

VCUDA

The Vermont Communications Union Districts Association serves to unite the interests of Vermont's municipal internet networks, devising ways to share resources and voicing CUD consensus on critical policy issues.

January 31, 2023

Ellie de Villiers, Chair of VCUDA
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About the Communications Union Districts

- Each CUD organized as a result of ***towns electing to join a CUD.***
- Each ***town*** appoints ***representatives to participate directly in the CUD governance.***
- ***A CUD is a*** special-purpose ***municipality.*** (with revenue bond authority, but not taxing authority)
- ***Committed to universal service*** - will reach to every on-grid address starting with the currently unserved and underserved.
- ***Accountable and Transparent*** – municipal governance assures grassroots involvement, transparency, and accountability.
- ***Public Ownership*** - All assets funded by the CUD are owned by the CUD municipality.
- ***Private Partnership*** - CUD typically use a traditional RFP to select a commercial partner to operate the CUD infrastructure.

Some variation on public/private partnerships, but core principles are consistent.

Communications union districts (CUDs) were created ... to coordinate and implement creative and innovative solutions in their respective territories, particularly where existing providers are not providing adequate service that meets the needs of their residents and businesses ...

Vermont Act 71 2021
Findings and Intent (13)

CUDs are Mission-Driven.

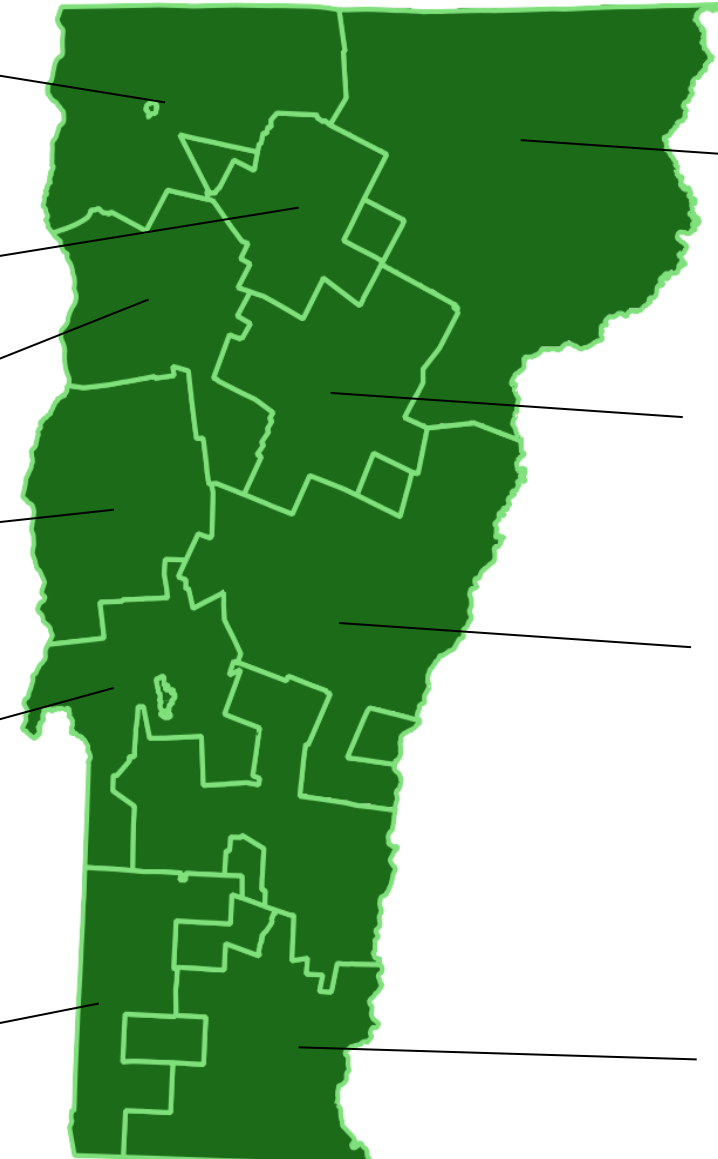
Vermont Communications Union Districts

Developed under the direction of hundreds of community volunteers.



