

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.

Before the House Environment and Energy Committee
January 12, 2023 1:15 PM

Ellie de Villiers, Chair of VCUDA
chair@vcuda.org

Rob Vietzke, Program Staff
Rob@vcuda.org

About the Communications Union Districts

- Each CUD organized as a result of ***Town Meeting vote to join a CUD.***
- Each ***town*** appoints ***representatives*** to ***participate directly in the CUD governance.***
- ***A CUD is a*** multi-town ***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*** - Town representation in 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.

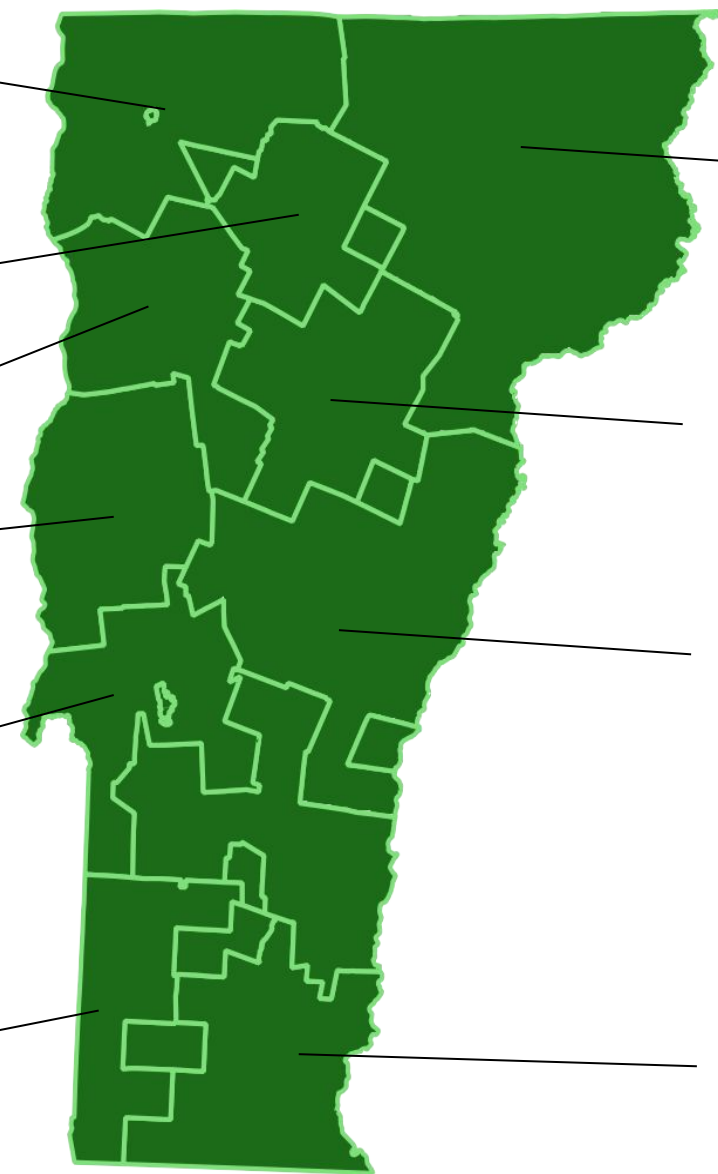
Vermont Communications Union Districts

Developed under the direction of hundreds of community volunteers.



SoVT CUD

Chittenden County CUD



CVFIBER



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 representative and alternate member to VCUDA.
VCUDA currently maintains part-time staff and contractor support.

State Broadband Goals (Act 71)

... 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.

