



**World-Class Technology, Down-Home Service**

# Overview to House Committee on Energy and Technology

February 8, 2017

## **Background**

VTel is a small family-owned telephone company based in Springfield, VT providing landline service to 14 rural Vermont villages, as well as 4G LTE wireless Internet to towns throughout the state. Some farms and rural homes have received continuous telephone service over the VTel wired network since it began operations in 1890. VTel actively supports Vermont community groups, creates Vermont jobs, drives hybrid vehicles, and is committed to improving quality of life for Vermont. We are Vermonters proudly serving Vermonters.

## **Tradition of Innovation**

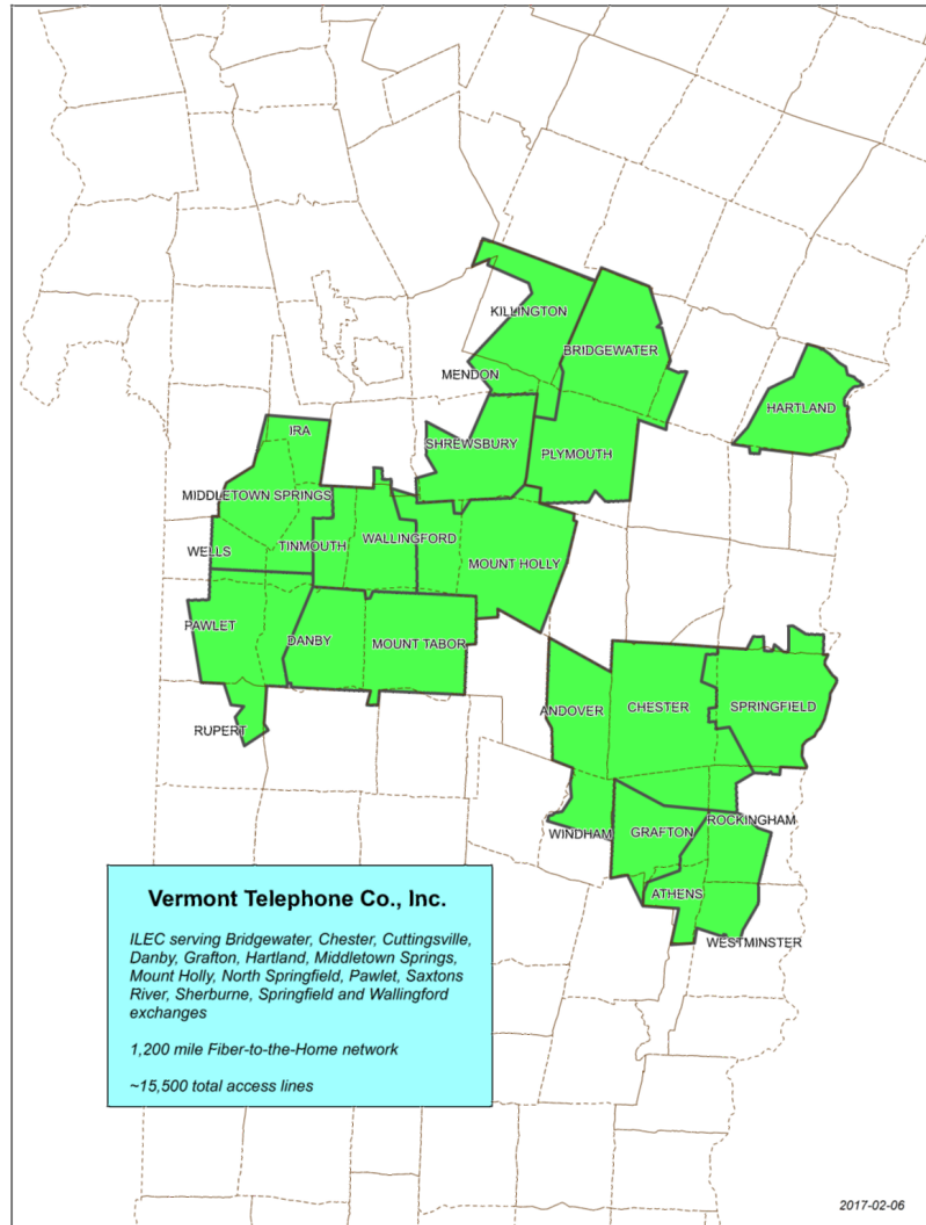
VTel is proudly part of a U.S. tradition of small rural telephone companies who are also innovators. We were the first company in Vermont to offer Internet access. We were first in Vermont to build gigabit-per-second fiber to homes. We were first with 100 Gig data paths. We were the first to integrate 4G LTE wireless mobile broadband with Smart Grid. Since 1994 we have invested over \$100 million of our own capital to upgrade our Vermont network, create local jobs, and build Vermont's economy.

