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December 13, 2024

The Honorable Ann Cummings, Chair Senate Committee on Finance

The Honorable Amy Sheldon, Chair House Committee on Environment and Energy

The Honorable Christopher Bray, Chair Senate Committee on Natural Resources and Energy

Re: Connectivity Division Annual Report; 30 V.S.A. §202e(e)

Dear Honorable Senators and Representatives:

I am pleased to submit this annual report of the Connectivity Division for fiscal year 20243 pursuant to 30 V.S.A. § 202e(e).

If you have any questions about this report, please do not hesitate to contact me or Hunter Thompson, Director for Telecommunications and Connectivity.

Kind regards,

Signed by:

June E. Tierney Commissioner

June E. Tierney



Annual Report to the General Assembly on the Activities of the Telecommunications & Connectivity Division



This report contains links to additional reports, interactive maps, and resources on the Public Service Department website. It is best viewed in a digital format.

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Contents

Introduction	4
Telecommunications and Connectivity Division 2024	5
2024 Accomplishments and Community Outreach	7
Telecommunications and Connectivity Advisory Board ("TCAB")	15
Operating and Financial Statements	16
Broadband Availability Data	22
Wireless Communications	27
Appendix I-IV – Broadband Maps	29
Appendix V-VI – Drive Test Maps	34

Additional Department Website Resources Referenced in this Report:

- Vermont Universal Service Fund
- 2024 10-Year Telecommunications Plan
- Broadband High-Speed Internet Availability in Vermont
- Broadband Speed Tiers by E911 Address (map)
 - o Including:
 - Availability of 4/1 2024
 - Availability of 25/3 2024
 - Availability of 100/20 2024
 - Availability of 100/100 2024

Introduction

This is the annual report of the Division for Telecommunications and Connectivity ("Division") of the Department of Public Service ("Department"). This report is a requirement of 30 V.S.A. § 202e and states:

Notwithstanding 2 V.S.A. § 20(d), on or before January 15 of each year, the Director, with the advice and assistance of the Telecommunications and Connectivity Board, shall submit a report of its activities pursuant to this section and duties of subsection 202f(f) of this title for the preceding fiscal year to the General Assembly. Each report shall include an operating and financial statement covering the Division's operations during the year, including a summary of all grant awards and contracts and agreements entered into by the Division, as well as the action plan required under subdivision (b)(6) of this section. In addition, the report shall include an accurate map and narrative description of each of the following:

- (1) the areas served and the areas not served by broadband that has a download speed of at least 4 Mbps and an upload speed of at least 1 Mbps, and cost estimates for providing such service to unserved areas;
- (2) the areas served and the areas not served by broadband that has a download speed of at least 25 Mbps and an upload speed of at least 3 Mbps, or as defined by the FCC in its annual report to Congress required by section 706 of the Telecommunications Act of 1996, whichever is higher, and the cost estimates for providing such service to unserved areas;
- (3) the areas served and the areas not served by broadband that has a download speed of at least 100 Mbps and is symmetrical, and the cost estimates for providing such service to unserved areas; and
- (4) if monetarily feasible, the areas served and the areas not served by wireless communications service, and cost estimates for providing such service to unserved areas. (Added 2015, No. 41, § 4; amended 2023, No. 85 (Adj. Sess.), § 362, eff. July 1, 2024.)

This report was completed with the advice and assistance of the Telecommunications and Connectivity Advisory Board.

This report includes the following:

- 1. An overview of the Connectivity Division The Staff and Significant Accomplishments and Outreach in 2024.
- 2. An overview and recommendation of the Telecommunication and Connectivity Advisory Board
- 3. Financial statements covering the Division's operations during the year including:
 - a. Contracts and agreements entered by the Division.
 - b. Vermont Universal Service Fund

- 4. Broadband Speeds, including narrative, graphs, and maps depicting current broadband availability at four speed tiers, 4/1, 25/3, 100/20, and 100/100.
- 5. Wireless Communications This report will outline the preparations, methodology, and progress for the 2024/25 wireless drive test.
- 6. Ten-Year Telecom Plan Overview In 2023 the Department completed the newest revision of the Ten-Year Telecom Plan. The updated plan was presented to the Joint Information Technology Oversight Committee in June 12, 2024.

Telecommunications and Connectivity Division 2024

The Division was established to improve access to affordable telecommunications technology for all Vermonters, support universal availability of voice and broadband, and lead the state's telecommunications policy and regulatory efforts.

The Division oversees the telephone and cable industries, and advocates for the public interest in telecommunications matters before the Public Utility Commission, including review of mergers, tariffs, certificates of public good, and licenses. The Division is responsible for preparing the state Telecommunications Plan. The Division annually gathers broadband availability information to identify underserved locations statewide and prepares maps and statistics depicting information at several speed tiers. The Division also administers the Vermont Telecommunication Relay Service, connecting individuals who are deaf, deaf-blind, hard-of-hearing or have a speech disability, with users of standard telephones. In 2024 The Connectivity Division also participated in the State Emergency Preparedness Conference and completed the Northeast Arc Users Conference.

Connectivity Division Staff

The Division is led by a division director who oversees two full-time and one part-time staff members. Each position is focused on different areas of Vermont's telecommunications landscape. With overlap between positions, the Division staff brings a cohesive approach to serving the needs of Vermonters. In 2024 The Telecommunications Infrastructure Specialist position, that was vacant in 2023 was filled in a part-time capacity. This hire returned the telecom division to its full staffing levels.



• <u>Telecom Division Director –</u>

Formulates telecommunications policies and procedures, which are compatible with the goals and objectives of state government. Supervises a professional and technical staff that is responsible for planning, technical consulting, financial support, and installation and repair services. Develops both short- and long-range plans for state-wide telecommunications needs. The Director also serves as the Vice-Chair of the Vermont Telecommunications Relay Service Advisory committee.

• Telecom Project Manager

Plan and manage the installation and maintenance of the Department's telecommunication assets. Works with the private sector to develop safe and effective work plans to implement fiber optic and wireless infrastructure. Provides technical review and recommendations on telecom petitions reviewed by the Department. Provides expert testimony in matters related to cable television, and telecommunications. Performs specialized investigations, analysis, and advocacy for the Department of Public Service related to the present and future capabilities, quality, reliability, and readiness of Vermont's telecommunications infrastructure.

• Connectivity Coordinator

The Connectivity Coordinator is focused on the organization and outreach of public meetings, hearings, data visualization of division activities, and coordinates interaction and schedules the Vermont Relay Services Committee quarterly meetings.

• Telecom Infrastructure Specialist

This role is primarily responsible for geospatial products and data stewardship for the Public Service Department. This includes developing and managing digital resources that are used in government work and shared with the public; making digital and static maps for various department related efforts, maintaining the geospatial data the department is tasked with generating and sharing, as well as assisting with other efforts in the Public Service Department as the need arises. This position is responsible for administering the department's ArcGIS Online accounts. In addition to the technical elements of the position, this position collaborates with other SOV and local government employees, as well as employees from private sector companies that work with PSD in various efforts.

2024 Accomplishments and Community Outreach

2024 Eclipse Planning with Emergency Management

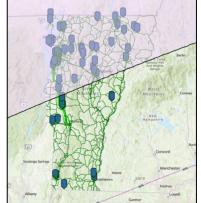


The Telecommunications and Connectivity division worked with Vermont Emergency Management, First Net and the three large cellular service providers on efforts to ensure access to emergency services remained available during the April 8, 2024, solar eclipse event. Event planning meetings with each cellular provider and Vermont Emergency Management were facilitated to go over the existing coverage areas. These

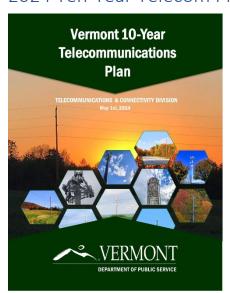
areas were cross-referenced with known eclipse viewing events to allow the providers to respond to questions concerning capacity planning and emergency response.