Roles and Responsibilities

VCBB	Typical CUD	Partners
Administers Vermont Community Broadband fund/issues grants	Develops business plan	Customer installations
Reviews/validates business plans	Designs fiber network	Provisioning
Monitors progress of CUDs	Co-ordinates make-ready	Network monitoring & management
State contact for Federal agencies	Obtains necessary permits	Break-fix
Provides support/assistance as needed	Builds fiber network	Call center/customer service
Develops capacity	Performs inspections/quality assurance	Technical support
	Defines products & pricing	Billing
	Marketing & public relations	
	Customer acquisition	
	Holds partners accountable	
	Holds title to CUD assets	

CUD Staff, Boards, and Volunteers

- Dedicated volunteers enable CUDs to keep overheads low
- Skills include telecommunications strategy & management, technical, legal & regulatory, GIS, software, finance ...
- CUD staff and volunteers support each other as part of “Team Vermont”



Key Activities of 2022

- Hiring staff & building internal capacity
- Engineering design
- Make-ready
- Procuring long lead-time materials
- Refining business plans
- Obtaining construction grants
- Selecting contractors
- Building fiber networks
- Preparing for service launch



High Level View of Program Challenges

Challenge:

FCC Mapping Program, finalizing the IJA BEAD Program's benefits for Vermont and delays

Pace and cost of utility pole "Make Ready"

Funding to continue rapid progress that is underway

Materials

Affordability & Access

Mitigation:

Continue leveraging community knowledge and data from CUDs and the State to correct inaccuracies and improve data

Increase collaboration and share information between CUDs, VCBB, and Pole Owners

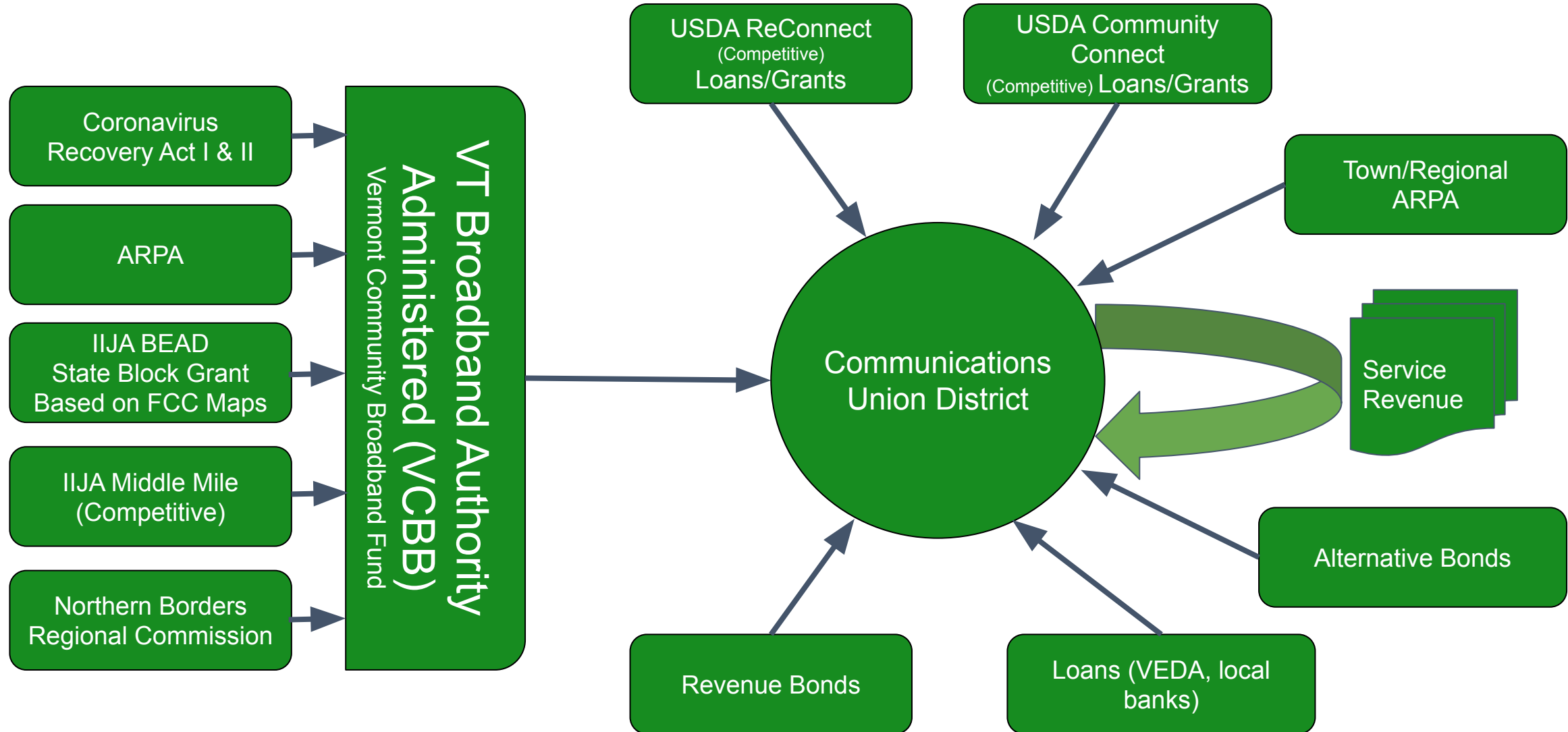
Consider approaches to avoid buildout stalls as federal funding timeline clarifies

