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January 3, 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)

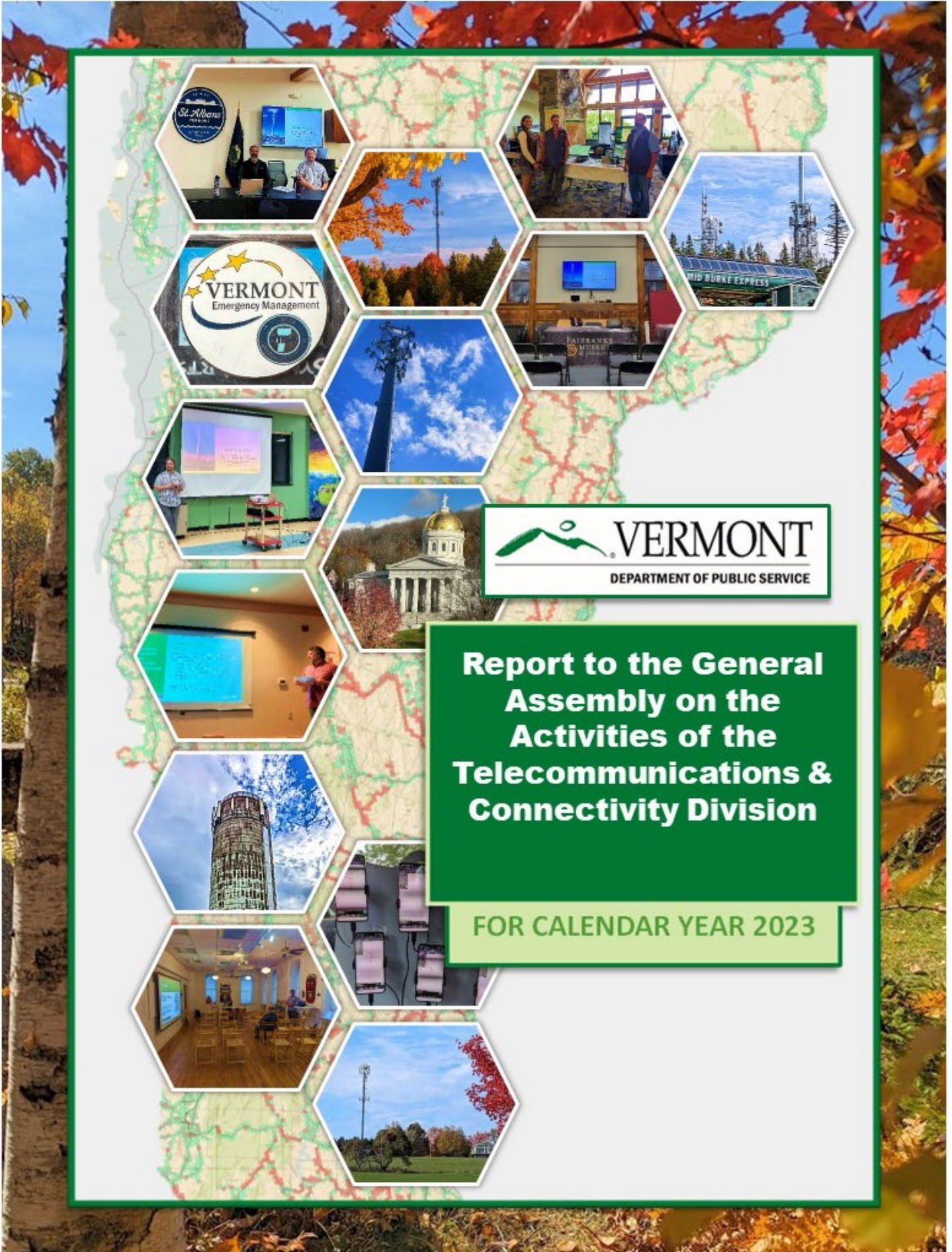
Dear Honorable Senators and Representatives:

I am pleased to submit this annual report of the Connectivity Division for fiscal year 2023, 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,

DocuSigned by:

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June E. Tierney Commissioner



 **VERMONT**
DEPARTMENT OF PUBLIC SERVICE

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

FOR CALENDAR YEAR 2023

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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Additional Department Website Resources Referenced in this Report:

- [Vermont Universal Service Fund | Department of Public Service](#)
- [Telecommunications Plan \(2021\)](#)
- [Your Voice-Matters: Input-Vermont’s 248a-process](#)
- [2023 Broadband High-Speed Internet Availability in Vermont | Department of Public Service](#)
 - o [Interactive Broadband Map - 2023](#)
 - o [Broadband Availability Map - 4/1_2023](#)
 - o [Broadband Availability Map – 25/3_2023](#)
 - o [Broadband Availability Map - 100/20_2023](#)
 - o [Broadband Availability Map - 100/100_2023](#)
- [2022 Mobile Wireless Drive Test | Department of Public Service \(vermont.gov\)](#)
 - o [Drive Test Report 2022.pdf \(vermont.gov\)](#)
 - o [Drive TestMaps2022.pdf \(vermont.gov\)](#)
 - o [Mobile Wireless Drive Test 2022 \(arcgis.com\)](#)