To help visualize the event locations in relation to the path of totality the division created a map of known events overlaid with the eclipse path.

Using this map as a base, each provider was asked to do a network assessment based on event locations and discuss the findings with the group. The providers each determined that existing infrastructure could be tuned to ensure adequate capacity was available to meet demand. Each provider also explained the emergency services prioritization that was in place on their equipment. During the event, the department was on call and in contact with Vermont Emergency Management to ensure any additional telecom-related resource requests were quickly filled.



2024 Ten-Year Telecom Plan



In 2024, the Vermont Department of Public Service (PSD) presented a new revision of the 10-Year Telecommunications Plan to the Vermont public, lawmakers, officials, and telecommunications stakeholders. This Plan, created in accordance with 30 V.S.A. § 202c 1 and 30 V.S.A. § 202d, 2 provides actionable recommendations for public sector leaders to work toward Vermont's statutory telecommunications goals. This Plan comes at a moment of rapid change to the telecommunications landscape in Vermont. Since the publication of the 2021 10-Year Telecommunications Plan, both private and public entities have expanded broadband coverage, and the state has dedicated significant federal and state funding to reaching every Vermonter with fiber-to-the-premises (FTTP) broadband. The Broadband Equity, Access, and Deployment

(BEAD) Program — part of the Infrastructure Investment and Jobs Act (IIJA) of 2021 — has allocated federal funding to Vermont to deploy universal fiber broadband in the most challenging

rural areas of Vermont. The BEAD legislation requires the state to perform extensive high-speed internet deployment planning and program design, which is being done by the Vermont Community Broadband Board (VCBB) in parallel with the creation of this Plan. According to the VCBB's plan, BEAD Program resources for broadband construction will be awarded to infrastructure builders at the end of 2024, and recipients of funding will have four years to complete construction.

Between the BEAD Program and funding available to Vermont through the Capital Projects Fund 5 and American Rescue Plan Act, the state is in the process of facilitating approximately \$670.8 million in broadband grants, which will result in every on-grid Vermonter having access to 100/100 megabits per second (Mbps) service by January 2029. Importantly, the funding available in the state is doing more than connecting Vermonters to world-class internet; the funding has also enabled state and local institutions to build significant capacity and expertise in the telecommunications field. The capabilities built to deploy wireline broadband today will bolster the state's ability to meet additional telecommunications goals, as stakeholders and institutions expand their work to address additional connectivity challenges. This Plan addresses all items required by statute and provides recommendations in support of all the state's telecommunications goals. In addition, it places special focus on elements of telecommunications planning that are not addressed in the simultaneous work being done as part of the BEAD Program, like mobile broadband deployment, public safety communications systems, mobile and fixed affordability, and building a robust broadband construction workforce. In doing so, this Plan avoids devoting resources to the duplication of work and instead provides the state with specific analysis and recommendations in service of state goals that build on the momentum created by the BEAD Program and other federal resources made available to the state.

A cornerstone of this Plan is a robust survey of Vermont residents and interviews with over 55 public and private stakeholders. Information from surveys and interviews was critical to assessing the telecommunications needs in Vermont — again with a focus on mobile wireless broadband — as well as shaping the analysis presented in this Plan and ensuring the recommendations fit the nature and culture of the state.

In addition to the stakeholder feedback, this Plan used significant qualitative and quantitative data to develop and support the recommendations and Action Plan.

To meet the needs of Vermont residents, businesses, and institutions, the state must continue taking actions that advance its connectivity goals. The plan contains a summary of the major recommendations contained in this Plan.

The updated plan was presented to the Joint Information Technology Oversight Committee on June 12'th 2024. Due to confusion around the required committee attendance and the public

nature of the plan presentation, it was decided another public presentation of the plan was required to comply with the statute. The Telecommunications and Connectivity division worked with the Office of Legislative Operations to attempt to schedule another meeting that would allow the required participants to attend either online or in person. Unfortunately, there was



not an available time that was agreed upon and the plan has yet to be presented again. To date the Department considers the plan complete but due to the aforementioned scheduling constraints and presentation requirement, it has not yet been adopted.

The complete plan, hearing notices, and public outreach schedule are available on the department website. 2024 10-Year Telecommunications Plan

2024 Department Outreach

Early 2024

The beginning of the year there was a strong focus on public engagement specifically around the 2024 Ten Year Telecommunications Plan. From January to March, the Department had multiple campaigns set up to advertise the Public Input sessions. There were three in-person meetings, with a remote option at each. The purpose of this round of meetings, was to gather public input on the plan, while the plan was being drafted. ASL interpreters were available at every meeting. The Department utilized the Statewide AMOs document portal, WCAX, the Department of Libraries website, and the PSD website for outreach.

After the final draft was made available in late May, the Department had three in-person meetings across the state, one in St Albans, one in Randolph, and one in Springfield. Remote attendance was also an option at these meetings, and ALS interpreters made available. The purpose of these meetings was the present the final draft of the plan to the public. The vendor selected to draft the plan, presented and assisted the Department with questions.



The final meeting was the reading and presentation of the plan to the Joint Information Technology Oversight Committee on June 12th, 2024.

Mid to Late 2024

Late summer and early fall were a lower point in engagement with the public, however, there were two campaigns that took place. The Department sought out the public's assistance with identifying road segments where cell coverage was limited or unavailable. The purpose was to



find areas that may have been missed or overlooked in the 2022 Drive Test and to add that data the new 2024 Drive Test route. The Department viewed the public as a vital recourse as they live, work, and drive the roads within Vermont every day. The Department also reached out to the Regional Planning Commissions, most of whom provided a much more technical and detailed overlay of coverage gaps in their specific areas. The

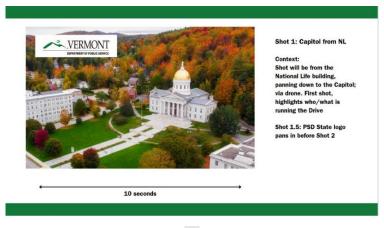
survey proved to be successful as there were many participants, upwards of approximately 600 responses.

In part to the 2024 Drive Test survey, the FCC recently updated their SpeedTest app, making it much more user friendly. The Department marketed that as well. The survey utilizes the Crowdsource and Challenge feature to collect information on Mobile Wireless speeds at the national level. The results are live; however, it is unclear on when that data will be mapped and made available as part of the permeant FCC data.

Current & Upcoming

The Department's current recent outreach campaign has been on finding potential candidates for the recently open VTRS Chair position, along with an additional member of the Hard of Hearing Community. Avenues being utilized for this outreach include, the Department website, the Relay Services website, and promotional video created by the DIAL team, which will be translated into ASL. Three of the VTRS Council Members have been tasked with the bulk of this outreach, while the Department provided the outreach language.

The Department's next outreach goal is to provide the public with a short educational video on the biennial Mobile Wireless Drive Test. The video will build upon the existing video from the 2022 Drive Test but provide updates and display the beautiful scenery of Vermont. Project is underway, and will likely be complete in the summer of 2025, after the final stretch of the Drive Test is mapped by the Department. Below is a sample shot from the 2024 Drive Test Video that's in creation.



