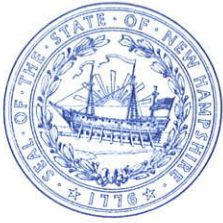




Telecommunications Planning and Development Advisory Committee (TAB)

July 2014 Report





STATE OF NEW HAMPSHIRE
DEPARTMENT of RESOURCES and ECONOMIC DEVELOPMENT
DIVISION OF ECONOMIC DEVELOPMENT
172 Pembroke Road P.O. Box 1856 Concord, New Hampshire 03302-1856

603-271-2341
FAX: 603-271-6784
www.nheconomy.com

July 31, 2014

Carmen Lorentz
Director of Economic Development
New Hampshire Department of Resources and Economic Development

Director Lorentz;

I present the Telecommunications Planning and Development Advisory Committee (TAB) July 2014 Report for your review.

The report is the result of collaboration between member stakeholders to inform and provide information on the status of telecommunications industry in New Hampshire. The TAB provides a forum that best addresses the ever changing landscape of availability, affordability, and adoption of broadband and telecommunication services.

Sincerely,

A handwritten signature in blue ink that reads "Carol Miller".

Carol Miller, TAB Chair
Director of Broadband Technology
Division of Economic Development



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DIVISION OF ECONOMIC DEVELOPMENT 603-271-2341

The Telecommunications Planning and Development Advisory Committee July 2014 Report

Executive Summary

This past year has proven to be a year of accomplishments for the New Hampshire Telecommunications Industry. There are 70+ providers registered to do business and offering wireline and wireless broadband technologies throughout the state. Today competitive options and multiple technologies are available to most highly populated areas around cities, larger towns, and anchor institutions. Although we have made steady strides to bring availability to many rural areas of the state there remains close to 4,500 households that have no wireline or fixed wireless broadband options. There are still gaps in coverage and areas which need investment of time and resources. The TAB will continue to prioritize its efforts in keeping with its mission and vision for providing increased broadband access across the state.

(Refer to Appendix A for NH Broadband Mapping summary of broadband availability.)

New Hampshire based providers have invested in infrastructure and technologies to support the growing need for broadband capacity in response to growing concerns that less populated areas will be left behind the digital divide. Applications in health care, government (local, state, and federal), access to education, job opportunities, and mobile connectivity are driving the need for increased access coverage and speed.

We have embraced the notion of public/private partnerships as the new norm for broadband initiatives around the state. We have a much better understanding of supply and demand dynamics as it relates to broadband expansion efforts and the economic impact the industry has with regards to their contributions to the state's economy. We have data that helps us to understand the gaps in service and its impact to current opportunities of employment, educational attainment, and the delivery of telehealth and e-government services.

The evolution of Internet-based services and applications makes increasing demands on broadband networks every year with regard to downstream speeds, upstream speeds, and latency characteristics. Network service levels that supported critical New Hampshire functions such as education, economic development and healthcare a few years ago may now be inadequate to support not only those functions, but the ever increasing Internet-based services and application requirements. As such, this requires that we regularly update our target for broadband service delivery in New Hampshire. The TAB has sought guidance from the Federal Communications Commission, which regularly updates national targets for broadband performance, as well as the New Hampshire Broadband Mapping & Planning Program (NHBMPP). Recently the NHBMPP developed a matrix to assist stakeholders in understanding the many levels of broadband available in the state of New Hampshire today, and the typical functions a user might be able to perform within a range of download and upload speed tiers. Using these tiers, the NHBMPP has established broadband availability categories ("un-served," "underserved," and "served") to describe access to broadband service. While the TAB has not formally adopted these definitions, we recognize that it is important to understand that a broadband service definition is not only a function of network capacity, but the ability of the network to support the services and applications citizens expect.

(Refer to Appendix A for the NH Broadband Speed Tiers Matrix)

Business and residential citizens have benefitted from broadband expansion efforts across the state.

Highlights include:

- FairPoint Communications reached its commitment of 95% broadband availability, including reaching 91% of its customers in rural areas, with more than 100,000 new homes qualified for broadband because of investment in last-mile and middle-mile infrastructure. In addition, FairPoint added service to another 2,462 unserved homes by the end of 2013.
- TDS Telecom celebrated Fiberville in Hollis when they turned up their first residential Gbps customer in the first NH Gigabit NH Community.
- Comcast announced a potential of 600 new jobs, with 100 jobs filled by the end of 2014, at a new customer care facility in Hudson. Network Investment included deployment of Xfinity Internet service with speeds up to 505Mbps.
- BTOP/NTIA funded Network NH Now completed over 750 miles of fiber build out and is serving gigabit connectivity to the University System campuses, the Community Colleges, and other anchor institutions around the state.
- New Hampshire Fastroads provided open access high speed fiber connections to 240 customers through 4 providers in the Southwestern corner of the state.
- 186 Communications/NHOS moved from MA and registered to do business in NH offering retail and dark fiber services.
- FCC Connect America Funds were awarded to NH for broadband expansion.
- Granite State Communications, Bretton Woods Telephone Company, and Topsham Communications now provide fiber to the premise.