Introduction

This is the annual report of the Division for Telecommunications and Connectivity (“Division”) of the Department of Public Service (“Department”). 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 in 2023.
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 into by the Division.
 - b. Vermont Universal Service Fund
4. Broadband Speeds
 - a. The areas served and the areas not served by broadband that have a download speed of at least 4 Mbps download and an upload speed of at least 1 Mbps.
 - b. The areas served and the areas not served by broadband that have a download speed of at least 25 Mbps download and an upload speed of at least 3 Mbps.
 - c. The areas served and the areas not served by broadband that have a download speed of at least 100 Mbps download and an upload speed of at least 20 Mbps.
 - d. The areas served and the areas not served by broadband that have a combined download and upload speed of at least 100 Mbps.
5. Wireless Communications – This report contains links to the data produced by the most recent wireless drive test, which was conducted in 2022.
 - a. The areas served and the areas not served by wireless voice communications (2022).
 - b. The areas served and the areas not served by wireless data communications (2022).
6. 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.
7. Ten-Year Telecom Plan - In 2023 the Department began working on an update to the 2021 Ten-Year Telecom Plan. The updated plan must be adopted on or before June 30, 2024. A contract for consultant services was awarded to assist with the plan development. Information about the contract can be found in the [Operating and Financial Statements](#) section of this report. The 2021 Ten-Year Telecommunications Plan can be found on the Department website: [10-Year Telecommunications Plan | Department of Public Service \(vermont.gov\)](#).

Telecommunications and Connectivity Division 2023

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 2023 The Connectivity Division also participated in the State Emergency Preparedness Conference and completed a study of the 248a Cell Tower siting process.

Connectivity Division Staff

The Division is led by a division director who oversees three full-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 2022 and 2023 the Connectivity Division experienced significant staff turnover. In early 2023 the Telecommunications and Connectivity division saw the departure of its two longest-tenured employees the Director and the Telecommunications Infrastructure Specialist. A new Director was hired in March of 2023 and the open Connectivity Coordinator position was filled in July. The Telecommunications Infrastructure Specialist position remains under recruitment. Recruiting challenges are limitations on State of Vermont salary hiring ranges.

- Telecom Division Director – 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.
- Telecom Project Manager Plan and manage the installation and maintenance of the Department's telecommunication assets by directing and reviewing work activities and performance. 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. Coordinates interaction with the State's Telecommunication Relay Service (TRS) and the TRS advisory council.

- Connectivity Coordinator
The Connectivity Coordinator is focused on the organization and outreach of public meetings, hearings, data visualization of division activities, and operational assistance with Vermont Relay Services Committee quarterly meetings.
- Telecom Infrastructure Specialist (Currently Vacant - December 2023)
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.

2023 Accomplishments and Community Outreach

2023 Emergency Preparedness Conference



The Telecommunications and Connectivity division attended the 2023 Vermont Emergency Preparedness Conference at Burke Mountain Hotel and Conference Center in September 2023. The Division had a table display that highlighted the progress the FirstNet initiative has made in increasing cell phone coverage across the state. The display used the results of the Department conducted drive tests, beginning with its first iteration in 2018, to illustrate the progress that has been made in the past 5 years. In addition to highlighting the improvements the display

also highlighted the locations where gaps in coverage still exist while reiterating the importance of ubiquitous cell access in the state as a function of public safety.

Connectivity Division Staff spoke with Municipal representatives, and First Responder agencies, gathering information about the increasing need and dependency on cellular coverage as a tool for both first responders and people amid an emergency. Staff also attended Emergency Preparedness breakout sessions on subjects such as “2023 Drone Response to Historic Flooding” and Managing First Responders. The interactive display was easily the most eye-catching feature in the telecom team’s display, drawing in concerned town officials, emergency responders, and disaster restoration contractors alike to join in on the discussion of expanding telecommunications infrastructure.



Your Voice Matters: Input for Vermont's 248a Process



On May 25, 2023, H.110 was signed by the governor with the requirement that “on or before January 15, 2024, the Commissioner of Public Service in consultation with the Public Utility Commission shall report to the Senate Committee on Finance and the House Committee on Environment and Energy on the process of siting telecommunications facilities under 30 V.S.A. § 248a”. The Telecommunications and Connectivity Division decided that to gather public input the department would take a multipronged approach. Press releases were issued to over 150 news organizations announcing the kickoff of the project and how to participate.

To solicit public response three sets of online surveys were created to collect input from the public, the municipalities, and the utilities. To collect additional public input, in-person listening sessions were scheduled around the state, including Brattleboro, Bennington, Montpelier, St Albans, St Johnsbury, Randolph, and virtually. The meetings were hosted by The Telecom Director and the Division staff were available to answer questions and take comments. Attendance at the public input sessions was mixed. The following themes emerged from the surveys and public sessions:



Municipal

- Reaffirmation of the process by which town zoning bylaws were given substantial deference.
- Requests for assistance from the Regional Planning Commission (RPC) on crafting bylaws which would be valid for 248a proceedings.

Utility

- Redesign 248a Submission Requirements.
- Ensure Shot Clock Compliance.
- Achieve Section 6409 Parity for Modifications / Colocations.
- Adopt Expedited CPG Transfer Procedure.
- Improve ePUC Capabilities for Advance Notice Period.
- Clarify CPG Amendment Process.
- Expand Hearing Officer Pool.
- Interplay with Section 106 process.
- Address Eminent Domain Authority for CPG Holders.