SoVT CUD

Chittenden County CUD



About VCUDA

The Vermont Communication Union District Association

- Unites the interests of Vermont's municipal internet networks
- Devises ways to drive efficiencies
 - Shared Procurement
 - Financial and Technical Best Practices
 - Utility company coordination
 - Understanding State, Federal grant and compliance requirements
- Voices CUD consensus on policy issues

Each CUD appoints a volunteer representative and alternate member to VCUDA.
VCUDA currently maintains part-time staff and contractor support.

State Broadband Goals (Act 41 of 2015, Act 79 of 2019, Act 71 of 2021)

- **Act 41 (2015) – CUD law**
- **Act 79 (2019) – CUDs are encouraged**
- **Act 71 (2021) – Created Vermont Community Broadband Fund (VCBF) and Vermont Community Broadband Board (VCBB)**

... coordinate, facilitate, support, and accelerate the development and implementation of universal community broadband solutions.

1. **ensuring broadband availability to all Vermonters and Vermont addresses;**
2. **ensuring public accountability for maintaining and upgrading critical broadband infrastructure;**
3. increasing the reliability of the electric grid and ensuring equal access to clean energy services among all electric ratepayers;
4. **protecting Vermonters' privacy and unrestricted access to the Internet;**
5. alleviating the inherent tension the Department of Public Service currently experiences as a result of its dual roles as both regulator and community project developer;
6. **directing public resources to the development of public broadband assets intended to provide universal access;**
7. **developing favorable taxing, financing, and regulatory mechanisms to support communications union districts; and**
8. **providing time-limited leadership for coordinating the buildout of Vermont's communications union districts and their partners and for developing financing mechanisms to fully support that buildout through a newly created State entity, the Vermont Community Broadband Board, designed specifically to effectuate these purposes.**

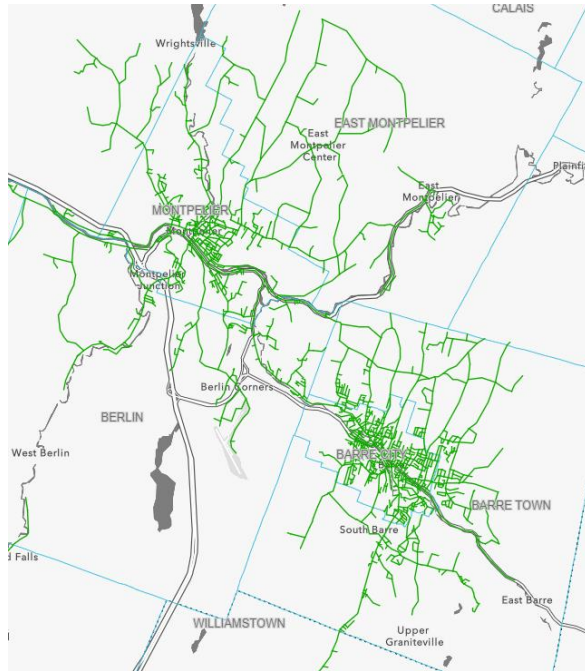
Why Fiber Optic Networks?

Fiber optic cable has **less interference, keeps the signal strength over much greater distances and operates at a higher frequency rate**. Higher frequency means greater bandwidth and greater bandwidth means faster connection speeds.

Future proof: A single strand of fiber can inexpensively carry 1G->100G with inexpensive electronics and over 30+ Terabits with additional electronics.