High Tech Business and the NH Advantage, along with high-speed broadband availability, are critical to recruitment efforts to bring companies and jobs to our local economies. It's important to track where we are and focus on where we want to be to ensure we have the tools to support a growing economy.

New Hampshire remained in the top 10 for connectivity according to the March 2014 (1st Quarter) Akamai State of the Internet Report released on June 26, 2014. Akamai reports of data traffic globally and nationwide quarterly using established metrics to gain insights on connected devices.

In the latest report New Hampshire rated the following:

- 7th for an average connection speed of 12.3Mbps
- 3rd for a 12% gain in High Speed Adoption (>10Mbps) Rates
- 3rd on 4K Readiness (Ultra High Definition Streaming)

Background

Purpose:

The Telecommunications Planning and Development Initiative and Advisory Committee (TAB) was created in 2000 (RSA 12-A;45-47) to identify and publicize the state's telecommunications infrastructure and barriers to deployment as an integral part of the state's economic development efforts. The TAB seeks information on funding and resources through collaboration for the planning, development, administration, and implementation of programs to assist in the

distribution of information regarding telecommunication services, infrastructure, and broadband technologies. The committee has a diverse membership of private industry providers, educators, municipal, county, state, business and residential sector representatives, and other governmental officials to assist with planning efforts to enhance the deployment of telecommunications and broadband services. The committee meets once a quarter in January, April, June, and October. The TAB will freshen the goals of the Broadband Action Plan of 2008 and formulate a new work plan for July 1, 2014 through June 30, 2015 regarding industry status, opportunities and challenges and the overall economic impact the industry has on the State of New Hampshire.

(Refer to Appendix A for a list of current members.)

With the passage of HB368 in 2013, revisions to the legislation featured; changes to the membership by adding a designee from the NH Department of Safety, and adding a health care member to expand the committee's knowledge base; removing the biennial renewal requirement of the legislation to save the state time and money; refreshing the responsibilities of the TAB while making it easier to conduct business by setting a quorum at 9 members; and requiring a level of accountability with yearly reporting on July 31 to be delivered to the Director of Economic Development at the New Hampshire Department of Resources and Economic Development.

Mission Statement

Encourage, promote, and support the achievement of affordable universal access and adoption of interoperable advanced telecommunications throughout the state of NH to facilitate economic development, improve the quality and availability of education, healthcare, public safety and government services.

Goals of the Broadband Action Plan of 2008

We continue to measure NH's progress by utilizing the action items from The Broadband Action Plan of 2008 as a benchmark. As the telecommunications landscape changes and priorities shift to reflect the current state of affairs, the identified critical action items are still relevant to ensuring that New Hampshire remains positioned to compete in the new knowledge economy.

The work of the TAB may require legislation to encourage the use of broadband within the sectors of education, government, health care, business, and public safety. With focus on the critical action items from the BAP of 2008 plan, it is understood that beyond availability, NH business and residents will continue to grapple with affordability, adoption, and capacity for many years to come.

- 1. Leadership**
- 2. Streamline the tower siting process**
- 3. Remove barriers to state rights of ways access (ROW)**
- 4. Identify new financial resources to support broadband initiatives**
- 5. Evaluate the feasibility of the creating a broadband services fund**
- 6. Improve utility pole access**
- 7. Provide incentives for last mile deployment in unserved and underserved areas of the state.**

Update 7 Critical Action Items

Leadership: A leadership “point person” was hired by the Division of Economic Development at DRED in late 2009. The position, Director of Broadband Technologies, was initially funded through discretionary ARRA funds to the State of New Hampshire, NTIA funded Network NH Now, and NTIA State Broadband Initiative (SBI) program, titled the New Hampshire Broadband Mapping and Planning Program (NHBMPP) funded through June 2014. Funded by the state budget starting July 1, 2014, the Director is currently fulfilling the last commitments to the NHBMPP through the end of December 2014. The scope of work this year focuses on municipalities with capacity building and community resources for communities to identify broadband deployment, adoption barriers, and potential solutions. Broadband Readiness Pilots projects in Bethlehem, Greenfield, and Moultonborough are being conducted through October 2014 with a workshop planned for the November/December time frame to share best practices and strategies for other communities in need of effecting a change in broadband. Although NTIA funding of the mapping and planning program ends December 2014, we are actively engaged in identifying and applying for other funds to continue the program. Without access to the data generated by the program, NH will not be able to prioritize or track progress with regards to availability, capacity, or adoption going forward.