The previous video put together by the 2022 Drive Test Team can be seen here:

2022 Drive Test Kit Explanation

Collaboration & Internal Improvement

A key concern that was brought up during the presentation of the 10 Year Telecommunications plan to JITOC, was low public engagement. Immediately following that presentation, the Department reached out to the Chief Marketing Office and set up a meeting to overview the Department's current outreach approaches, and to find solutions in increasing public engagement. The CMO suggested the Department explore alternative outreach avenues, such as social media. The Telecommunications & Connectivity division does have a YouTube channel where all the Ten-Year Telecommunications Plan input sessions in March and the final draft presentations of the plan in May are made available. There are other videos, such as the March TCAB meeting are also available.

As always, the Department is seeking new ways to reach the public and a comprehensive social media policy was developed in 2024, with collaboration between multiple divisions, including Telecommunications & Connectivity and the Consumer Affairs Division. While drafting the policy, the Department reached out to the Chief Marketing Office again, and they provided resources to the social media policies that other state agencies implemented.

Lastly, the Telecommunications & Connectivity division was invited to be part of the monthly Website Designers meeting. These meetings began at the beginning of November, by the Chief Marketing Office, to improve, collaborate, and consult with various state agencies regarding their website and public engagement.

The Telecommunications and Connectivity YouTube channel can be found at the link below:

VT PSD Telecommunications & Connectivity Division – YouTube

2024 Department Engagement: Events

The Department took part in three conferences in 2024. The first was the annual Emergency Preparedness Conference in September, and in October the NEARC Conference.

2024 Emergency Preparedness Conference



The 2024 Emergency Preparedness Conference was a successful networking and learning experience. Lake Morey was a beautiful backdrop to a series of rather important and challenging discussions facing Vermont's emergency management systems. Equity Considerations in Emergency Planning, CARE and Supplemental ALI Description and Usage, and Media Training for Emergency Management, were a few of the lectures PSD attended. All of which highlighted the importance of expanding inclusivity in both emergency planning and communication at large.

As mentioned, PSD was able to connect with many agencies regarding the upcoming Mobile Wireless Drive Test. To improve not only the outreach regarding this project but for all other

events and activities held by the Department, NextDoor was suggested as an alternative to Front Porch Forum, offering a free networking service for government and emergency personnel. Another resource suggested to PSD was a new online portal called Vital Communications. A group out of Bradford and Corinth found this to be useful in determining the best outreach resource specific to each town, whether that may be the local library or town hall. Overall, this conference proved productive as PSD was able to connect with many state agencies regarding similar concerns and hopes of collaboration in future projects. The conference served as another reminder that having Mobile Wireless coverage is critical for emergency services to do their job effectively and efficiently. By having a clear line of communication, it gets emergency services to those who need it.

Northeast Arc Users Conference

Telecom Staff attended the Northeast Arc Users Conference (NEARC) in Burlington, VT from October 28-30. This conference brings together GIS and geospatial professionals, specifically those that use ESRI's suite of tools, to share and discuss relevant topics in the field. During the conference, Conor was able to attend several presentations related to broadband mapping projects in Massachusetts, Connecticut, and Vermont's own efforts by VCBB. In addition to connecting with colleagues over related topics, Conor was able to connect with a variety of SOV personnel that also work in the geospatial field.



The New England Connectivity and Telecommunications Association Convention

The Director of Telecommunicates and Connectivity attended The New England Connectivity



and Telecommunications Association (NECTA) convention in Newport Rhode Island from November 17th to 19th. The convention included sessions on the impacts of Artificial Intelligence on network resilience, public private partnerships and how business and municipal entities can work together to achieve the goals

outlined in the BEAD and DE programs and advertising and bundling best practices for cable television providers.

Public Utility Commission Telecommunications Dockets

Working in cooperation with the Public Advocacy Division, the Connectivity Division provides review, feedback, and recommendations on a variety of telecom-related Public Utility Commission Dockets. The dockets include Commercial Mobile Radio Service ("CMRS" / Cellular) registrations, Telecom Provider Registration, Cable CPG renewals, Telephone Operator CPG renewals, Telecom and Cable tariff Changes and Section 248a Cell tower petitions. The Connectivity Division reviews the dockets for technical issues, compliance, omissions, and more. Approximately 118 dockets were reviewed in 2024. The majority of 2024 petitions were additions or changes via the Section 248a review process. In 2024/25 the Telecom Division will participate in the Cable CPG renewal for Charter Communications. Charter is the second largest able provider in the state.

Notable Dockets

The division reviewed and provided recommendations and/or testimony on two Consolidated Communications (CCI) Dockets: the Consolidated Communications and Searchlight merger and a docket updating make-ready costs. The Director of Telecommunications and Connectivity worked with a subject matter expert and internal staff to compile a list of conditions the Department advocated for in order to approve the merger. The PUC reviewed and granted three of the conditions related to employee headcount, fiber buildout and copper infrastructure maintenance. The conditions will better help the department track the performance of the company post-merger. The initial review of the make-ready docket left unanswered questions, and a recommendation was made to open an investigation.

The telecom division was contacted regarding number portability issues between the Rural Local Exchange Carrier (RLECs) and Communication Union Districts offering voice service. The result of these discussions was two, unrelated, interconnection dockets that will facilitate number portability between the two RLECs and others.

2024 Petition Types	Petitions reviewed.
248a Cell Tower siting/upgrades/changes	79
Tariff Change/update Petitions	5
Telecom Petitions (revocations, registrations, and name changes)	6
Commercial Mobile Radio Service (CMRS/Cellular)	26
Cable CPG renewals	2

Vermont Telecommunications Relay Service ("VTRS") and the VTRS Advisory Council.

30 V.S.A. § 218a, directed the Department of Public Service to develop the Vermont Telecommunications Relay Service ("VTRS") and associated Equipment Distribution Program ("EDP") and establish the VTRS Advisory Council. The VTRS Program provides functionally equivalent telephone service for Vermont's, deaf, deafblind, and hard-of-hearing community. An ADA-compliant TRS program is required by the FCC in all 50 states and U.S. territories.

VTRS Program Components and Providers

The Connectivity division manages three contracts that form the VTRS Program. In 2024 three contracts with Hamilton Relay, T-Mobile and VCIL were all extended continuing the VTRS program with no interruptions.

- T-Mobile Accessibility provides the Relay Service including TTY and speech to speech, and Relay Conference Captioning. T-Mobile also provides the community outreach and education portion of the VTRS Program.
- Hamilton Relay provides Caption Telephone service.



• Vermont Center for Independent Living ("VCIL") provides equipment distribution.

VTRS Advisory Council

The Council is composed of the following positions: One representative of the Department of Public Service designated by the Commissioner of Public Service; One representative of the Department of Disabilities, Aging, and Independent Living; Two representatives of the deaf community; One member of the community of people who are hard of hearing or have a speech limitation; One representative of a company providing local exchange service within the State; and One representative of an organization currently providing telecommunications relay services.

The Council meets quarterly to receive contractor reports and updates and discuss the VTRS program and TRS advancements and technologies. The council provides guidance to the Connectivity Division on how to best administer the VTRS Program

The Connectivity Division schedules and hosts the VTRS Advisory Council quarterly meetings. The Connectivity Director serves as the Committee Vice-Chair as appointed by the Commissioner. The Telecom Project Manager and Connectivity Coordinator schedule, reserve interpreters and public meeting space, and provide minutes for the meeting.