The Public:

- Notice and Access
- Input, Health, and Safety

- Contract Enforcement.

The full report and public comments are available on the Department website: [Your Voice-Matters: Input-Vermont’s 248a-process](#)

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 141 dockets were reviewed in 2023. The majority of 2023 petitions were additions or changes via the Section 248a review process.

2023 Petition Types	Petitions reviewed.
<i>248a Cell Tower siting/upgrades/changes</i>	88
<i>Tariff Change/update Petitions</i>	13
<i>Telecom Petitions (includes revocations, new registrations, name changes)</i>	17
<i>Commercial Mobile Radio Service (CMRS/Cellular)</i>	21
<i>Cable CPG renewals</i>	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. No new contracts were awarded in 2023.

- *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. In 2023 the Council was scheduled to meet four times. The July 2023 meeting was canceled due to the historic flooding in Montpelier. The final quarterly meeting for 2023 was held on October 10, 2023. The department has begun scheduling out 2024 in advance, with a first tentative meeting date of January 10th, 2024. Reservation of interpreters for the quarter one meeting is underway.

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). However, scheduling conflicts and on-going appointment vacancies precluded the attendance of the necessary number of four members to achieve a quorum.

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 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 sunset the TCAB. Again, in light of the passage of Act 71, The TCAB Chair has renewed that recommendation in this report for 2023.

Operating and Financial Statements

Summary of Grants

The Telecommunications Connectivity Division made no grant awards in 2023. Per Act 71, as of January 1, 2022, the Connectivity Initiative is administered by the VCBB, who will decide how to use the available Connectivity Initiative funds.

Summary of Contracts and Agreements

2024 Ten-Year Telecom Plan Update

In July 2023 a contract to update the Ten-Year Telecom Plan was awarded to Rural Innovation Strategies, Inc. /CTC Technology and Energy. The contract has a maximum value of \$391,500.

The current version of the State Telecommunications Plan can be found on the Department of Public Service website. The last Telecom Plan was adopted on June 20, 2021. The Telecom Plan is intended to address major ongoing developments in the telecommunications industry, including broadband and cellular infrastructure developments and regulatory policy. The Plan sets forth a strategy to continually improve broadband access and quality in Vermont. The plan includes an overview of the state's existing telecommunications infrastructure and strategies for increasing the availability of broadband and wireless voice services. It describes the state of the industry and the challenges facing Vermont and offered concrete recommendations for addressing them. The full plan is required every ten years, with revisions every three years.

The Department expects the 2024 Plan to update these strategies and integrate the requirements specified in Act No. 79 and Act No. 71 (2021), an act related to accelerated community broadband deployment, and provide an analysis of the success of the state's recent broadband and telecommunications efforts. The Plan must be adopted on or before June 30, 2024. Before adoption, the Contractor must prepare the Public Comments Draft Plan and the Final Draft Plan.

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 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 accordance with 30 V.S.A. § 7511, 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.
- (B) The Vermont Telecommunications Relay Service (and the Equipment Distribution Program).
- (C) The Vermont Lifeline program.
- (D) Enhanced-911 services.
- (E) Connectivity Fund (comprised of the Connectivity Initiative and the High-Cost Program).



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.

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, who 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.

The following is excerpts from the 2023 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 on June 30, 2023, and 2022. 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 on June 30, 2023.

FINANCIAL HIGHLIGHTS

The VUSF unrestricted fund deficit as of June 30, 2023, and 2022, was approximately \$(321,000) and \$(323,000), respectively. The VUSF restricted fund balance for Connectivity Fund as of June 30, 2023, and 2022, was approximately \$2.863 million and \$2.739 million, respectively. The VUSF total USF assessments for fiscal years 2023 and 2022 were approximately \$4.229 million and \$4.246 million, respectively. The VUSF total USF prepaid revenue for fiscal years 2023 and 2022 were approximately \$717,000 and \$747,000, 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 2023 and 2022. The VUSF total late payment charges for each of the fiscal years 2023 and 2022 was approximately \$0 and \$2,000. The VUSF total other revenue – Connectivity tower rental fee for fiscal years 2023 and 2022 were approximately \$28,000. The VUSF total amounts paid and due to service agencies for fiscal years 2023 and 2022 were approximately \$3.860 million and \$3.997 million, respectively. The VUSF total lifeline administration for fiscal years 2023 and 2022 were approximately \$17,000 and \$20,000, respectively. The VUSF total lifeline credits for fiscal years 2023 and 2022 were approximately \$131,000 and \$130,000, respectively. The VUSF total administrative costs for fiscal years 2023 and 2022 were approximately \$113,000 and \$110,000, respectively.