In 2010 VTel was honored to become one of the largest American Recovery and Reinvestment Act awardees. The overall award to VTel, administered through the Rural Utilities Service ("RUS") Broadband Initiatives Program ("BIP"), was approximately \$117 million, with approximately \$82 million allocated to deployment of a Fiber-to-the-Home network, and approximately \$35 million allocated to the deployment of a 4G/LTE mobile broadband network. VTel also received \$12.8 million from NTIA. To the best of our knowledge, we were the only company in America to receive both RUS and NTIA awards.

Through the ARRA projects VTel has built Gigabit-per-second fiber-optic Internet throughout its ILEC territory, middle mile fiber to extend our existing 1,400 mile fiber network, and a 4G/LTE mobile wireless network to underserved areas of Vermont.

# Vermont Telephone Company, Services Provided – ILEC Territory

VTel Provides HD voice, GigE FTTH broadband, and a 300+ channel video service over its fiber network



## **VTel FTTH – Making Southern Vermont the Best-Connected Place in America**

### **Advantages of Fiber-to-the-Home**

#### **Greater Capacity and Reliability**

Today's homeowners are using technologies that require more and more bandwidth, like VTelevision, content streaming to multiple devices, file sharing, gaming, and home monitoring systems. Fiber-optics is the only technology that can keep up with these bandwidth demands.

#### **Cost-Effective**

Data on a fiber-optic cable can travel many miles in a split-second—at the speed of light, in fact. This speed allows a more cost-effective method to transmit large amounts of data to everyone's home, between homes, and around the world.

#### **Secure**

Voice and data transmissions via fiber are more secure than when they are sent over conventional copper cable connections. The use of fiber eliminates the ability to tap, or eavesdrop, through contact with the delivery system.

#### **Future-Proof**

Once installed, fiber is easily upgraded by changing the electronics that create the light pulses, and not replacing the cable itself.

#### **Increases Home Values**

A recent report showed that having a GigE fiber optic connection can add as much as 3% to a home's value.\*

\*RVA, LLC Homeowner and Developer Survey and Research commissioned by the FTTH Council, 2015

## Vermont Telephone Company, Services Provided – VT and Interstate Fiber Network

VTel operates a 1,400 mile fiber-optic network extending from Vermont to New York City, Cambridge, MA, Boston, and Montreal, providing services to some of the most intensive data users and research universities in the Northeast



# VTel Wireless, Services Provided – VT, NY, NH

4G LTE mobile wireless broadband statewide, utilizing FCC 700 MHz , AWS, and other licenses

