# Electric Vehicle Charging Planning & Deployment (continued)

PRESENTATION FOR SENATE TRANSPORTATION COMMITTEE, FEBRUARY 2, 2022

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# Governor's FY23 ARPA Budget

PRIORITIZING SAFE AND HEALTHY COMMUNITIES

Strong and Vibrant Communities

Incentives to Foster Electric Vehicle Adoption

# Climate Change Mitigation Package

- **EV Charging Infrastructure – Highway Network:**

Supports the continued buildout of public charging infrastructure by providing **$2,000,000** for highway networks to build upon the existing State and VW funding of public charging stations.

Additionally, AOT will receive **$21,200,000** in Federal Highway funding (IIJA) over the next 5 years for highway network EVSE deployment.

- **EV Charging Infrastructure:**

Supports the continued buildout of public charging infrastructure by providing **$10,000,000** to ACCD for Level I & II charging for multi-family dwellings, workplaces, and community attractions to build upon the existing State and VW funding of public charging stations.

Additionally, provides **$3 million** to ANR to install Level II charging at State Parks and FWD Fishing Access Areas paring charging facilities with new solar arrays to the maximum extent practicable.

# Charging Equipment

| Level 1 Charging | Level 2 Charging | DC Fast Charging |
|---|---|---|
| 120V | 240V | 480V |
| 5 miles range / hr | 10-20 miles / hr | Up to 1,000 miles / hr |




**Plug Types**


J1772


Tesla


J1772


Tesla

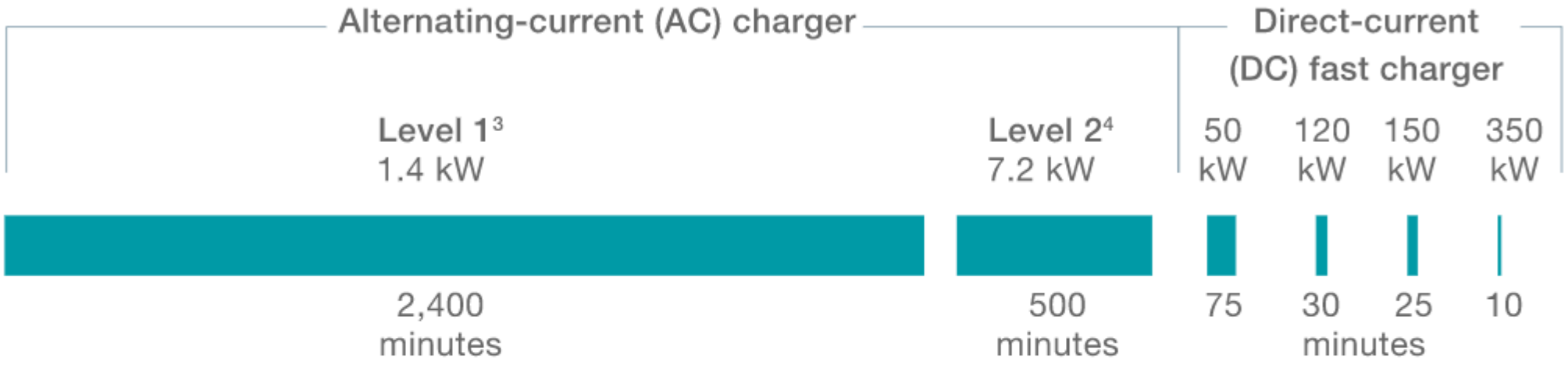

CCS


CHAdeMO


Tesla

# Charging Equipment

**Time to "fill up" a 60-kWh electric-vehicle (EV)[1] battery using different chargers[2]**




[1]This assumes that the EV can charge at the higher kW direct-current fast-charging stations; most EVs today cannot charge faster than 100 kW.
[2]This assumes that the EV can charge at maximum speed during the entire charge. In reality, the charging speed varies.
[3]Level 1 equipment provides charging through a 120-volt AC plug; it generally refers to a household outlet.
[4]Level 2 equipment provides charging through a 240-volt AC plug and ranges from 16 to 40 amps. The most common is the 240-volt, 30-amp charger, which is 7.2 kW.