COMPARATIVE CONDENSED FINANCIAL INFORMATION

	(In Thousands)		
	2023	2022	2021
Cash and cash equivalents	\$ 3,005	\$ 2,825	\$ 2,875
Receivable from contributors	510	524	566
Total assets	3,515	3,349	3,441
Payable to service agencies	921	887	909
Payable to contributors - lifeline assistance	10	4	13
Payable to contributors - lifeline administration	1	1	3
Payable to contributors	11	11	11
Accounts payable and accrued expenses	30	30	27
Total	973	933	963
Fund balance (deficit) - unrestricted	(321)	(323)	(239)
Fund balance - restricted, Connectivity fund	2,863	2,739	2,717
TOTAL LIABILITIES AND FUND BALANCE	<u>\$ 3,515</u>	<u>\$ 3,349</u>	<u>\$ 3,441</u>

	2023	2022	2021
Assessments - USF and Connectivity	\$ 4,229	\$ 4,246	\$ 4,493
Wholesale performance plan	-	-	7
Prepaid revenue - USF	717	747	673
Prepaid revenue - Connectivity	-	-	135
Late payment charges	-	2	1
Connectivity tower rental	28	28	53
Total operating revenues	4,974	5,023	5,362
Amounts paid and due to service agencies	3,860	3,997	4,190
Lifeline administration	17	20	21
Lifeline credits	131	130	148
Connectivity initiative	-	-	108
Vermont Community Broadband Fund	824	832	-
Administrative costs	113	110	110
Total operating expenses	4,945	5,089	4,577
INTEREST INCOME	97	4	-
CHANGE IN FUND BALANCE	126	(62)	785
FUND BALANCE (DEFICIT) – UNRESTRICTED, beginning of year	(323)	(239)	(196)
FUND BALANCE – RESTRICTED, beginning of year	2,739	2,717	1,889
TOTAL FUND BALANCE, beginning of year	2,416	2,478	1,693
FUND BALANCE (DEFICIT) – UNRESTRICTED, end of year	(321)	(323)	(239)
FUND BALANCE – RESTRICTED, end of year	2,863	2,739	2,717
TOTAL FUND BALANCE, end of year	<u>\$ 2,542</u>	<u>\$ 2,416</u>	<u>\$ 2,478</u>

Broadband Availability Data

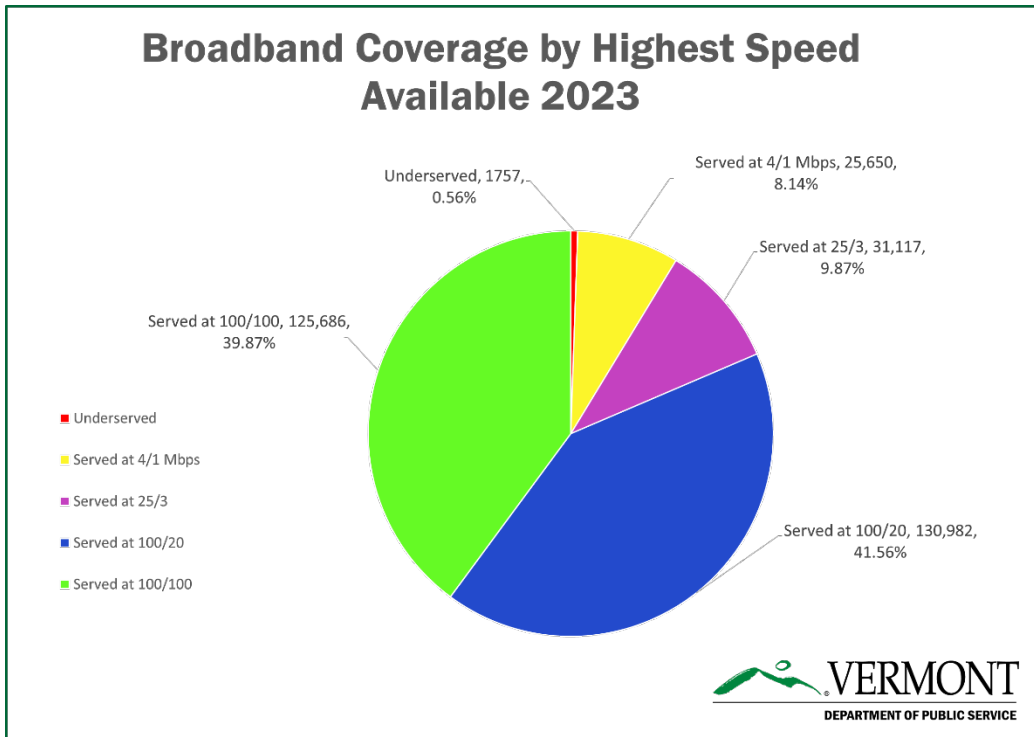
To inform broadband policy and planning, the Department annually surveys and maps the deployment of high-speed broadband internet access in Vermont, pursuant to 30 V.S.A. § 202e (e). For 2023, Vermont broadband providers were asked to voluntarily provide the best available

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 with data from 11/8/2023, is summarized in the table and graph below, for a total of 315,192 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](#)

Broadband availability by speed tier

Speed Tier	Served		Not Served	
100/100 Mbps	125,686	39.87%	189,506	60.13%
100/20 Mbps	256,668	81.43%	58,524	18.57%
25/3 Mbps	287,758	91.30%	27,407	8.70%
4/1 Mbps	313,435	99.44%	1,757	0.56%



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 2023, data indicates that of the 315,192 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 1,757 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 2023, data indicates that of the 315,192 E911 building locations in the state, wireless broadband service of at least 25/3 Mbps or better is presently available from a service provider at all but 27,407 locations.