Provide funding for advance procurement of long lead-time materials

Building access to Affordable Connectivity Program, reducing debt financing, advocating for underserved communities, engagement on Digital Equity opportunities

Funding sources to achieve Universal Service:

Broadband Capital Resources



What is “Make Ready”?

Process by which a “new attacher” works with the pole owner to attach to a pole.

- Safety Clearances - distance from power to communications space and distance from bottom attachment to the ground.
- Load Considerations - In normal and worst-case wind or ice storm, what loads does the attachment add to the pole.
- Other Issues: grounding, rot, etc.

Simplified Process:

- CUD designs a fiber route
- Application submitted for make ready
- Joint Ride Out - “inspection”
- Engineering estimate provided to CUD
- Make Ready completed
- Pole ready for attachment



Make Ready can be the longest lead time and least “controllable” task for a CUD to reach new unserved homes.

Individual CUD Progress Updates:



- **Hired** talented and experienced executive director: Jennille Smith
- **Make Ready:** achieved its first utility make ready licenses and is in discussions with contractors for construction of its network to start
- **Materials:** ordered and received most of its 400 miles of construction materials and obtained warehousing for storage of the materials
- **Volunteer Resident Professionals:** CVFiber continues to operate through a committed staff of volunteer professionals
- **Construction Kick-Off** - December 21, 2022 in Calais



NEK BROADBAND



Talented Executive Director: Christa Shute

New Staffing: Full-time bookkeeper/grant manager, community relations manager, part time treasurer, GIS Specialist. Posting for: CFO, Executive Assistant, Installation Technicians.

Grants: \$16 million plus \$5 million = \$21 million in construction grants. Applied for additional \$23.3 million federal construction grant. Loan approval from VEDA for \$5 million loan.

Construction and Customers: added 13 additional miles for a total of 34 miles with service to 432 premises. Long-term contract with Eustis Cable with 90% of workers to be residents of NEK.

Warehousing: Saint Johnsbury & Brighton Warehouses. Received 300 miles of parts, 800 miles of fiber.

Make Ready: Applications for 512 miles and over 11,000 poles (licenses received for 38 miles).

Easements and Licenses: Out of 23 equipment cabinet locations, several are secured, many are identified and confirmed with easements in process. Variety of permits including underground, aerial interstate crossings.