The Department streamlined the scheduling for the Chair and the members, allowing them to decide on the meeting dates months before, instead of a vote at the end of each meeting. In 2024 the Council was scheduled to meet four times. The final quarterly meeting for 2024 was held on October 9, 2024. The department has begun scheduling out 2024 in advance, with a first tentative meeting date of January 15th, 2025. Reservation of interpreters for the quarter one meeting is underway.

In January 2024, the Department was assigned to organize a meeting between the VTRS Council members and the Enhanced 911 Board. During this meeting, it was also recommended that the Department investigate the spending and usage of the Relay Conference Captioning, RCC, to determine the usefulness of that service.



Shortly after the January meeting, T-Mobile, the leading vendor for Vermont's Telecommunications Relay Service Program, (TRS), met with the Department to highlight the importance of RCC. In summary of that meeting, the Department determined that to maintain a robust TRS Program, RCC is necessary to achieve that. The purpose of meeting with the E911 Board was to discuss recurring issues raised by the Council, such as clarification on how TRS users are displayed in the dispatching software, how Public Safety Answering Points, (PSAPs), connect TRS users with Dispatch and local emergency

services, and to discuss the procedure the TRS Providers follow during an emergency call. Much of those concerns were answered during the September 9th meeting, proving to be a productive collaboration with the Council and the E911 Board.

The Department has made continuous efforts researching TRS standards to find potential areas of improve in Vermont's program, including examining the programs of other states. As a

starting place, the Department reached out to both New Hampshire and Maine, given the demographic and economic similarities with Vermont. New Hampshire provided recourses on their program but due to their own internal restructuring, were unable to meet and discuss their program in depth. However, the Department was fortunate enough to meet with the Maine Telecommunications Relay Service Advisory Council on September 5th. The discussion focused around the changing TRS landscape, along with other issues that seem to be occurring outside of Vermont, such as adjusting to the phasing out of analog technology, finding resources for TRS users who have struggled with the digital transition, and overall, the connectivity issues that rural and mountainous communities are faced with. The biggest take away from the meeting was that there is a national discussion on the phasing out of Caption Telephones, (CapTel). The Department was invited to the September 6th Maine TRS Council meeting to listen to a presentation by a Colorado PUC representative, who solidified the concerns around CapTel. The Department plans to continue this research and collaborate with other states to find solutions to these issues.

Finally, the biggest change in the VTRS Advisory Council, was the Chair, Rene Pellerin, announcing his retirement. His dedication and advocacy were hallmarks of his character and will be difficult to find again. The Department is currently working on outreach and assisting the VTRS Members as they advertise within their communities and channels. As of December, the Department has met with the team designated to facilitate the outreach, highlighting the language and statutory requirements of the Chair. The Department is hopeful that a nominee will be presented and voted on by April 2025. Until then, Hunter Thompson, Director of Telecommunications is acting as interim chair.

Telecommunications and Connectivity Advisory Board ("TCAB")

This report is compiled as directed by 30 V.S.A. § 202(e). To comply with subsection (a), the Connectivity Division must seek advice and assistance from the TCAB. The TCAB was created under 30 V.S.A. § 202f. The TCAB is an eight-member board charged with making recommendations regarding the Commissioner of Public Service's telecommunications responsibilities and duties. The Department attempted to convene a quorum of members of the TCAB for the 2023 public meeting per 30 V.S.A. § 202f (i). Scheduling conflicts and on-going appointment vacancies precluded the attendance of the necessary number of four members to achieve a quorum. The TCAB met on March 22nd of 2024 to review the 10 Year Telecommunications Draft plan.

With the creation of the VCBB under Act 71 in 2020, a set of statutory criteria were prescribed to guide, fund, plan, and construct last-mile broadband in Vermont. Thus, the enactment of Act 71 mooted out the TCAB's role in advising the Department on Connectivity Grant awards, and internet access speeds for publicly funded



2024 TCAB Telecom Plan Meeting 1

telecommunications projects, given that this responsibility now rests with the VCBB, whose substantive work and policy judgment are exercised independently of the Department's Commissioner and the Telecommunications and Connectivity Division. For this reason, in the 2022 version of this report, the three remaining active members included a recommendation to consider sunsetting the TCAB. Again, in light of the passage of Act 71, The TCAB Chair has renewed that recommendation in this report for 2023. The TCAB consensus has not changed for 2024. With frequent vacant seats on the eight-member board, the remaining members find it difficult to fill those seats. The current board members recommend the legislature consider sunsetting the TCAB, as many of its duties and responsibilities have been shifted by Act 71 in 2020.

Operating and Financial Statements

Summary of Grants

The Telecommunications Connectivity Division made no grant awards in 2024. Per Act 71, as of January 1, 2022, the Connectivity Initiative is administered by the VCBB, which will decide how to use the available Connectivity Initiative funds.

Summary of Contracts and Agreements

In 2024 the telecom division entered one new contract related to the 2024/25 Cellular Drive, extended three contracts related to the Vermont Telecommunications Relay Service Contract ("VTRS"), and extended one contract related to solar resiliency site maintenance.

2024/25 Cellular Drive Testing and Support

In July 2024, the Department of Public Service posted a Request for Proposal (RFP) to solicit bids seeking proposals for Mobile Wireless Testing Support to assist with determining the deployment and quality of Cellular Mobile Radio Service (CRMS) throughout Vermont.

Three bids were received from the evaluation team scored and reviewed each bid provided to the State. After independent initial scoring of bids, the Team reviewed the scores and responses as a group and decided on a vendor recommendation.

On 8/24/2024 the Director of Telecommunications and Connectivity reached out to the preferred vendor to solicit a Best and Final Offer (BAFO). The vendor responded to the request on September 5'th 2024. The BAFO clarified pricing points. The vendor portion of the project cost is estimated to be \$200K.

On October 22, 2024, a contract was signed with Ookla LLC for the service of Mobile Wireless Testing Support to determine the deployment and quality of Cellular Mobile Radio Service (CRMS) throughout Vermont. The contract term began on November 1, 2024, and ends November 1, 2024. The contract includes two data collection periods Fall 2024, and Spring 2025. The total not-to-exceed amount is \$234,000.

Vermont Universal Service Fund Fiscal Agent

In 2023 an optional one-year contract extension option was executed with Solix to continue Fiscal Agent services for the Vermont Universal Service fund. The new contract expiration date is June 30, 2024.

In 2021, the Department of Public Service Connectivity Division selected Solix for the universal service fiscal agent contract through a formal competitive bid process. Solix will fulfill the duties of fiscal agent for \$73,000/year plus hourly fees for non-standard work such as carrier reviews, legal services, and other consulting services. This price for basic services is the same as the preceding two years. The Contract for the basic services is not to exceed \$219,000. An allowance has been made for extra services that may be required. The total not-to-exceed amount is \$250,000.

Vermont Telecommunications Relay Service

The Vermont Telecommunications Relay Service Contract ("VTRS") contract between the Department of Public Service and Sprint Communications Company, L.P., a T-Mobile USA, Inc. company was extended in 2024. By statute, the Department is charged with overseeing the Telephone Relay Service (TRS) which is funded by the Vermont Universal Service Fund.

In 2022, the Department of Public Service selected Sprint Communications Company, L.P., a T-Mobile USA, Inc. company to provide TRS services, through a formal competitive bid process. Sprint



Communications Company, L.P., a T-Mobile USA, Inc. company has been a responsive and engaged partner with the department in the delivery of these services. They have provided the services as described and executed the contract provisions faithfully. The existing contract has an initial term of August 1, 2022, through June 30, 2024, with an option for an additional 2-year extension. The total contract amount for this service is not to exceed \$750,000. The new contract has an expiration date of June 30, 2026.