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

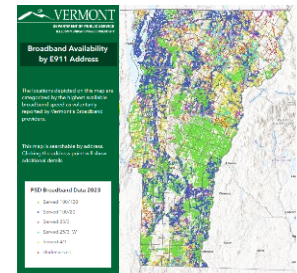
Based on information provided to the Department by Internet service providers for 2023, data indicates that of the 315,192 E911 building locations in the state, broadband service of 100/20 Mbps is presently available from a service provider for 256,668 locations.

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 315,192 E911 building locations in the state, broadband service of 100/100 Mbps is presently available from a service provider for 125,686 locations.

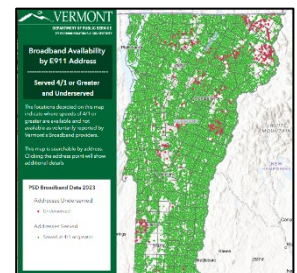
Broadband Availability Maps

Maps visualizing address-level broadband speeds in Vermont, are best viewed in a digital interactive interface and can be found on the [Department Website](#) or by clicking on the map thumbnails in this section. The report appendix contains printable versions of those maps.



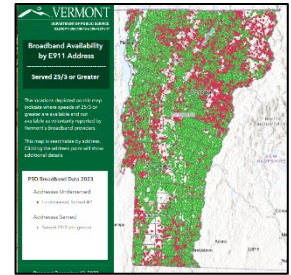
Broadband Availability by E911 Building Address - 4 Mbps Down/1 Mbps Up or Greater and Underserved.

- [Served 4/1 or Greater and Underserved Online Map](#)
- 313,435 out of 315,192 E911 building locations (99.44%) statewide are served at 4/1 Mbps or better by independent telephone companies, cable, or fiber to the premises.
- 1,757 out of 315,192 E911 building locations (0.56%) 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.



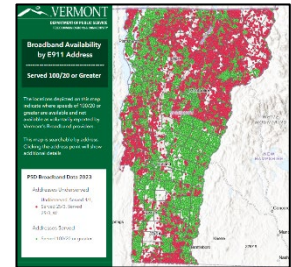
Broadband Availability by E911 Building Address - 25 Mbps Down/3 Mbps Up or Greater (including Wireless)

- [Served 25/3 or Greater Online Map](#)
- Addresses served at 25/3 Mbps or better by independent telephone companies, cable, fiber, or fixed wireless to the premises. 287,785 out of 315,192 building locations (91.30%) are serviceable at 25/3 Mbps or better.
- Addresses not served at 25/3 Mbps or better. 27,407 out of 315,192 building locations (8.7%) are serviceable with broadband less than 25/3 Mbps.



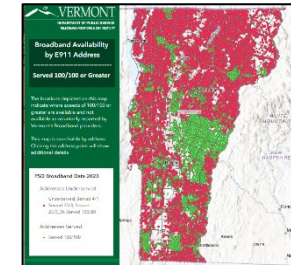
Broadband Availability by E911 Building Address - 100 Mbps Down/20 Mbps Up or Greater

- [Served 100/20 or Greater Online Map](#)
- Addresses served at 100/20 Mbps or better by fiber to the home or cable. 256,668 out of 315,192 building locations (81.43%) are serviceable at 100/20 Mbps or better.
- Addresses not served at 100/20 Mbps or better. 58,524 out of 315,192 building locations (18.57%) are serviceable with broadband less than 100/20 Mbps.



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

- [Served 100/100 or Greater Online Map](#)
- Addresses served at 100/100 Mbps or better by fiber to the premises. 125,686 out of 315,192 building locations (39.88%) are served at 100/100 Mbps or better by fiber to the premises.
- Addresses not served at 100/100 Mbps or better. 189,506 out of 315,192 building locations (60.13%) 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 did not complete a Mobile Wireless Drive test in 2023.

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.

Mobile Wireless Test Results



A Mobile Wireless Drive test was not conducted in 2023. The Telecom Director has requested funding for a potential 2024 drive test.

The results of the recent 2022 Mobile Wireless Drive Test, which evaluated voice and data service in the state for six different mobile wireless providers, are described in the [Drive Test Report](#). The report and printable maps can be found on the Department website [Mobile Wireless Drive Test | Department of Public Service \(vermont.gov\)](#)

The results of the test are best viewed on the interactive map. [Mobile Wireless Drive Test 2022 \(arcgis.com\)](#). Printable drive test maps. [DriveTestMaps2022.pdf \(vermont.gov\)](#)

The map depicts hexagons that are shaded to show the coverage identified within that area. The map depicts the Drive Test results in 14 separate layers, with separate maps for voice, data, and each provider. Users can manually enable the layers they wish to view, one layer at a time. Clicking on a hexagon will depict a summary of the results for all tests conducted in that hexagon.

Map of Wireless Voice Coverage (6 Providers)

Page 1 of the [Printable Drive Test Maps](#).

Map of Wireless Data Coverage (6 Providers)

Page 2 of the [Printable Drive Test Maps](#).