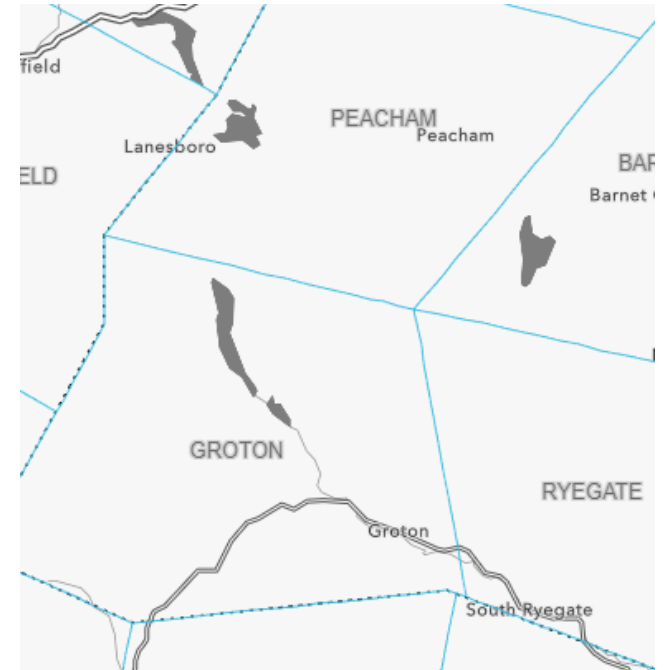
Supports Wireless & Cellular: Wireless networks still need fiber optic networks to interconnect their radio systems. Fiber is necessary to support wireless systems and cell towers in rural areas.

What causes broadband deserts?



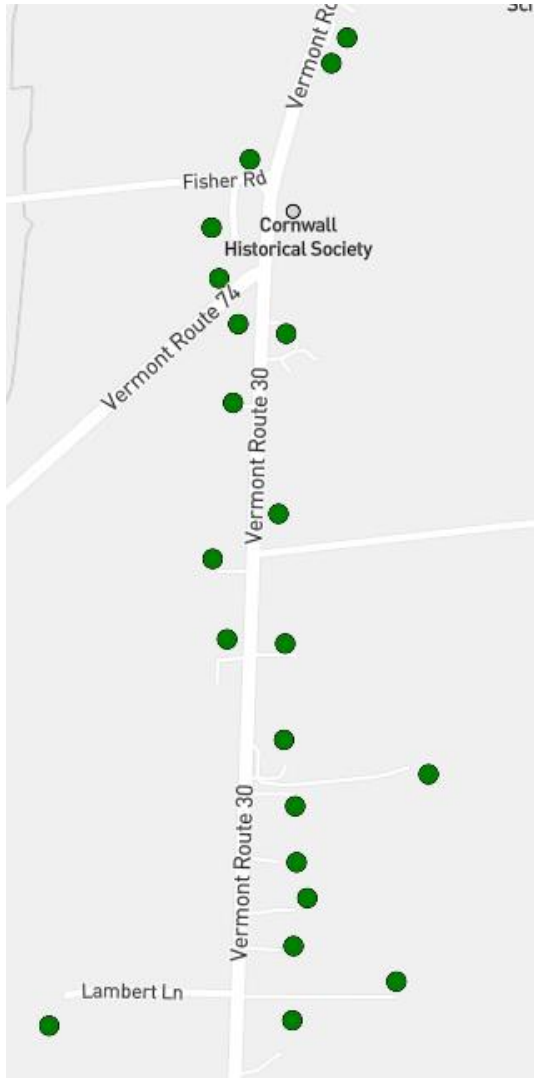
Households/mile:

- Montpelier – 380.4
- Barre Town – 217.7
- Groton – 10.9
- Peacham – 11.6



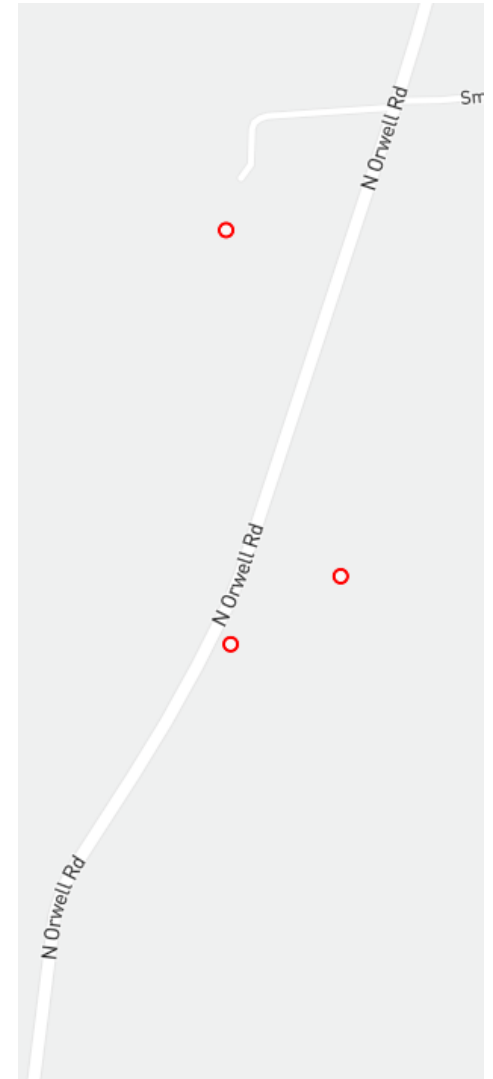
Population density makes for strong business cases