MAPLE BROADBAND



- **Hiring:** Hired experienced Executive Director, Ellie de Villiers
- **Funding:** Received \$8.7M grant for construction in portions of Cornwall, Leicester, Middlebury, Orwell, Salisbury, Shoreham, and Whiting
- **Contracting:** Awarded initial contract to Syracuse Utilities through competitive bid
- **Construction:** 25.7 miles of fiber construction (303 locations) completed
- **Marketing:** Vehicle signage & sandwich boards; direct mail postcards; 46/303 (~15%) of eligible passings already pre-registered
- **Permitting:** Make-ready surveys for next construction phase nearing completion; hub leases obtained
- **Community Involvement:** Estimated 2,600 volunteer hours by CUD residents in past 6 months.
- First customer *live on Wednesday, January 11, 2023.*





NORTHWEST FIBERWORX

- **Executive Director:** Sean Kio
- **Planning:** Recently refocused on new network tenants and re-analyzed finance modeling (Internet Service Providers).
- **Rates:** Develop rates and required provisions for network licensing.
- **Request for Information:** Reviewing RFI results for network licensing.
- **Pole Surveys and Build Sequencing:** Completed 250 miles of aerial LIDAR surveys in Enosburgh and Swanton. Completed build sequencing and technical standards with NRTC.
- **Detailed Design:** Starting on Zone 1 of detailed design.
- **Fiber Delivery:** received mid-December.



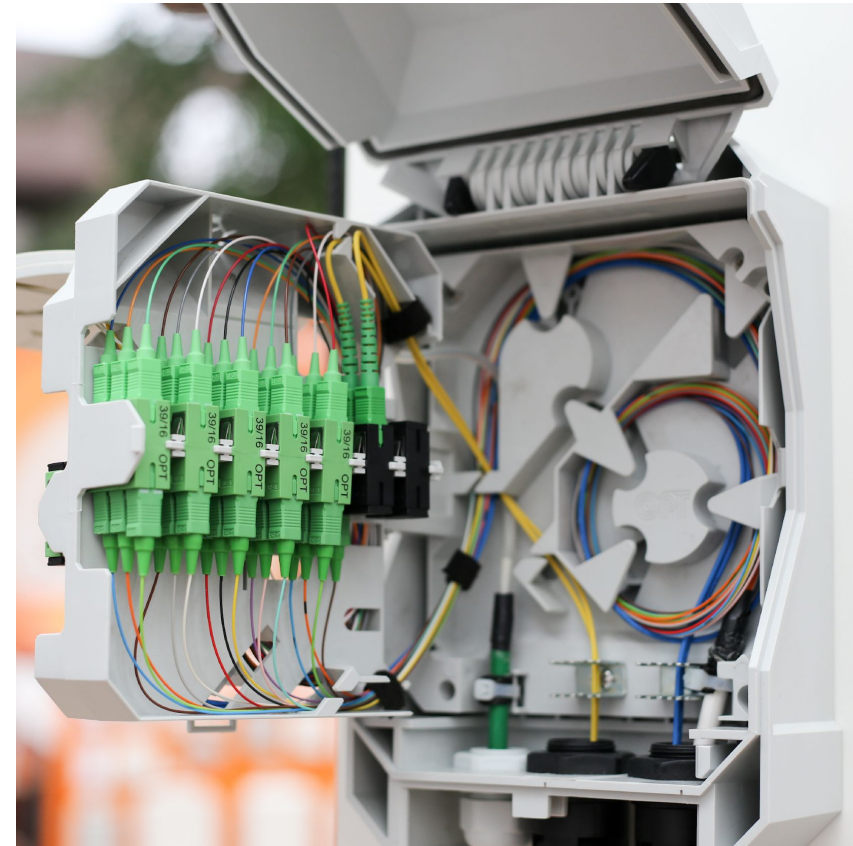
Southern Vermont CUD



- **Signed:** Master Services Agreement in place with Consolidated Communications, Inc to begin construction of a fiber network in the CUD's territory.
- **Phase 1:** Currently underway, is financed by CCI as part of their Rural Digital Opportunity Fund (RDOF) obligations and covers most of the Southshire, including Bennington, Woodford, Glastenbury, and part of Pownal and Shaftsbury. Phase 1 was completed during 2022.
- **SoVT CUD Grant:** Application to the Construction Grant Program approved for \$9,009,085 in partnership with Consolidated Communications Inc (CCI).
- **Phase 2A:** Financed by VCBB Construction Grant. Currently in engineering and planning, set to begin deployment in early 2023, will cover approximately 2,000 unserved and underserved addresses in the CUD's territory.
 - Most of SoVT CUD's territory will be covered at the conclusion of this phase.
- Identified and confirmed the "hardest 100" addresses - now narrowed down to the "hardest 17" - and developing a plan to serve those locations.
- **Partnerships:** The CUD has greatly benefited from collaboration with the Bennington County Regional Commission (BCRC). The administrative assistance and expertise in navigating the public funding arena provided by Community and Economic Development Specialist Jonathan Cooper and Regional Planner Callie Fishburn has been invaluable.