## VTel Wireless - Who We Are

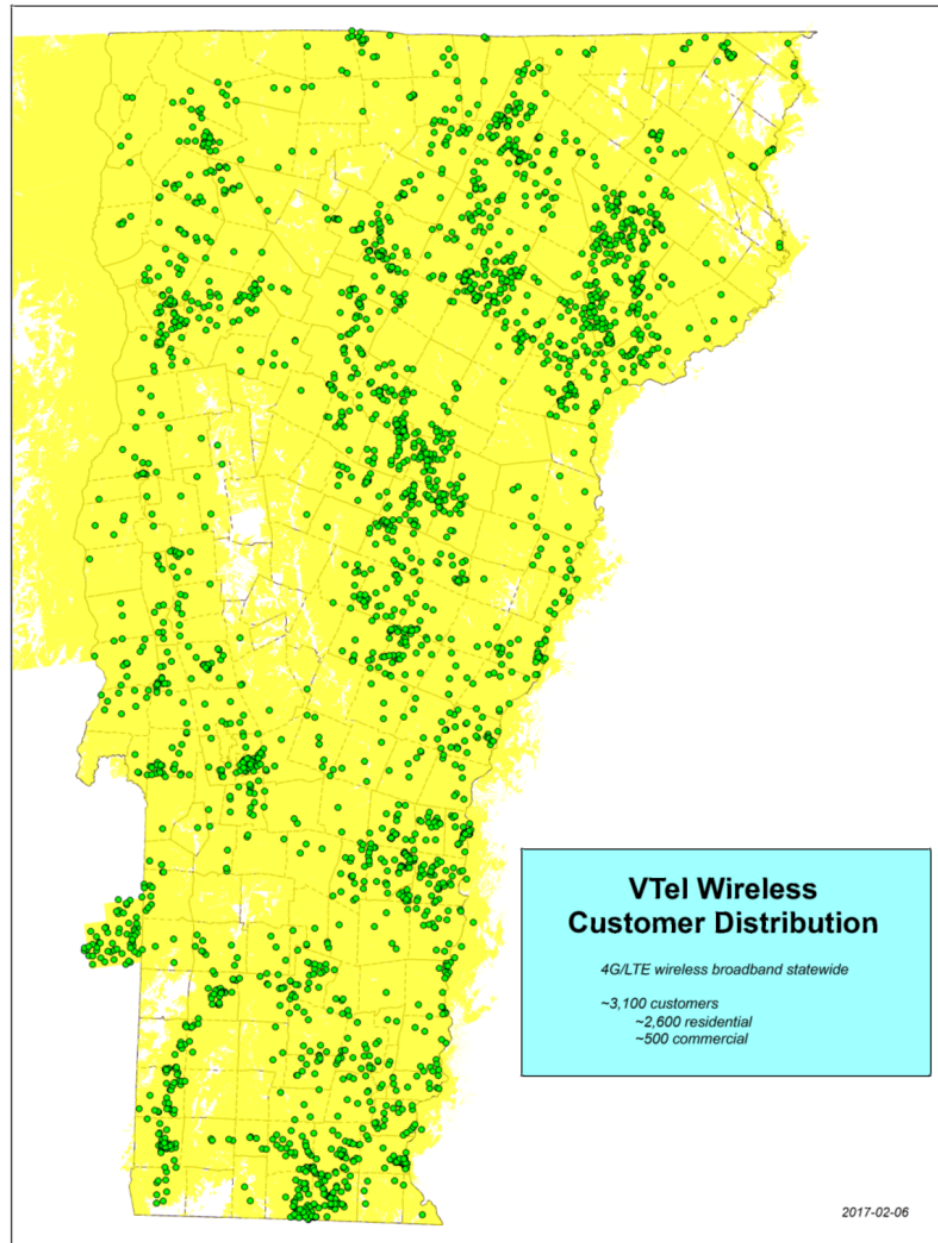
VTel Wireless provides broadband internet to homes and businesses throughout Vermont, with a focus on serving under-served and un-served communities in rural areas. The VTel Wireless network is designed to provide both fixed and mobile high-speed data access, with customers utilizing mobile service with a compatible tablet, smartphone, or dongle. VTel is in the testing and configuration phase of deploying VoLTE technology over the network to provide voice service.

## VTel Wireless Philosophy

- **We believe rural Americans have a right to the same telecommunications services as urban Americans.** That's why we've built a state-of-the-art 4G LTE wireless network, using the same technology as networks in New York City, Shanghai, Hong Kong, and London.
- **We believe everyone deserves access to the Internet.** That's why we're about half the cost of our competition, with wireless mobile broadband access starting at \$10/month.
- **We believe that the internet is the new global marketplace.** VTel Wireless has no retail outlet stores, and we pass our savings on to the customer.
- **We believe transparency and honesty are not antiquated values – they matter now more than ever.** That's why we want every VTel Wireless customer to know the full cost of our services. We don't hide extra charges in the fine print.
- **We believe in following the giants with next-generation technologies, without the drag of legacy systems.** VTel Wireless deployed America's first 100% 4G LTE network, which does not support obsolete 2G and 3G services. VTel's mobile voice services, being rolled out in 2017, with state of the art new LTE 911 support, will be able to be used by every VTel Wireless customer using our existing devices or new devices.
- **We believe that voice should be free.** Paying separately for voice and data is yesterday's news. In 2017, voice *is* data.