Vermont Telecommunications Relay Service - CTS

The Department of Public Service extended a VTRS contract with Hamilton Relay. By statute, the Department is charged with overseeing the Telephone Relay Service (TRS) which is funded by the Vermont Universal Service Fund.

In 2022, the Department of Public Service selected Hamilton Relay to provide Captioned telephone service (referred to herein as "CTS"), including a partial awareness program, through a formal competitive bid



process. The existing contract has an initial term of July 1, 2022, through June 30, 2024, with an option for an additional 2-year extension. Hamilton Relay has been a responsive and engaged partner with the department in the delivery of these services. They have provided the services as described and executed the contract provisions faithfully. The total contract amount for this service is not to exceed \$500,000. The new contract expiration date is June 30, 2026.

Vermont Equipment Distribution Program

Department of Public Service extended the Equipment Distribution Program contract with the Vermont Center for Independent Living (VCIL). By statute, the Department is charged with administering the Vermont Universal Service Fund. One program funded by the VUSF is the Vermont Equipment Distribution Program (VTEDP). The contractor manages the program on behalf of the department.

In 2022, the Department of Public Service posted an RFP and selected the VCIL as the entity to manage the (VTEDP). The VCIL has been a responsive and engaged partner with the department in the delivery of these services. They have provided the services as described and executed the contract provisions faithfully. VCIL proposes to continue to fulfill the duties related to the VTEDP through 6/30/2026. This amendment adds \$75,000 to the existing



contract maximum to cover the additional two years of service. The Contract for the services is not to exceed \$225,000.

Solar Resiliency Site Maintenance

Department of Public Service extended the contract with Airosmith Development/Airosmith Inc. to maintain ten solar resiliency sites across Vermont.

In 2022, the Department of Public Service selected Airosmith to maintain ten solar resiliency sites through a formal competitive bid process. The existing contract had an initial term of October 1, 2022, through September 30, 2024, with options for two additional 1-year extensions. Airosmith has been a responsive and engaged partner with the department in the



delivery of these services. They have provided the services as described and executed the contract provisions faithfully. The total contract amount for this service is not to exceed \$100,000. The new contract expiration date is September 30, 2025.

Vermont Universal Service and Connectivity Funds

The Vermont Universal Service Fund ("VUSF") is managed by fiscal agent, Solix, Inc., under contract with the Department of Public Service. Solix issues monthly VUSF reports and is audited annually. The monthly reports, annual audits and more VUSF information can be found on the Department VUSF webpage: Vermont Universal Service Fund | Department of Public Service

In Act 190 of 2014, the legislature set the VUSF assessment rate at a flat 2%. Act 41 of 2015 transferred oversight responsibility of the VUSF to the Department of Public Service. Act 79 of 2019 increased the VUSF charge rate by four-tenths of one percent. The current 2.4% charge is assessed on telecommunications services that include telephone, mobile wireless voice, and prepaid wireless. In 2020, the General Assembly directed monies raised by the 4/10s of a percent to the Vermont Community Broadband Fund.

Act 145 (2024) further changes the amount allocated to the Vermont Community Broadband Fund. It dictates from the monies collected by the Universal Service Charge, 17 percent shall be transferred to the Vermont Community Broadband Fund

The Connectivity Fund was a sub-fund of the VUSF. The VUSF is a special fund that is supported through an assessment on retail telecommunications services provided within Vermont.

Per Act 71, as of January 1, 2022, the Connectivity Initiative is administered by the VCBB, which will decide how to use the available Connectivity Initiative funds. Proceeds from the 4/10s of one percent increase are now directed to the Vermont Community Broadband Board to support staffing pursuant to 30 V.S.A. § 7523.

On May 10'th 2024, Governor Scott approved H.657 (Act 145), an act relating to the modernization of Vermont's communication taxes and fees. This bill included language that impacted the collection method as well as the dispersion model for the Vermont Universal Service Fund (VUSF).

The core change in the charging methodology for the VUSF was for wireline and post-paid

wireless telephone service the change migrated from a 2.4% charge against the voice portion of the bill to a flat per line charge of \$.072

per line. Projections by the Joint Fiscal Office show this change to a per line charge will create a fiscally solvent VUSF which is funded at the required level to meets its financial obligations.

Financial support for the Vermont 988 Suicide and Crisis Hotline was added as the fifth dispersion in the distribution hierarchy.

30 V.S.A. § 7511 dictates monies collected by the fiscal agent are deposited into the VUSF and are used to support the following costs and programs, ranked in order of priority:

(A) Costs payable to the fiscal agent under its contract with the Commissioner.

SUICIDE & CRISIS LIFELINE

711

(B) The Vermont Telecommunications Relay Service (and the Equipment Distribution Program).

- (C) The Vermont Lifeline program.
- (D) Enhanced-911 services.
- (E) Vermont 988 Suicide and Crisis Lifeline
- (F) Connectivity Fund (comprised of the Connectivity Initiative and the High-Cost Program).

The following are excerpts from the 2024 fiscal year-end audit by Moss Adams:

MANAGEMENT'S DISCUSSION AND ANALYSIS

This section of the Vermont Universal Service Fund's (VUSF) annual financial report presents management's discussion and analysis of the VUSF's financial performance during the fiscal years ended June 30, 2024, and 2023. It should be read in conjunction with the VUSF's financial statements, (available on the Department website).

This annual report consists of two parts: management's discussion and analysis and the basic financial statements. The basic financial statements also include notes that explain key information contained in the financial statements and provide further details on select data. The balance sheets present information on the VUSF's assets and liabilities, with the difference being reported as fund balance. The statements of revenues, expenditures, and changes in fund balance presents information on how the VUSF's fund balance changed during the fiscal year ended June 30, 2024.

FINANCIAL HIGHLIGHTS

The VUSF unrestricted fund deficit as of June 30, 2024, and 2023 was approximately \$(381) thousand and \$(321) thousand, respectively. The VUSF restricted fund balance for Connectivity Fund as of June 30, 2024, and 2023 was approximately \$1.106 million and \$2.863 million, respectively. The VUSF total USF assessments for fiscal years 2024 and 2023 were approximately \$4.061 million and \$4.229 million, respectively. The VUSF total USF prepaid revenue for fiscal years 2024 and 2023 were approximately \$668 thousand and \$717 thousand, respectively. To combat the decreasing fund balance, prepaid wireless carriers report to the Vermont Department of Taxes effective January 1, 2020. The prepaid revenue provides more funds to the VUSF. The VUSF continued to monitor the cash flow and balance of funds during 2024 and 2023. The VUSF total late payment charges for fiscal years 2024 and 2023 were approximately \$1 thousand and \$0, respectively. The VUSF total other revenue – connectivity tower rental fee for fiscal years 2024 and 2023 was approximately \$27 thousand and \$28 thousand, respectively. The VUSF total amounts paid and due to service agencies for fiscal years 2024 and 2023 were approximately \$3.759 million and \$3.860 million, respectively. The VUSF total lifeline administration for fiscal

years 2024 and 2023 was approximately \$18 thousand and \$17 thousand, respectively. The VUSF total lifeline credits for fiscal years 2024 and 2023 were approximately \$106 thousand and \$131 thousand, respectively. The VUSF total Vermont Community Broadband Fund for fiscal years 2024 and 2023 was approximately \$2.630 million and \$824 thousand, respectively. The VUSF total administrative costs for fiscal years 2024 and 2023 were approximately \$121 thousand and \$113 thousand, respectively. The VUSF total bad debt recoveries for fiscal years 2024 and 2023 were approximately \$1 thousand and \$0, respectively.