Appendix I-IV

Printable Broadband Availability Maps

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

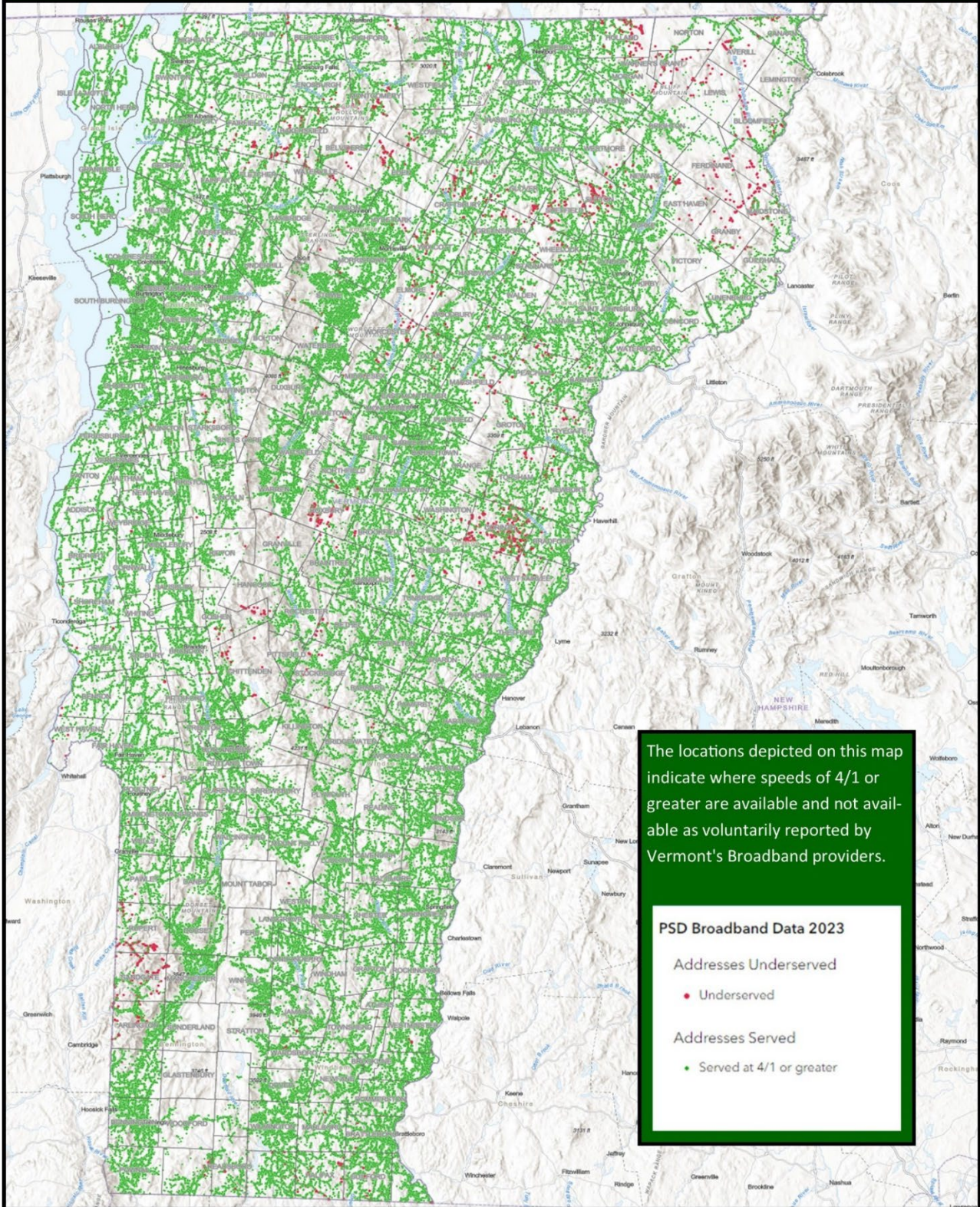
II: Broadband Availability by E911 Address Served 25/3 Mbps or Greater (including Wireless)

