



VERMONT

VERMONT COMMUNITY BROADBAND BOARD

House Commerce and Economic Development - February 13, 2025

Christine Hallquist, Executive Director

Rob Fish, Deputy Director

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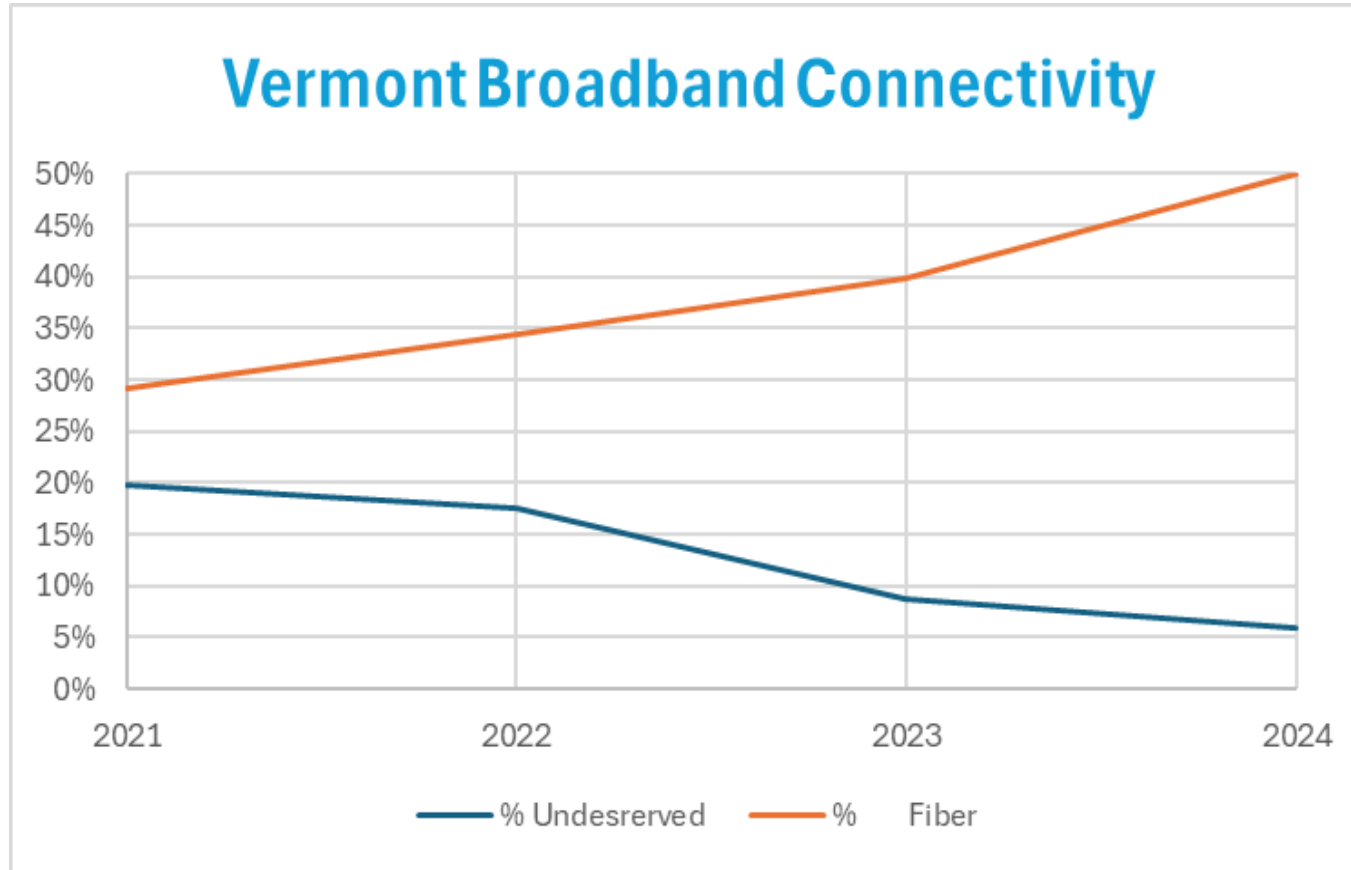
[HTTPS://PUBLICSERVICE.VERMONT.GOV/VCBB](https://publicservice.vermont.gov/vcbb)

The VCBB was created to coordinate, facilitate, support, and accelerate the development and implementation of universal community broadband solutions.