As of June 30, 2024, the VUSF had a net payable balance of approximately \$463 thousand consisting primarily of receivable from contributors of \$555 thousand, payable to service agencies of \$964 thousand, payable to contributors – lifeline assistance of \$7 thousand, payable to contributors – lifeline administrative expenses of \$1 thousand, payable to contributors of \$11 thousand, and accounts payable and accrued expenses of \$35 thousand. This compares to a net payable balance as of June 30, 2023, of approximately \$463 thousand consisting primarily of receivable from contributors of \$510 thousand, payable to service agencies of \$921 thousand, payable to contributors – lifeline administrative expenses of \$10 thousand, payable to contributors – lifeline administrative expenses of \$1 thousand, payable to contributors of \$11 thousand, and accounts payable and accrued expenses of \$30 thousand. The VUSF maintained an adequate cash flow and balance of funds to satisfy all obligations during 2024 and 2023.

2024 AND 2023 COMPARISON

Management notes the following two-line items with significant variances between balances in 2024 and 2023: 1) Cash and cash equivalents; and 2) Vermont Community Broadband Fund expenditures.

Cash and Cash Equivalents

The decrease in cash and cash equivalents is the result of the excess of payments over receipts in the fiscal year 2024. There was a \$1.8 million disbursement to the Vermont Community Broadband Fund in

July 2023.

Vermont Community Broadband Fund

The increase in Vermont Community Broadband Fund was primarily due to a \$1.8 million disbursement authorized by the Department of Public Service.

2024 BUDGET AND ACTUAL COMPARISON

	(In Thousands)				
	Budget	Actual	<u>Variance</u>		
Revenues – operating and non-operating	\$ 4,969	\$ 4,816	<u>\$ (153)</u>		
Expenditures Lifeline credits	<u>125</u>	<u>106</u>	<u>(19)</u>		
<u>Lifeline administration</u> <u>E911</u>	<u>16</u> 4,796	<u>18</u> 3,686	<u>2</u> (1,110)		
TRS Equipment disbursement	<u>55</u> <u>8</u>	<u>59</u> <u>14</u>	<u>4</u> <u>6</u>		
VCBF Program administration	<u>826</u> <u>73</u>	<u>2,630</u> <u>73</u>	<u>1,804</u> -		
Bank fees Audit fees	73 17 27	16 32	(<u>1)</u> <u>5</u> (<u>1)</u>		
Bad debt recoveries		<u>(1)</u>	<u>(1)</u>		
Net expenditures	5,943	6,633	<u>690</u>		
CHANGE IN FUND BALANCE FUND BALANCE, beginning of year	\$ (974)	<u>(1,817)</u> 2,542	<u>\$ (843)</u>		
FUND BALANCE, end of year		\$ 725			

Revenues were below budget mainly because there are less contributors and overall customer demand for telephony has been decreasing. Expenses were above budget mainly because of the \$1.8 million payment to the Vermont Community Broadband Fund. E911 payments were lower as a result of low fund balance.

The complete audit and financial statements are available on the department website <u>VUSF page</u>.

Broadband Availability Data

To inform broadband policy and planning, the Department annually surveys and maps the deployment of high-speed broadband internet access in Vermont, pursuant to 30 V.S.A. § 202e (e). For 2023, Vermont broadband providers were asked to voluntarily provide the best available speed data per E911 address. The Department prepared maps, and narrative descriptions, for the following speeds: 4/1 - 4 Mbps download and an upload speed of at least 1 Mbps; 25/3 and - at least 25 Mbps download and an upload speed of at least 3 Mbps; 100/20 - at least 100 Mbps download and an upload speed of at least 20 Mbps; and 100/100 -- download speed of at least 100 Mbps and is symmetrical. If monetarily feasible, the Department also maps areas served and the areas not served by wireless communications service.

The information in the reports, last updated on October 21, 2024, is summarized in the table and graph below, for a total of 316,266 buildings. Each tier shows the number and percent of locations served at that speed or better. Additional details including address level information,

an interactive map, and town and county downloadable statistics can be found on the Department website Broadband High-Speed Internet Availability in Vermont | Department of Public Service

Milestones Reached

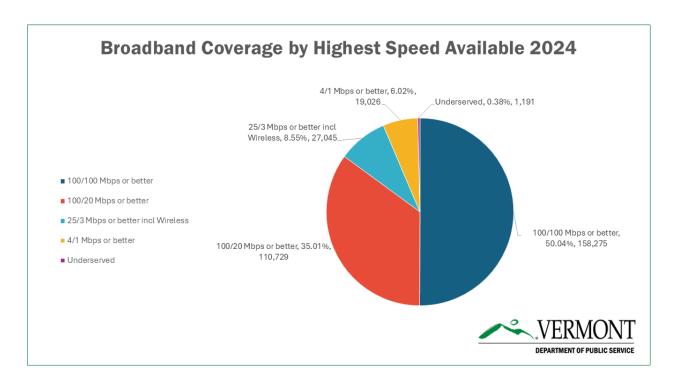
The 2024 broadband data below shows a 10%+ increase in 100/100 deployment over the 2023 data. Fiber deployment is generally considered 100/100 and in 2024 fiber exceeded the 50% served milestone across the state. The increase in 100/100 availability is due to fiber deployment by Communication Union Districts, fiber-based internet service providers, and Local/Rural Exchange carriers.

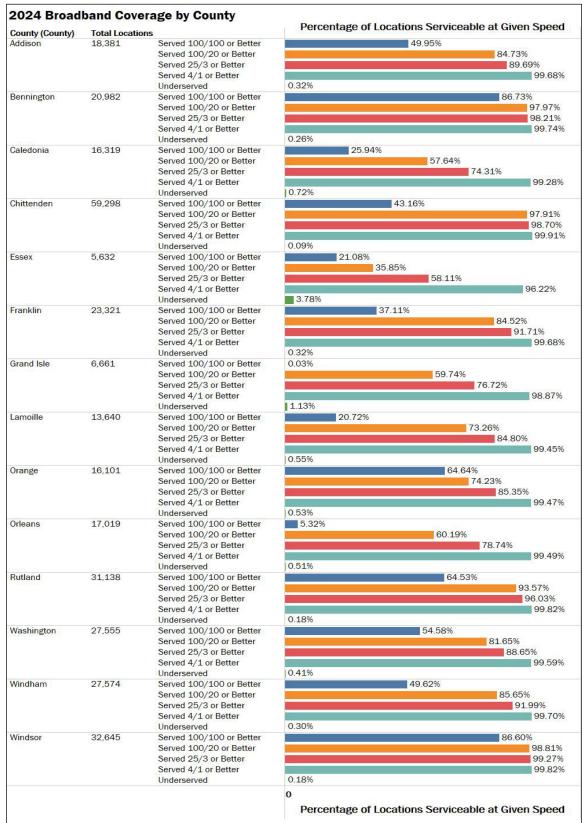
Broadband Action Plan

With the passage of Act 71 in 2020, the Vermont Community Broadband Board ("VCBB") was created to implement a prescribed a set of statutory criteria in funding the planning and construction of last-mile broadband in Vermont. Accordingly, the Department's Broadband Action Plan consists of adopting the mandates and criteria of Act 71 and supporting the VCBB logistically as well as in its policy, advocacy, and implementation work.

Broadband availability by speed tier

Speed Tier	Served		Not Served	
100/100 Mbps	158,275	50.04%	157,991	49.96%
100/20 Mbps	269,004	85.06%	47,262	14.94%
25/3 Mbps	296,049	93.61%	20,217	6.39%
4/1 Mbps	315,075	99.62%	1,191	0.38%





The following data visulization was prepared by the Telecommunications & Connectivity Division on November 14th, 2024. All information displayed was voluntarily reported by Vermont's broadband providers.