### VTel Wireless Coverage and Customer Distribution Map

VTel Wireless estimates its statewide network provides service to 95% of Vermont, and 98% of total Vermont housing units. VTel Wireless currently provides service to approximately 3,100 customers statewide.



## VTel Wireless, Coverage Commitments Met

-VTel committed to use RUS funds to deploy 119 wireless sites. VTel built 132 RUS sites, and an additional 20 VTel-funded sites.

-VTel committed to “near-100% coverage of the proposed service area,” and estimates at the *-113 RSRP* service quality threshold its statewide network provides coverage to:

-4,782 square miles of the 5,055 square mile RUS service area, or 95%

-9,228 square miles of the 9,673 square mile Vermont statewide and New York coverage area, or 95%

-315,973 of 322,541 total housing units in the coverage area, or 98%

-To the best of our knowledge, no other new network of this size using exclusively 4G LTE has ever been built.



## **VTel Ongoing Efforts Toward Continued Improved Broadband Connectivity to Rural VT**

- VoLTE – currently in testing and configuration phase
  - E911 testing and configuration
  - Coordination with VT E911 Board
  - Handset testing and configuration
  - Roaming
- FCC Mobility Fund roadway connectivity to census tracts in Brighton, Craftsbury, Dorset, Greensboro, Hardwick, Walden, Townshend, Shrewsbury, Stratton, Wardsboro, Halifax, Irasburg
- Improved mobile service through small-scale disbursed sites
- Service to additional AMI points to improve Smart Grid connectivity and electric utility efficiency
- Continued improved speeds and service quality
  - Carrier aggregation
  - Trend toward higher throughput antenna equipment
- Our focus has always been on serving rural Vermonters in areas that are lower priority to the largest companies. VTel Wireless today serves more than 2,500 residential customers, and hopes to reach 3,500 – 4,000 customers by year end.
- VTel Wireless has a continued concern that the State expects wireless companies to provide data with a degree of precision that to the best of our knowledge does not exist. The State, therefore, appears to be funding overbuilds in areas that currently have access to broadband wireless service. For example, of today's 2,600 VTel Wireless residential customers, 725 live at addresses corresponding to the State of Vermont's current public list of State-fundable underserved locations. Using a couple of at-random recent examples:
  - Barton customer, 15 Mbps speeds and 16 GB/mo download
  - Thetford customer, 15.5 Mbps speeds and 99 GB/mo download
- Between 2010-2016, VTel Wireless received permits through 248a for new equipment installations on 137 sites, while Verizon and AT&T permitted new installations on 293 sites during the same period. To the best of our knowledge, there's almost no home in Vermont without coverage from at least one of these wireless companies.

## **VTel Looking Forward**

VTel has always considered it an honor and privilege to serve rural Vermonters. Our current management team has been doing this, with a wired network, for almost 25 years. While wireless is new to us, we are bringing our wired experience to this new challenge successfully. Many of our team members have been with us for over 40 years. We are Vermonters serving Vermonters.

VTel considers it an honor to have received RUS and NTIA funding to help fulfill our broadband-to-everyone mission. We are deeply grateful for their vision, guidance, and support.

Additionally, several of the largest telecommunications companies in America operating in Vermont and nationally, including AT&T, Sprint, T-Mobile, US Cellular, and Comcast, helped us very substantially between 2010-2016 with material and constructive advice. All of these have reported they welcome a new company delivering high-speed broadband to some of the most rural parts of America.

VTel hopes to find similarly constructive and collaborative ways to work with the State of Vermont to accomplish the shared goal of universal broadband access.