CUDs: public entities building strong businesses

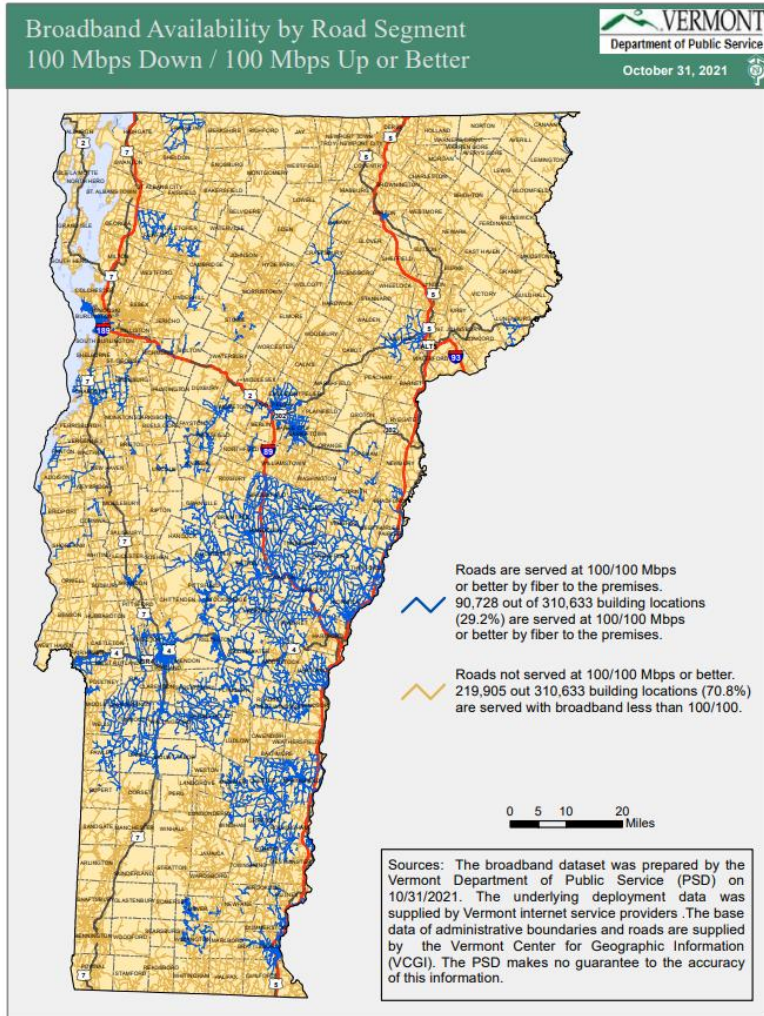


- Minimize costs
 - Transparent competitive procurement
- Build service revenues
 - Generate revenues by serving customers
 - Revenues from denser areas support lower revenues from rural areas
- Funding/financing
 - Grant funding
 - Minimizing debt service / interest rates
- Capital directed to stakeholder benefit
 - Strong human resources with public accountability
 - Profits go to completing **availability** (infrastructure) and
 - Increasing **affordability** for those in need
 - This is how we bridge the digital divide

Public entities = open meetings, town-appointed governance, publicly owned and controlled assets