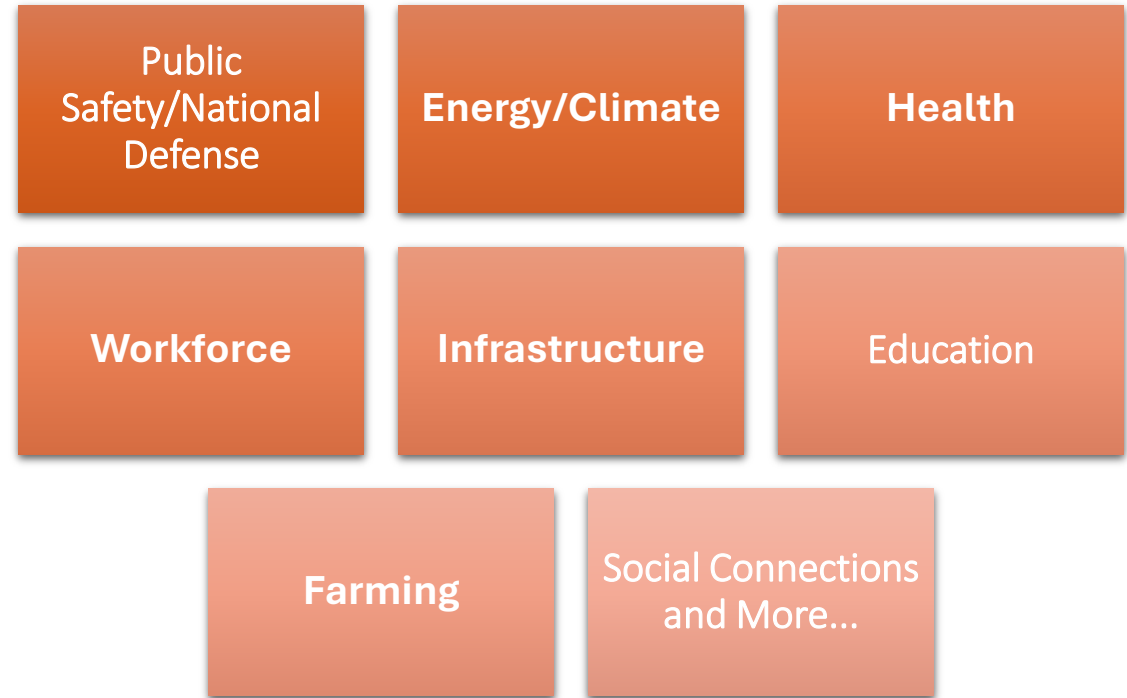
Progress

Vermont Broadband Connectivity

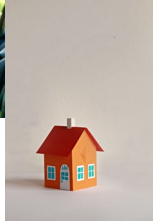


PSD data as of June 2024 (construction continued throughout Summer & Fall)

Digital Opportunity- Ensuring All Vermonters Benefit from Broadband Expansion



Challenges in Vermont



- Housing crisis
- Healthcare costs are rapidly rising in Vermont while most of the hospitals are losing money.
- Agriculture across the state is struggling to keep up with costs, particularly smaller farms.
- Climate change
- Vermont's combined sewer systems are overwhelmed and cost tens to hundreds of millions to separate.
- Workforce shortages