McKinsey&Company

Mckinsey.com

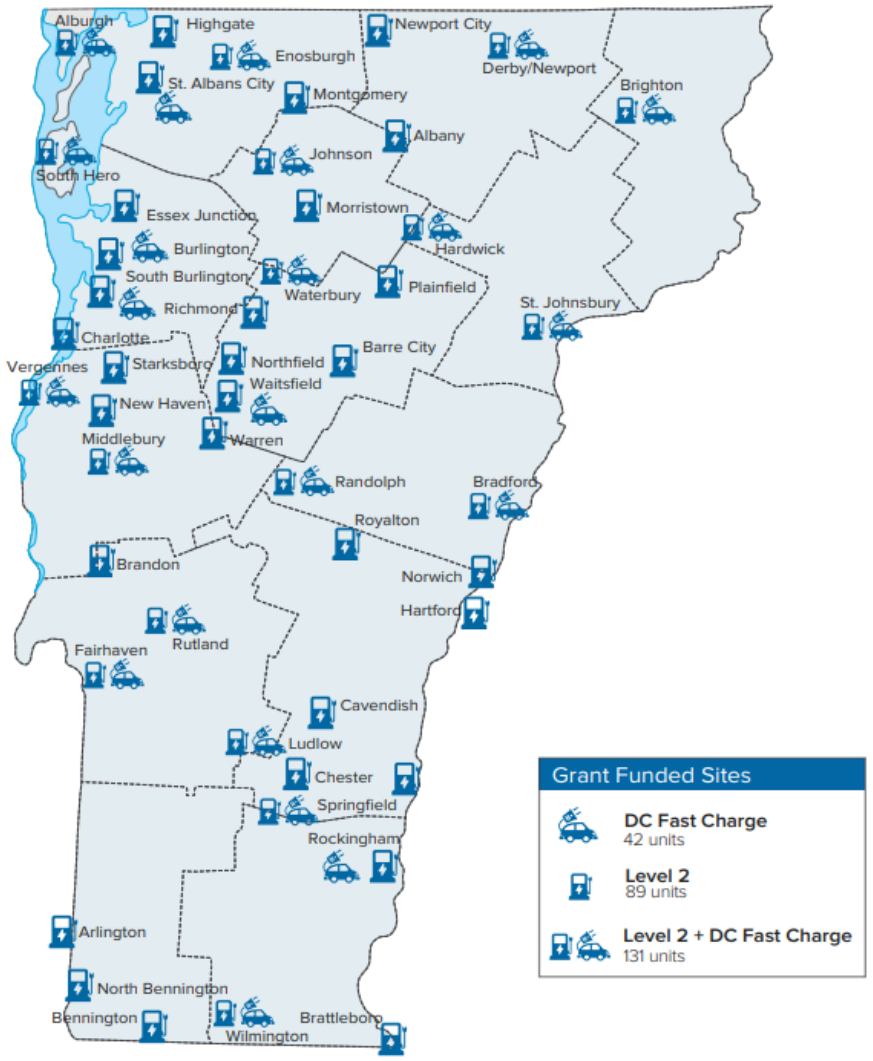
# State Investments in Public Charging

- Over $3.5 million in all 14 counties
- 41 DC Fast chargers and 89 Level 2 chargers installed
- $1 million for affordable multi-unit housing

# Funding Timeline

- 2014: DHCD and Dept of Environmental Conservation launch Electric Vehicle Supply Equipment (EVSE) Program with $200k
- 2017: Volkswagen 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 to Norwich Technologies for 6 locations
- 2022: $1 million to residential charging for multiunit housing