Translating service speeds

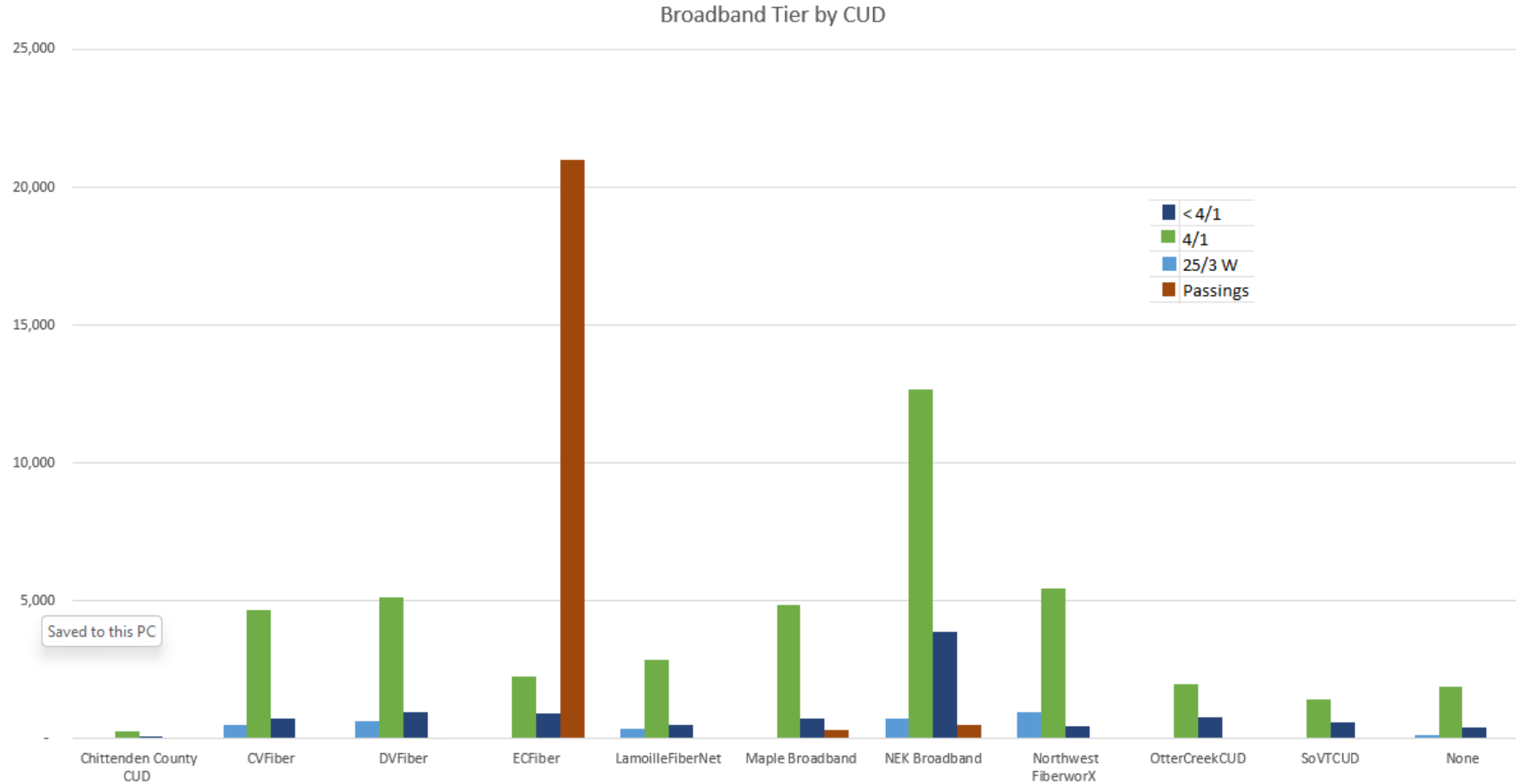


Service Speed	Translation	Typical Technology	State of Vermont
< 4/1 Mbps	No service	Dial-up; bad DSL	3%
4/1 – 25/3 Mbps	Poor service	DSL	15%
> 25/3 Mbps	Mostly adequate	Wireless	3%
> 100/20 Mbps	Good	Cable	48%
> 100/100 Mbps	Great – backbone for digital future	Fiber	30%

Percent served refers to locations

Dense areas generally well-served; reaching the end of roads is and has been the problem CUDs are solving!