Broadband is a Solution



- Economic Development



- Environment/Climate Change



- Telehealth



- Waster Water

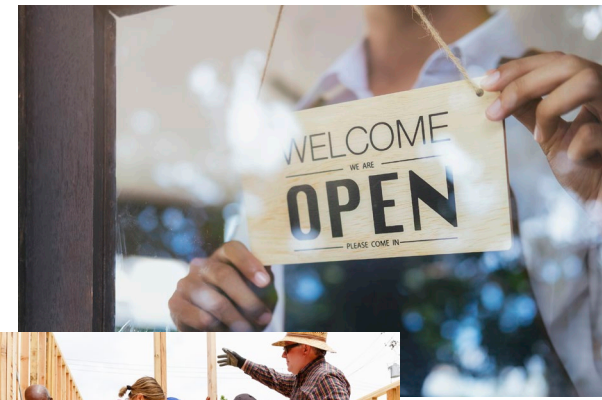


- Agriculture

Economic Development

Center on Rural Innovation (CORI) study finds that rural counties with high broadband adoption rates (over 80%) have significant advantages over those with low usage, including:

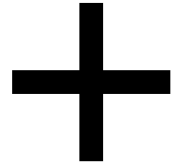
- **213% higher business growth.** Rural counties with high broadband use see more businesses opening.
- **10% higher self-employment growth.** Broadband access significantly lowers barriers to starting a business for rural residents by connecting them to global markets and essential resources, like banks, small business loans, and venture capital.
- **44% higher GDP growth.** Access to more broadband services delivered by local broadband service providers improves the economic dynamism of rural communities.
- **18% higher per capita income growth.** Counties in the high broadband treatment group (with broadband adoption rates greater than 80% and broadband coverage predominantly from a small broadband service provider) saw per capita income grow 18% from 2020-2022.



Economic Revitalization



Broadband promotes economic growth in parts of the state that need growth



These areas tend to be more affordable



More people want to/can afford to move here, especially young people just starting out



A bigger workforce



Available workforce + lower costs = new businesses (high and low tech)



Higher enrollment in schools/stronger tax base for more rural areas

Telehealth – Increasing Access to Healthcare



- More people will make appointments because it's cheaper, more convenient, no time off work/school
- People with mobility challenges can get to appointments
- Reduce expensive interventions by continuous patient monitoring/quick detection of health changes
- Eliminate geographic, economic, and social boundaries to health care
- Less spread of disease by keeping sick people at home and not around other patients, especially important for people who are chronically ill, pregnant, elderly, or immunocompromised
- Increased access to specialists
- Safer – less transportation
- Have family members or other caregivers at your appt. even if they live in another country or state

Telehealth Benefits Providers

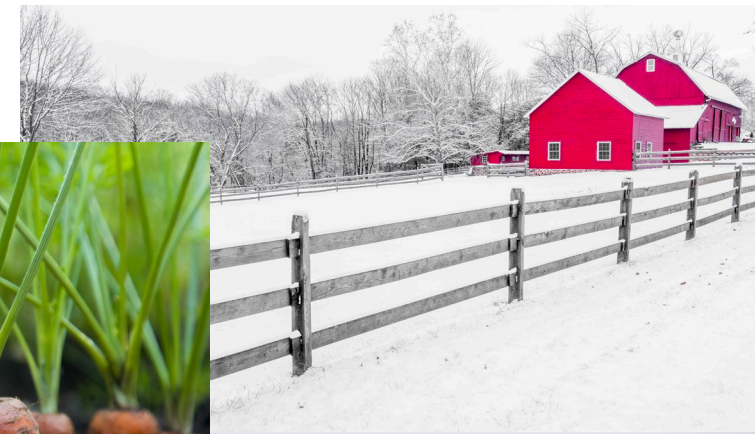
Health Care Costs in Vermont Continue to Soar

The price of health care plans in Vermont has doubled in six years, and hospitals expenses are rising rapidly. The prognosis for cost containment is grim.

- Less office space/physical facilities means less cost for leasing/buying, taxes, insurance, maintenance
- Maximizes productivity of healthcare workforce
- Reduce expensive/unnecessary ER visits because people get more preventative care
- Easier for doctors to stay engaged with patients and identify/diagnose problems earlier
- Reduce expensive interventions by using continuous patient monitoring and quick detection
- Enable use of patient portals
- Get a more complete picture of your patients by seeing them in their home setting – see the patient's needs and provide more personalized and equitable care
- Fewer cancellations
- Easily and more cost effectively integrate interpreters
- More data means better tracking and the opportunity to identify disparities in treatment to enable more equitable healthcare for all Vermonters

Benefits to Agriculture

- New farming technology can leverage broadband to increase production and reduce costs through better feeding and care for animals.
- More efficient field fertilization informed by AI and machine learning – leads to a minimum 30% reduction in nutrient application, reducing phosphate run-off into our waterways.
- Enables access for direct sales of higher margin farm specialties.
- New technology automates maple syrup production to increase labor productivity, yields, and profits.