# Public Investments in Vermont




Department of Housing and Community Development: Interactive map

# Infrastructure Investment and Jobs Act (IIJA)

- Formula funding for EV charging along designated alternative fuel corridors: $4.25 million/year to Vermont for five years
- $2.5 billion in competitive grant funding for EV charging to rural, underserved or disadvantaged areas
- $6.2 billion for Carbon Reduction Program, including EV charging installations
- $13.2 billion for CMAQ (Congestion Mitigation and Air Quality Improvement Program)
- RFIs issued for Buy America provisions and Development of EV Charging Deployment Guidance
- Guidance due February 13th

# Statewide EV Charging Plan

- Different use cases and interaction: residential, workplace, highways
- Trends, projections, goals for EV adoption in Vermont, current and future requirements
- Funding sources and EVSE policy—federal, state, local, utility
- Strategies from other states and places to increase charging availability
- Financial modeling for EV charging deployment—how many, over what time period, for what cost? How can public investments encourage private investment in EVSE network, and by when?
- Fleet (including medium and heavy-duty) considerations
- Infrastructure Resiliency and Emergency Response
- EV charger siting/location prioritization and further mapping analysis of gaps

Drive Electric Vermont

# EV Charging for Multiunit Dwellings

**October - December - Program design**

Interagency Workgroup met weekly to stand up the program

**January 13th, 2022 - Program launch**

**January 26th, 2022 - Informational Workshop**

Over 60 attendees, representing multiunit affordable housing non-profit housing, utilities, and EVSE service providers

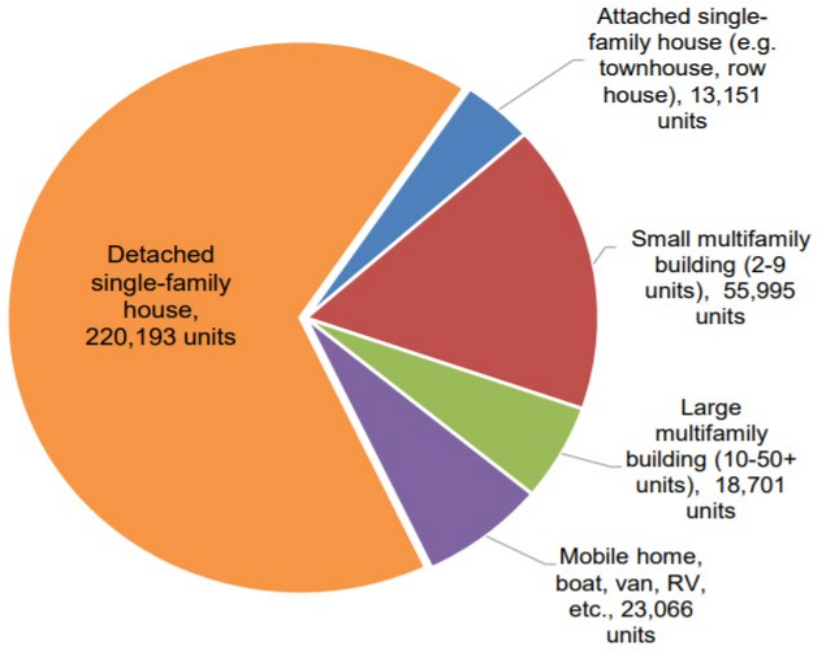
**April 1st, 2022 - Application due by 4:30 pm**

**April 22nd, 2022 - Grant awards announced**

# Community Charging

- Funding to Administer EV Charging Grant Programs
- Possible Delivery Designs for Workplace, Municipal, Affordable and Market-rate Multiunit Housing
- Goal to increase access and convenience for all Vermonters

**Figure 3-16: Vermont housing units by type of building**




Source: U.S. Census Bureau: American Community Survey 5-year estimates, 2013-2017 (Table B25024) from housingdata.org. Includes all vacant stock.

# Contacts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