Areas served at 4 Mbps down and 1 Mbps upload speed or better.

Based on information provided to the Department by Internet service providers for 2024, data indicates that of the 316,266 E911 building locations in the state, broadband service of at least 4/1 Mbps or better is presently available from an Internet service provider to all but 1,191 locations.

Areas served by 25 Mbps down and 3 Mbps (including *Wireless*) upload speed or better.

Based on information provided to the Department by Internet service providers for 2024, data indicates that of the 316,266 E911 building locations in the state, broadband service of at least 25/3 Mbps or better is presently available from a service provider at all but 20,217 locations.

Areas served at 100 Mbps down and 20 Mbps upload speed.

Based on information provided to the Department by Internet service providers for 2024, data indicates that of the 316,266 E911 building locations in the state, broadband service of 100/20 Mbps is presently available from a service provider for 269,004 locations.

Areas served at 100 Mbps down and 100 Mbps upload speed.

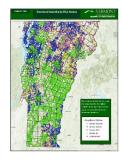
Based on information provided to the Department by Internet service providers for 2023, data indicates that of the 316,266 E911 building locations in the state, broadband service of 100/100 Mbps is presently available from a service provider for 154,991 locations.

Broadband Availability Maps

Maps visualizing address-level broadband speeds in Vermont, are best viewed in a digital interactive interface and can be found on the <u>Department Website</u>. Clicking on the map thumbnails in this section will jump to the appendix containing printable versions of the maps.

Broadband Availability by E911 Building Address

- Interactive broadband map
- Town and county boundaries.
- Broadband tiers can be selectively enabled/disabled
- Search by E911 address.



Broadband Availability by E911 Building Address - 4 Mbps Down/1 Mbps Up or Greater and Underserved.

- Interactive Map <u>Broadband Speed Tiers by E911 Address</u>

 When accessing the map please select the appropriate speed tier.
- 315, 075 out of 316,266 E911 building locations (99.62%) statewide are served at 4/1 Mbps or better by independent telephone companies, cable, or fiber to the premises.
- 1,191 out of 316,266 E911 building locations (0.38%) statewide are served with broadband less than 4/1 Mbps. Of these locations, some number are already served at 4/1 or better but this cannot be verified due to the inability of the companies to provide accurate data at this time.

Broadband Availability by E911 Building Address - 25 Mbps Down/3 Mbps Up or Greater (including Wireless)

- Interactive Map <u>Broadband Speed Tiers by E911 Address</u>

 When accessing the map please select the appropriate speed tier.
- Addresses served at 25/3 Mbps or better by independent telephone companies, cable, fiber, or fixed wireless to the premises. 296,049 out of 316,266 building locations (93.61%) are serviceable at 25/3 Mbps or better.
- Addresses not served at 25/3 Mbps or better. 20,217 out of 316,266 building locations (6.39%) are serviceable with broadband less than 25/3 Mbps.

Broadband Availability by E911 Building Address - 100 Mbps Down/20 Mbps Up or Greater

- Interactive Map <u>Broadband Speed Tiers by E911 Address</u>

 When accessing the map please select the appropriate speed tier.
- Addresses served at 100/20 Mbps or better by fiber to the home or cable. 269,004 out of 316,266 building locations (85.06%) are serviceable at 100/20 Mbps or better.
- Addresses not served at 100/20 Mbps or better. 47,262 out of 316,266 building locations (14.94%) are serviceable with broadband less than 100/20 Mbps.

Broadband Availability by E911 Building Address - 100 Mbps Down/100 Mbps Up or Greater

- Interactive Map <u>Broadband Speed Tiers by E911 Address</u>
 (When accessing the map please select the appropriate speed tier.)
- Addresses served at 100/100 Mbps or better by fiber to the premises. 158,275 out of 316,266 building locations (50.04%) are served at 100/100 Mbps or better by fiber to the premises.
- Addresses not served at 100/100 Mbps or better. 157,991 out of 316,266 building locations (49.95%) are served with broadband less than 100/100.

Wireless Communications



Identifying areas that lack mobile wireless service is a critical step toward expanding and improving mobile wireless service around the state. Subsection 202(e)(4) requires the Department to map wireless communications only "if monetarily feasible." Vermont's efforts to collect wireless availability data have assisted Vermonters and state policymakers with informed and detailed

information about wireless networks. With the availability of federal funding to Vermont for broadband, continuous updates to the state's wireless maps will be important. The Department began a new drive test in 2024. The preliminary data, results, maps, and statistics will be available in 2025. Current progress maps are available below.

Beginning in 2018 the department gathered information about the availability of mobile wireless data services throughout Vermont. The maps created were incrementally updated in 2019 and 2020, with volunteer help from Vermont towns and Regional Planning Commissions.

In 2022 the Department completed the most comprehensive wireless driving test to date. The 2022 drive test is a collaboration between the PSD and the Agency of Transportation ("AOT"). AOT conducted the majority of the driving, logging more than 6,500 miles during the summer to gather the data. The testing routes included Federally funded highways, State Highways, many local roads, high-volume E911 call areas, and consumer-requested areas, such as trailheads, backroads, and more. To conduct the analysis, the State of Vermont partnered with Ookla®, a global leader in network intelligence and connectivity insights.

In 2024 the Department revised its testing methodology and again sought a vendor to assist with the data collection and processing. Ookla was selected via the competitive bid process. The 2024 changes to the Drive Test methodology include the following:

- The robust input from the public via an online survey.
- The testing will be divided into two data collection periods.
 - o Fall 2024 will focus on areas that previously showed poor or limited service.
 - o <u>Spring 2025</u> will focus on areas identified by the public, and previously tested areas.
- Fall testing Ookla will provide drivers, and hardware, and complete the testing. Deliverables include maps and raw data.

• Spring 2025 - data will be collected by department staff, Regional Planning Commissions, and transportation partners. The department will provide the hardware, Ookla will provide post-processing, and the deliverables include adding the new data to the maps created in the fall/winter of 2024/25

2024 Wireless Test Results

2024 testing results were not available at the time this report was completed. Maps showing the testing progress to date are attached in appendices XI and XII



Voice Testing progress Map: Appendix V

The data visualized on the map is in-progress testing data for Q4 2024. This data has not been processed into quantitative and qualitative results and cannot be used to determine the quality of cellular coverage until processing is complete.

This data does not represent the final results of the 2024 drive test.



Cellular Data Testing Progress Map: Appendix VI

The data visualized on the map is in-progress testing data for Q4 2024. This data has not been processed into quantitative and qualitative results and cannot be used to determine the quality of cellular coverage until processing is complete.

This data does not represent the final results of the 2024 drive test.