- **Hiring:** An experienced leader, Gabrielle Ciuffreda, as Executive Director. Plan to add additional administrative support in the coming months.
- **Executive Committee:** To support the pace and volume of work, empowered an Executive Committee to act on behalf of the Governing Board for quicker decision making.
- **2nd grant,** for \$21.9 million, awarded on July 11, 2022. This grant, which was signed by DVFiber on August 12, 2022, will fund the construction of 513 miles of fiber optic cable capable of connecting up to two-thirds of the more than 7,700 unserved and underserved addresses in our district.
- **Construction Continues:** Construction of the southern backbone ring will continue unabated into 2023. A special taskforce is working to develop DVFiber's capacity to subsidize eligible customers who cannot afford the monthly charges for our service.
- **First Customers are Live:** An initial group of customers came online in late December, a milestone for Readsboro!





- **Hiring:** Hired experienced executive director, Val Davis. Also: grant coordinator and project construction engineer.
- **Pre-Construction:** Received first Pre-Construction grant from the VCBB for \$1,191,885. Completed initial high-level design, financial model and business plan.
- **Materials:** Over 135 miles of fiber on site.
- **Design/Build Award:** Selected NRTC as Design/Build Project Management partner. NRTC will now be working on the low-level design.
- **RFP for Operations:** RFP for ISP and Operations and Maintenance being reviewed.
- **Moving Towards Construction:** Grant application for construction in the works.





- **Already providing Service:** Original 23 towns are either complete, being lit, or under construction. Have constructed 1700 miles of network serving **over 7500** customers.
- **Proven:** ECFiber has focused on unserved and underserved for more than a decade.
- **Financing:** Have borrowed 63.5 million in municipal revenue bonds and received \$1 million of in-kind support in the form of the VTA's Orange County Fiber Connector, and has currently drawn down about \$350K of \$2.8M in pre-construction grants.
- **New Service Areas:** In the Town of Hartford, the unserved/underserved areas of West Hartford are done and the cabled areas in White River Jct, Wilder, Quechee and Hartford Village are under construction.
- **New Towns Being Added:** Supported in part by a grant from the broadband fund, design of 8 new towns and polished border areas is either finished or will be shortly.
- **Expansion to New Towns:** In newly admitted towns of Fairlee, West Fairlee, and Bradford (and hub construction in all new towns) construction is underway.



A National Perspective on Vermont:

- Vermont's pre-pandemic leadership through Act 79 and Act 71 has set it ahead of many states in having solid plans to bring world class universal availability to unserved and underserved residents.
- Vermont's Community-Based Broadband program is a national leader in converting federal funding opportunities into universal service with advanced, world class, broadband on previously unserved doorsteps.
- There is accountability & momentum building across Vermont in realizing Universal service plans through publicly owned Communications Union Districts.

Celebrating progress and people of the CUDs

Led by experts and hundreds of community volunteers, Vermont and its Communications Union Districts are on the move, delivering world class broadband where it has never been available before.



