in Chargehubs
- Maximum 50-mile distance between fast charging locations; State goal aims for no more than 25 miles
- Minimum of 97% uptime requirements, simpler payment methods, more accessible and convenient



Vermont ranks #3 overall in EV charging ecosystem behind DC and CT, but received low marks for higher powered charging: EV Index | HERE

General Location Prioritization Factors

- Highway traffic volumes
- Travel services and other employment
- Walkability
- Environmental justice factors related to income and race
- Multifamily housing units
- 3-Phase power availability
- Proximity to federally designated EV corridor
- Distance to qualifying EV charging location with four 150kW DCFC ports
- Gaps in charging availability



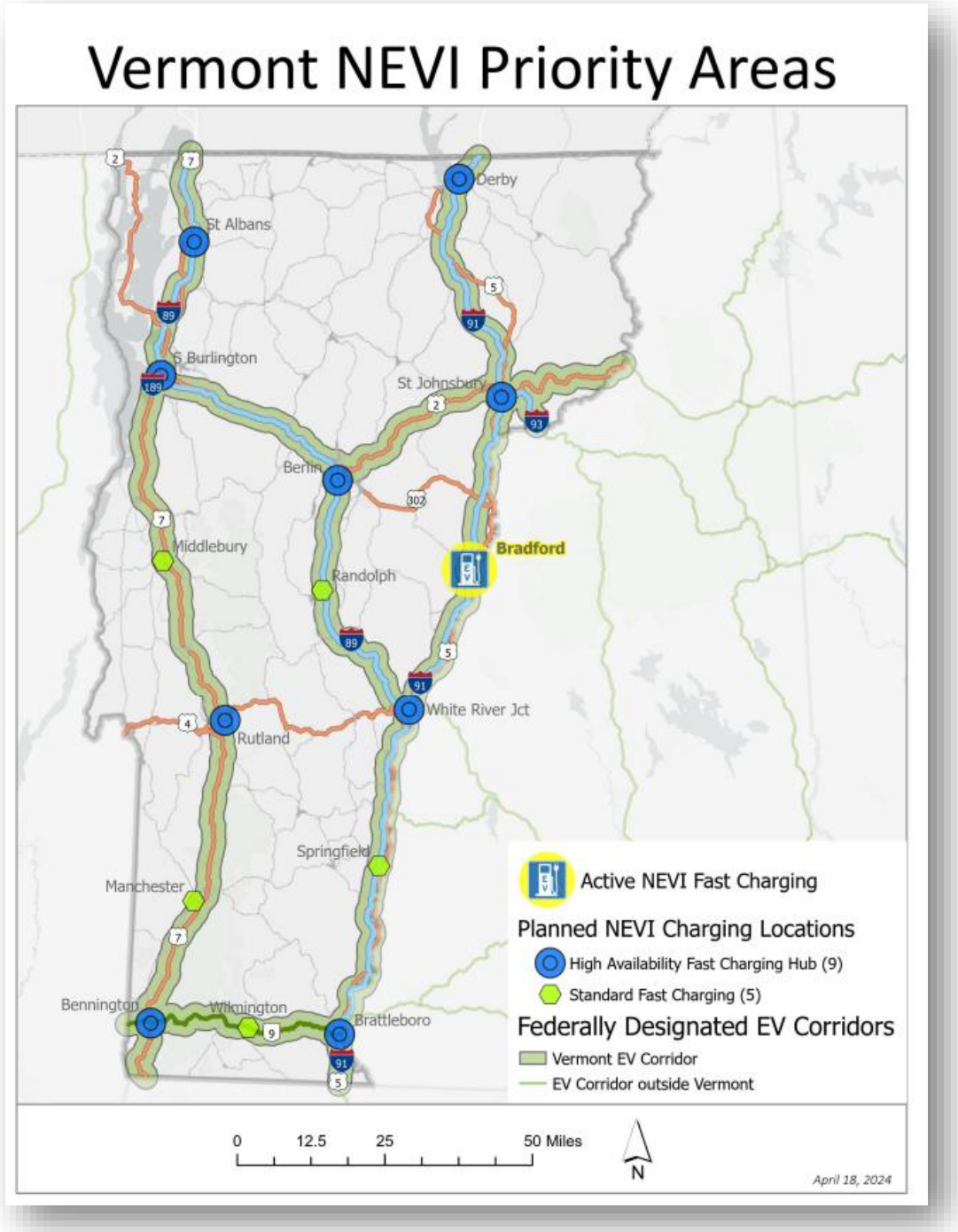
National Electric Vehicle Infrastructure (NEVI) Program

Priorities:

1. Equity and access; Broad geographic coverage
2. Greater redundancy for mainstream adoption
3. Preparation for EV freight– Chargehubs to include up to 8 ports, with 350kW stations

1st NEVI-funded opened in April

Request for Qualifications to close on May 22.



Next Steps

- Contract to upgrade existing and planned locations to meet NEVI requirements
- Close RFQ for entities qualified to install, own, and operate EV charging facilities (May)
- Issue RFPs for further buildout of Alt Fuel Corridors (July)
- Conduct Public Engagement for NEVI and Carbon Reduction Programs and future Charging and Fueling Infrastructure Grants, planning for off-corridor investments (ongoing)
- Work with VEIC and other partners on workforce development and diversity initiatives to ensure benefits of funding are shared
- Continue to evaluate and re-develop statewide plans, EV freight plans and pilot projects

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