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

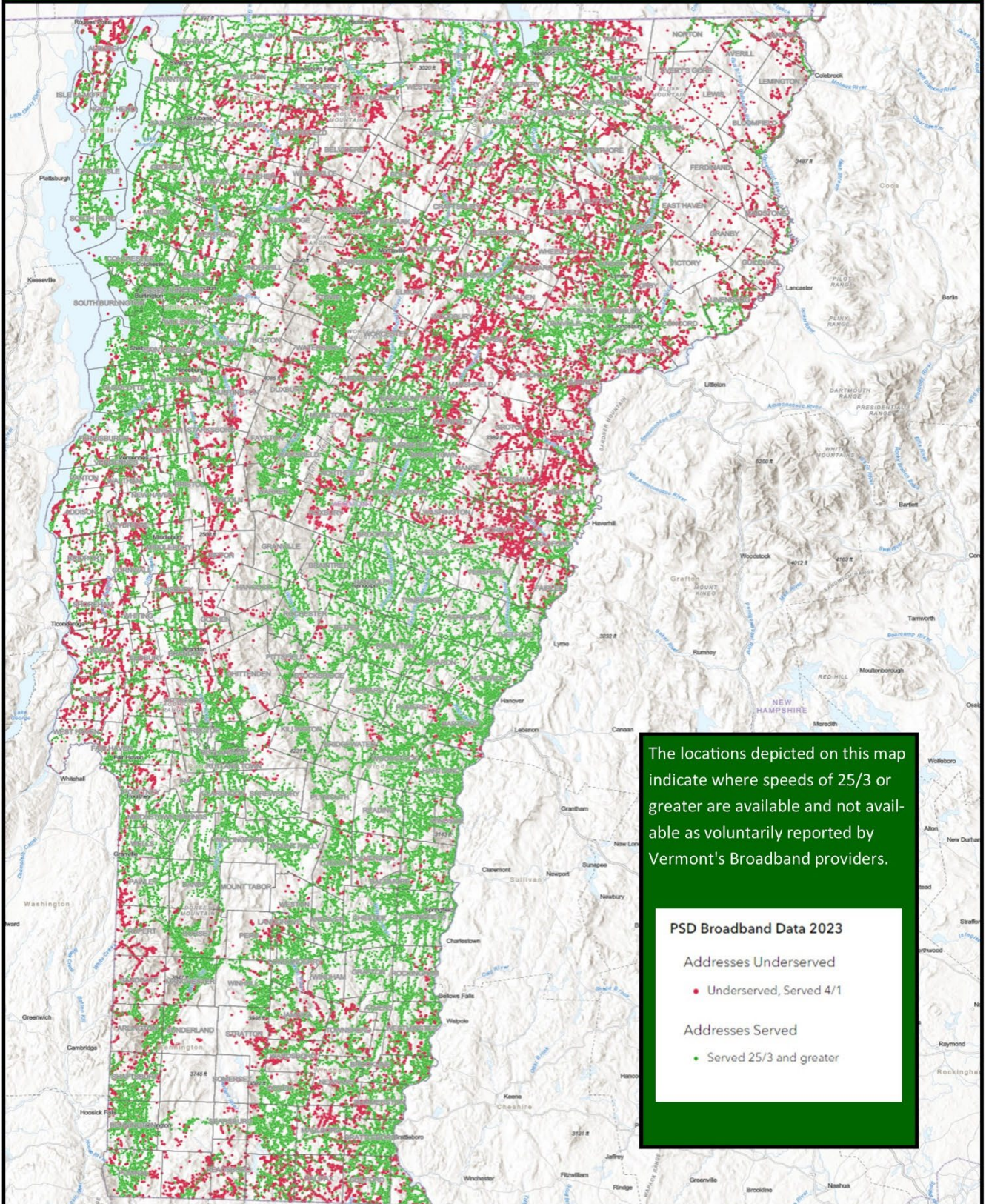
December 12, 2023

Broadband Availability by E911 Address Served 4/1 or Greater and Underserved



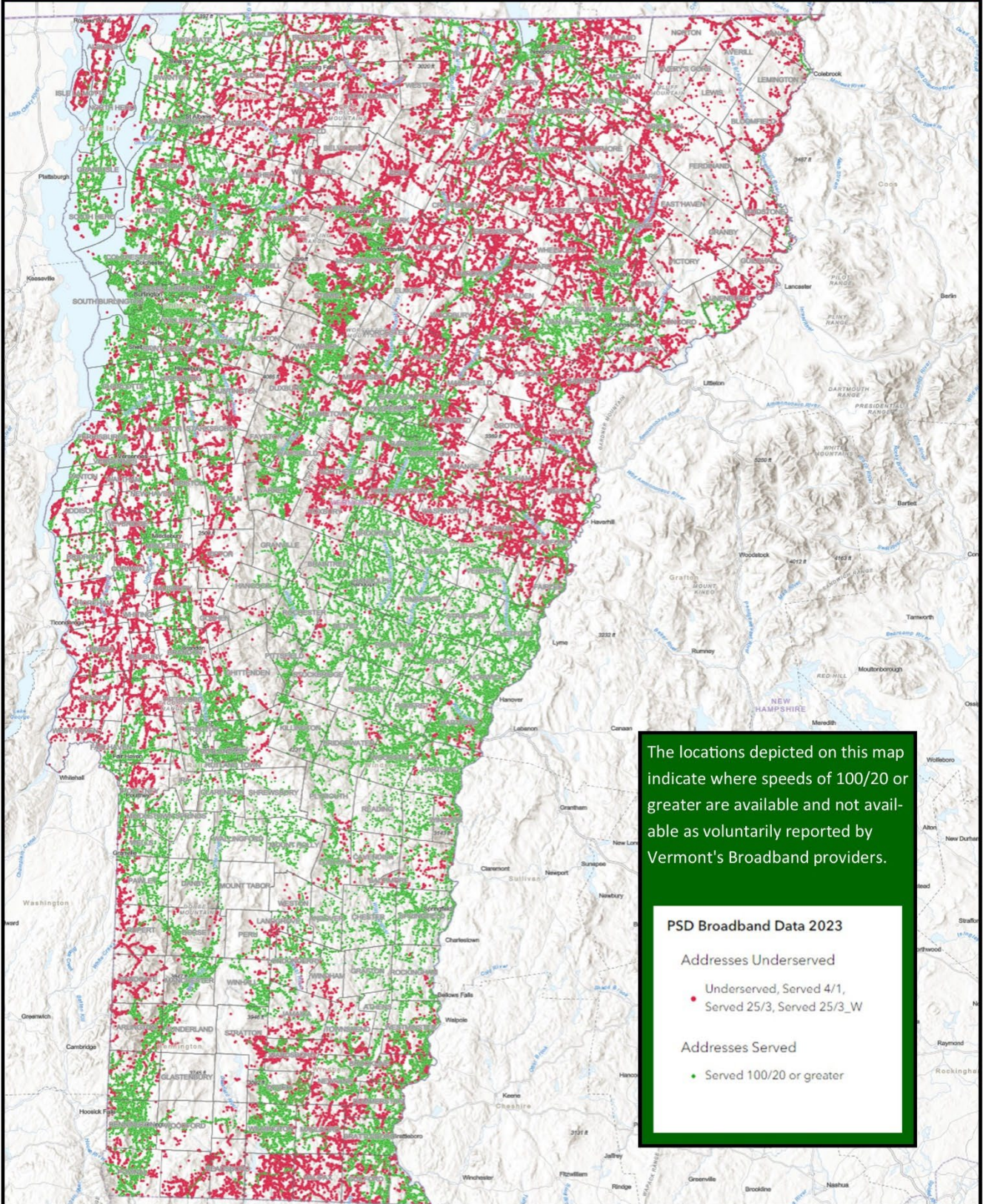
December 12, 2023

Broadband Availability by E911 Address Served 25/3 or Greater



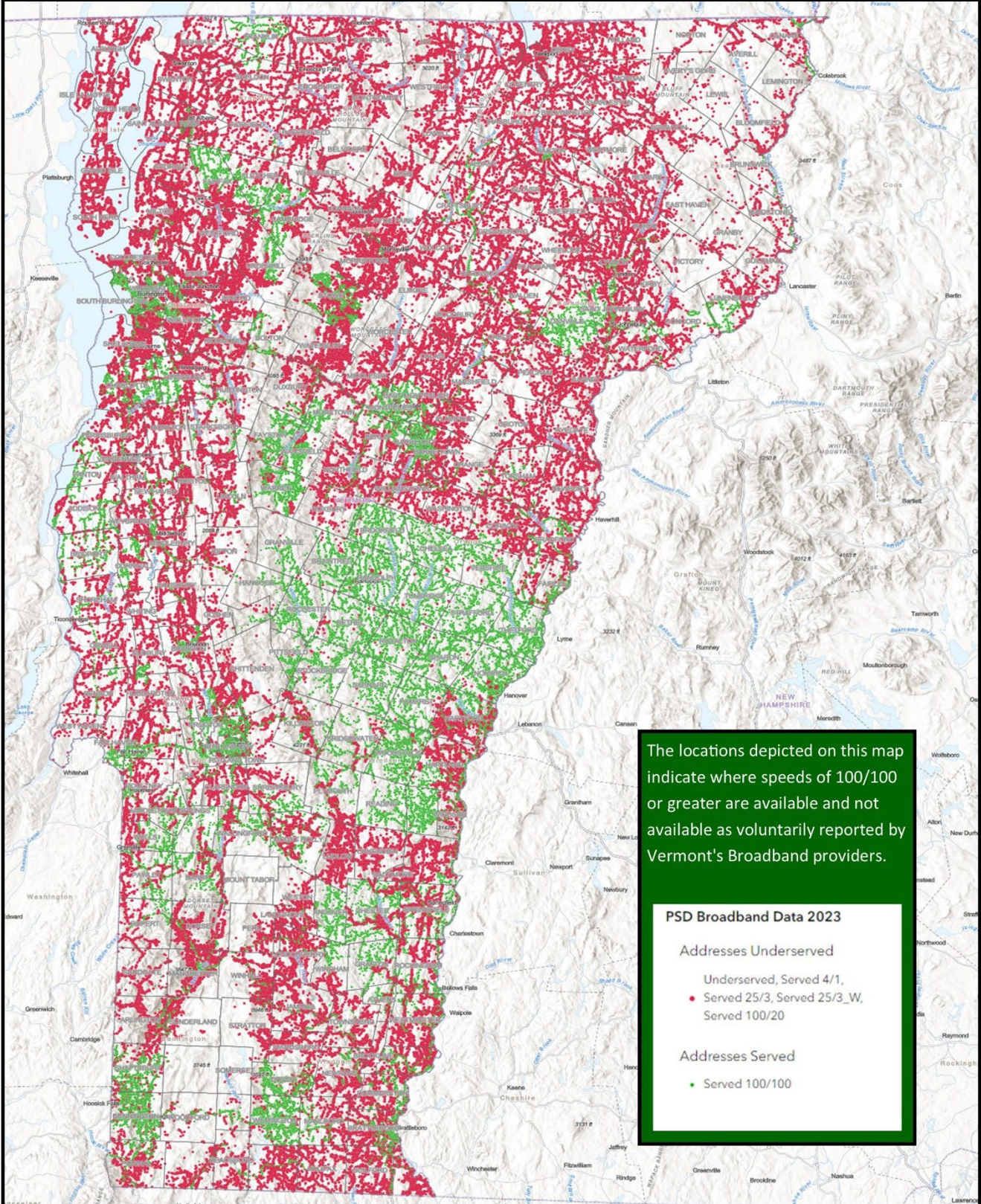
December 12, 2023

Broadband Availability by E911 Address Served 100/20 or Greater



December 12, 2023

Broadband Availability by E911 Address Served 100/100 or Greater



The locations depicted on this map indicate where speeds of 100/100 or greater are available and not available as voluntarily reported by Vermont's Broadband providers.

PSD Broadband Data 2023

Addresses Underserved

- Underserved, Served 4/1,
- Served 25/3, Served 25/3_W, Served 100/20

Addresses Served

- Served 100/100