Appendix I-IV

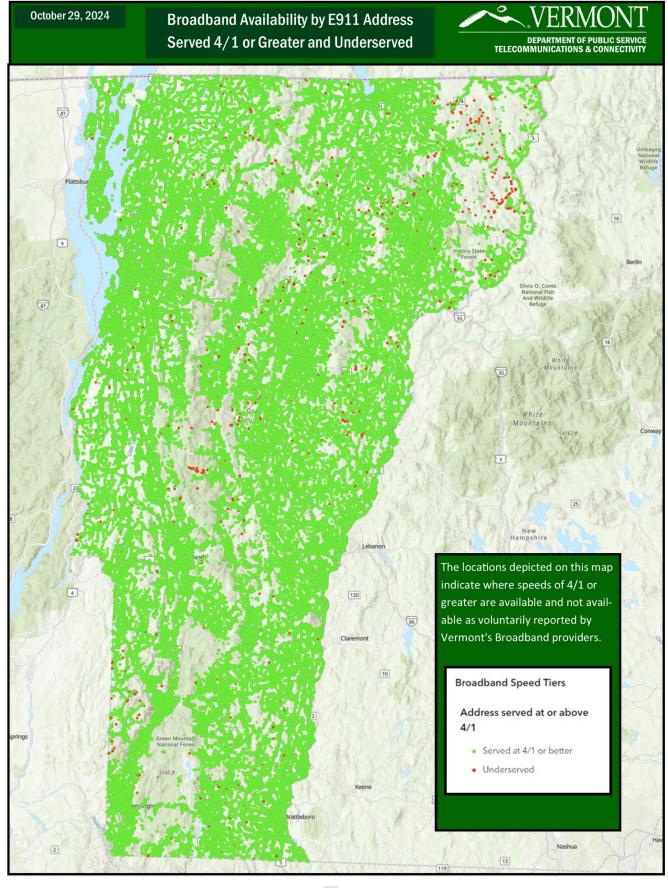
Printable Broadband Availability Maps

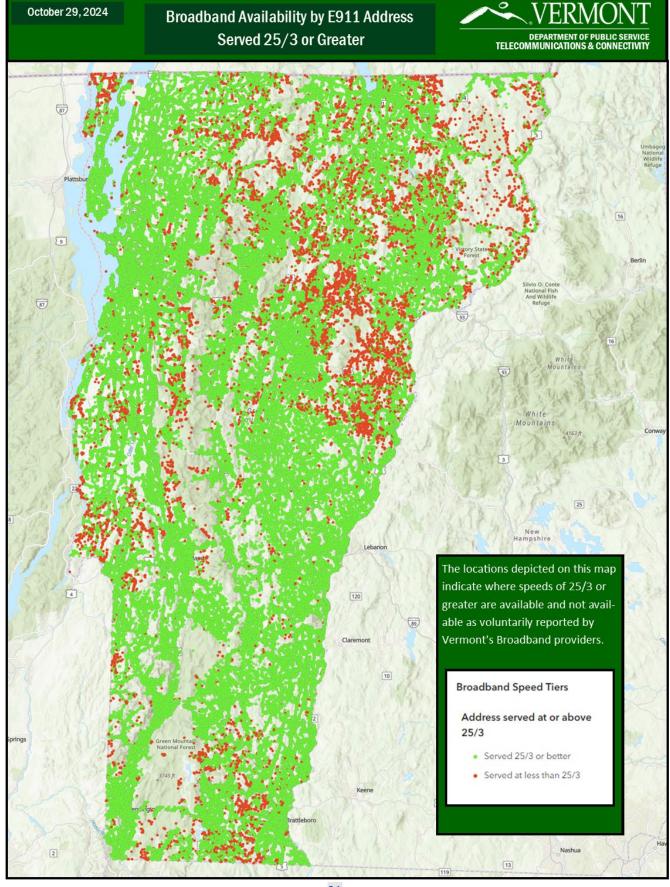
I: Broadband Availability by E911 Address – Served 4/1 Mbps or Greater and Underserved

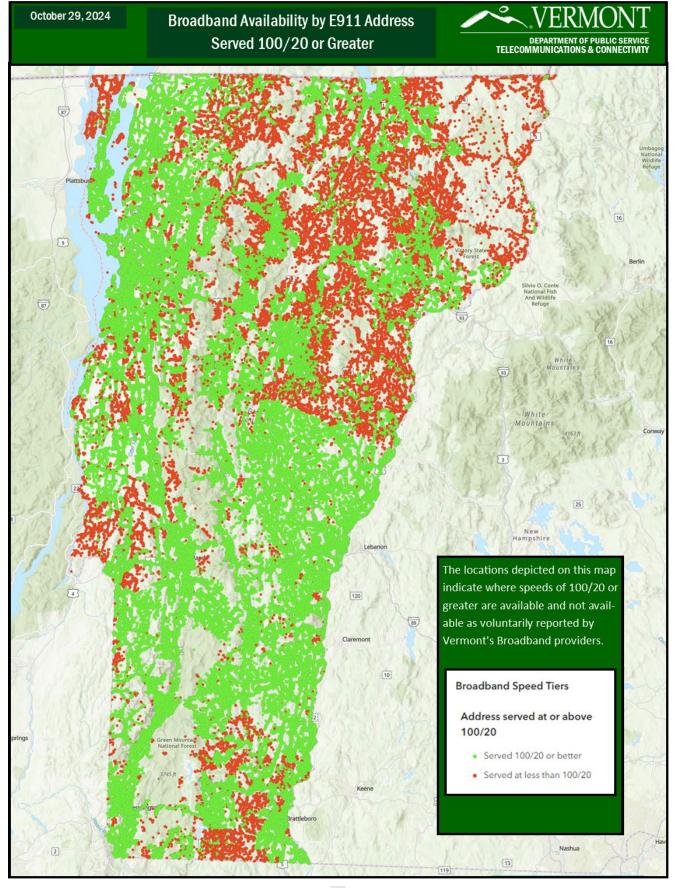
II: Broadband Availability by E911 Address Served 25/3 Mbps or Greater (including Wireless)

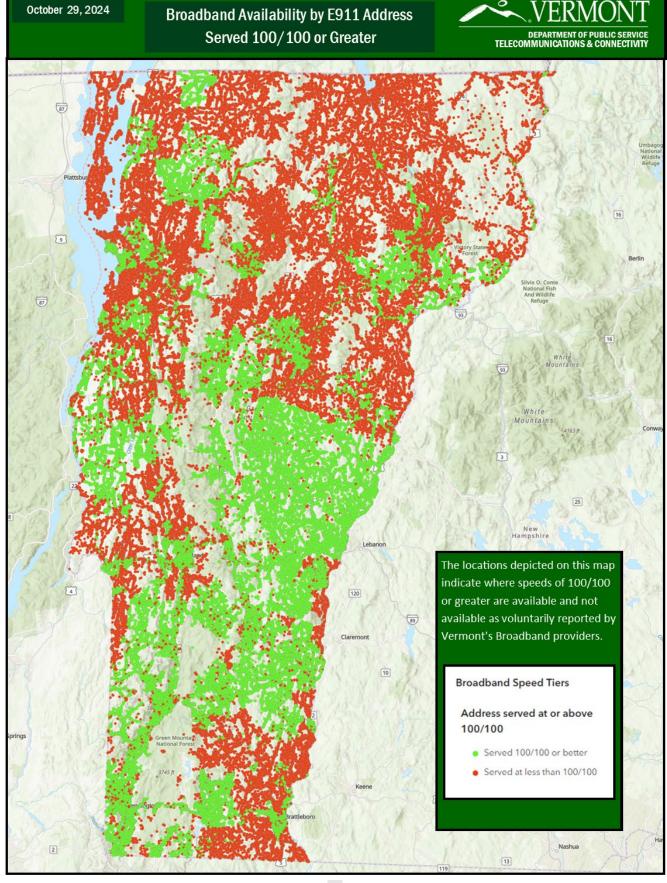
III: Broadband Availability by E911 Address Served 100/20 Mbps Up or Greater

IV: Broadband Availability by E911 Address 100/100 Mbps Up or Greater









Appendix V-VI

2024 Cellular Drive Test in Progress Maps

V: Data Capture Progress for Voice

I: Data Capture Progress for Cellular Data