Environment and Climate Change



- Need a 7X increase in carbon free generation, most of which will be intermittent wind and solar. This requires smart grid management – low latency, high reliability.
- Electrification of the transportation sector will put large strains on the electric grid. For example, a Tesla Tractor Trailer will be the equivalent of 500 homes plugging in all at once.
- The grid requires fast (millisecond) (low latency response). **Only fiber is capable.**
- [Christine Hallquist and Tee Thomas: Broadband's role in solving climate change - VTDigger](#)



Waste Water Infrastructure

- Smart sewer technologies - real-time monitoring, modeling, data processing and analytics, and AI/machine learning
- Increases the amount of data available and improve ability to leverage analytics and make decisions.
- Maximize infrastructure performance, maximize resources, reduce costs, comply with regulatory requirements, and meet public and environmental health goals.
- Show where climate change impacts are most noticeable and potentially damaging and help utilities prepare and become more resilient.

<https://www.epa.gov/npdes/combined-sewer-overflow-smart-sewers-layout>



4 MIN READ

Digital Monitoring Modernizes 19th Century sewers in Rutland, Vt

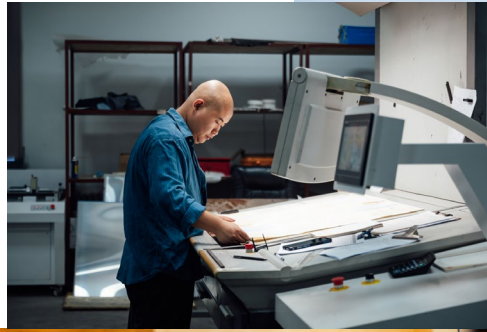
 Ariel Stern · Jul 24, 2022 9:16:19 AM

[Wastewater](#) [Smart Meter](#)



Solution to Workforce Shortage

- Making the workplace accessible to more Vermonters
 - Without access to transportation
 - Immunocompromised people
 - People who are Neurodivergent – includes ADHD, Autism, etc. - up to 20% of people*
 - People with physical disabilities
 - Don't have access to childcare
- Available broadband attracts more workers to Vermont
- Increase state's tax base



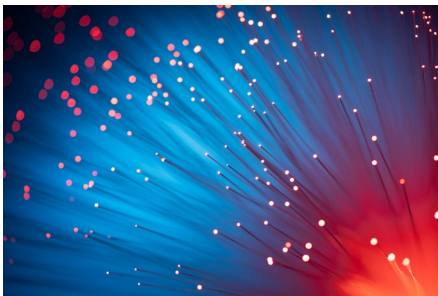
Additional Policy Issues



- Regulation – Performance, Privacy, and Consumer Protections



- Approaches to Affordability – End of the Affordable Connectivity Program, NY State approach, USF



- The End of Copper – Carrier of Last Resort implications, Battery Back Up, etc.

Key Takeaways

- \$545 Million in Broadband grants
- Vermont will achieve Universal Service ahead of schedule*
- Now – working to maximize the benefits of broadband for all Vermonters
 - Economic Development/Revitalization
 - Telehealth
 - Agriculture
 - Reducing climate change/Environment
 - Waste Water Infrastructure
 - Workforce development



Thank you and Resources

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Coming soon – Articles from Christine Hallquist on Telehealth and Water Infrastructure

Additional Resources:

[Christine Hallquist and Tee Thomas: Broadband's role in solving climate change – VTDigger](#)
[Report: The role of broadband in rural economic growth and resilience - Center on Rural Innovation](#)
[Combined Sewer Overflow Smart Sewers - layout | US EPA](#)
[Neurodiversity at Work Survey | Alludo](#)

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Award-winning documentary
[“Connected”](#)

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