What's the need across the state?



Vermont Totals

254,607
Addresses Served

58,469
Addresses Underserved/Unserved

7,342.39
Road miles Underserved/unserved

~19% of Vermonters are unserved/underserved

Bottoms-up, grassroots support

- Town representatives govern each CUD, its private partners and the public interest
- Small CUD staffs supported by hundreds of volunteers
- Skills include telecommunications strategy & management, technical, legal & regulatory, GIS, software, finance ...
- CUD staff and volunteers support each other as part of “Team Vermont”



Photo credit: Mary Kay Raymond, NW Fiberworx

CUD Contact Information

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Otter Creek CUD

<https://occud.org>

Southern Vermont CUD

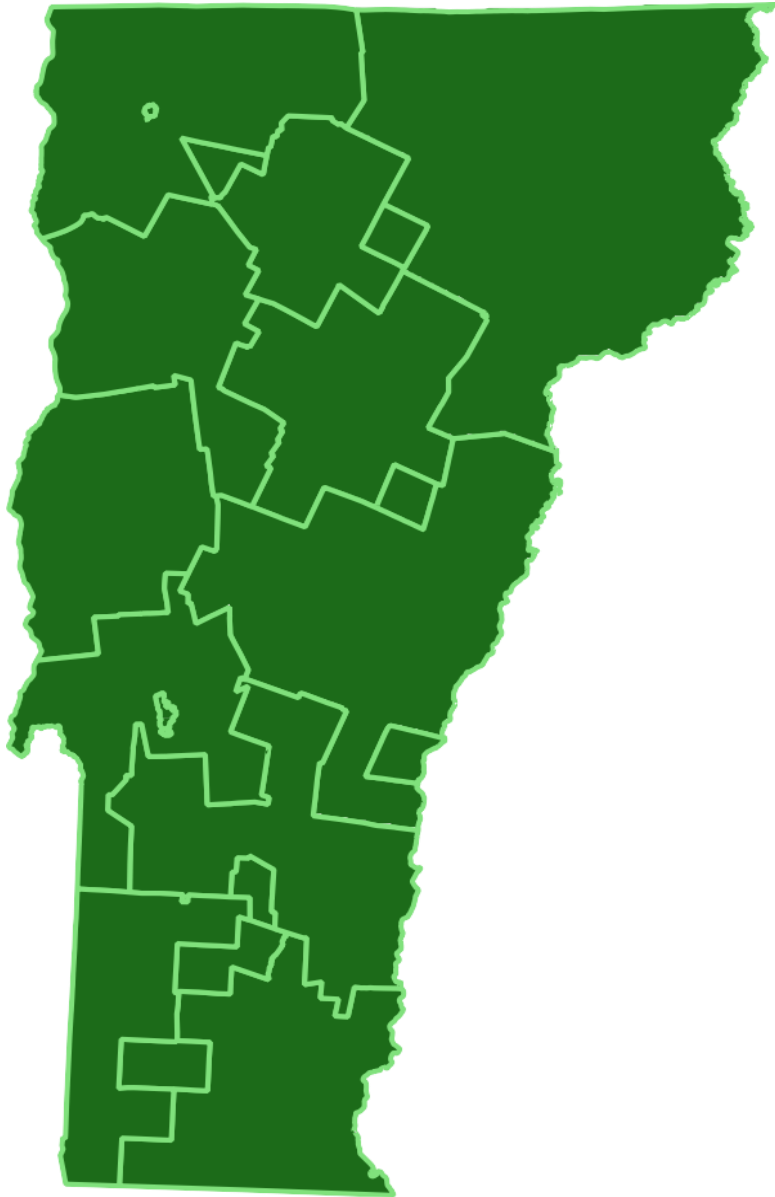
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VCUDA

Thank you!

January 31, 2023

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