Coming up: CUD Day with VCBB January 31, 2023

CUD Contact Information

CV Fiber

Jennille Smith, Executive Director
jsmith@cvfiber.net

DVFiber

Gabrielle Ciuffreda, Executive Director
gabrielle.ciuffreda@dvfiber.net
646.271.2244

ECFiber

F. X. Flinn, Chair
FXFlinn@gmail.com
802.369.0069

Maple Broadband

Ellie de Villiers, Executive Director
ellie@maplebroadband.net
802-377-3713

NEK Broadband

Jonathan Baker,
jonathan@nekbroadband.org
802-684-0919

Northwest Fiberworx

Sean Kio, Director
director@nwcud.com

VCUDA

Rob Vietzke, Program Staff
Rob@vcuda.org
802-289-8316

Lamoille FiberNet

Val Davis, Executive Director
director@lamoillefiber.net
802-696-9025

Otter Creek CUD

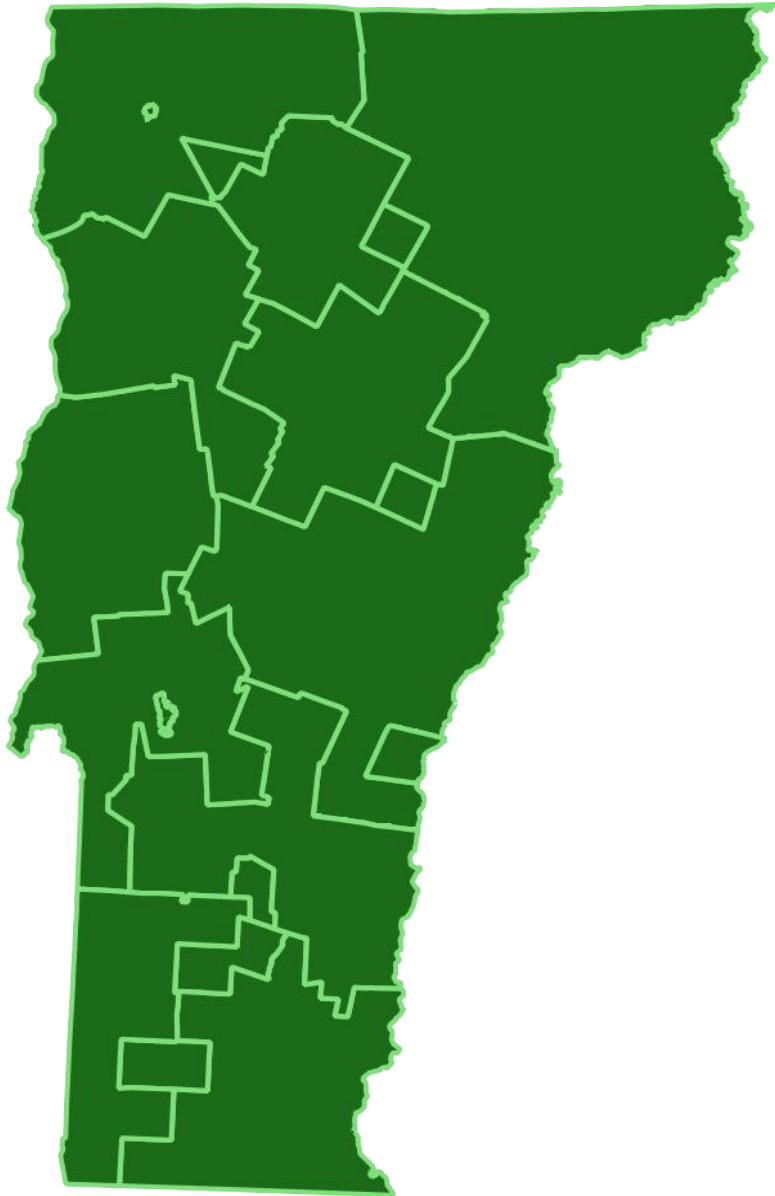
<https://occud.org>

Southern Vermont CUD

info@sovtcud.net

Chittenden County CUD

Charles Baker
cbaker@ccrpcvt.org



VCUDA

Thank you!

Before the House Environment and Energy Committee
January 12, 2023 1:15 PM

Ellie de Villiers, Chair of VCUDA
chair@vcuda.org

Rob Vietzke, Program Staff
Rob@vcuda.org