Streamline the tower siting process: Challenges to the deployment of cell/mobile services continue to plague the industry in NH as the tower siting process, managed at the community level, is a long public process. Costly lengthy court battles in areas where the public is not interested in having a tower in their “backyard”, and expensive investments have hindered expansion by top carriers. New technologies under development will require more sites to provide the same coverage footprint. Other states have a centralized process that manages the time lines and decisions rendered by the local communities with regards to building and occupying new facilities. With the passage of SB101 in 2013, cell carrier upgrades to 4G facilities offering very high speed connectivity, is now a building permit process for a one-time modification to an original tower site. The change helps streamline the colocation process for existing facilities but does not affect the new builds needed to serve areas of the state with spotty or no cell service. Many communities deem the availability of mobile services as an economic development and public safety challenge.

Remove barriers to state rights-of-way access : The Department of Transportation (DOT) Utility Accommodation Manual established a uniformed practice for the accommodation of utilities management in the highway and railroad rights-of-way (ROW) in 2010. Open trenching does not require permitting for work performed concurrently with DOT highway construction projects.

Identify new financial resources to support broadband initiatives: Aligning, partnering, and identifying broadband resources within traditional funding sources such as NH Community Development Finance Authority (NHCDFA), the NH Charitable Foundation, and NH Municipalities will take time. The University of NH, UNH Cooperative Extension, and Broadband Center for Excellence, on behalf of the state, are committed to seeking grants for training, and adoption of broadband, and digital tools

that will benefit economic development efforts. Federal funding from the Universal Service Fund, Connect America Fund, and E-Rate is in transition to reform and realign the rules that will better serve the needs of its intended recipients. The United States Department of Agriculture (USDA) Rural Development Programs is working to refine its rules and expand its scope for funding. The Economic Development Administration (EDA), and the Northern Border Regional Commission have been responsible for funding many current and further broadband initiatives. Legislative solutions to enable municipalities to fund broadband expansion are also being pursued.

Evaluate the feasibility of creating a broadband services fund: The establishment of an independent broadband authority by legislation, to support and fund broadband initiatives needs further evaluation. It could enhance broadband expansion in unserved neighborhoods. The state could play a role in helping communities connect to expand broadband by awarding competitive grants on a yearly basis. State funding could enhance and provide leverage to attract federal funds.

Improve utility pole access: There is an on-going proceeding at the NH Public Utilities Commission on utility pole access for existing providers and new entrants to the telecom market in New Hampshire. The current pole attachment rules address the pole owner and the attacher who is seeking space on the pole but do not address conduct between existing third-party attachers and a new attacher as wires need to be moved to accommodate a new wire. The PUC Staff recommended that the Commission establish timing and coordination for third party make-ready work and for the resolution of disputes. PUC Docket DT 12-246 is expected to be acted upon in the coming year.

Provide incentives for last mile deployment in unserved and underserved areas: Despite advances in broadband availability across the state there remain gaps in coverage that will require further broadband mapping to identify and qualify the unserved. Tax credits for deployments in unserved areas of the state could provide an attractive incentive for telecommunications companies. The NH Broadband Mapping and Planning Program has identified 11 % or 70,433 households in census blocks with reported service gaps for broadband availability.

(Refer to maps provided in Appendix A for a breakdown of coverage by technology and speed as of March 31, 2014.)

Legislation

The 2014 legislative session ended in June. Although there were many bills that attempted to affect broadband, a number of them went to study committee and did not pass the House and/or the Senate.

- **HB1458** - authorizing towns and cities to establish special assessment districts for economic development.
- **HB1265** – relative to the coordination and funding broadband infrastructure information by E911.

- **HB1314** – relative to approval of telecom utility merger, consolidation, reorganization or sale by the PUC.
- **HB1535** – study the resolution of barriers to the use of telehealth technology.
- **SB355** – relative to cable franchises.
- **HB286** – relative to broadband infrastructure.

Public Federally Funded Broadband Initiatives Updates

Network New Hampshire Now – NTIA BTOP Project

New Hampshire, through a deliberate, concentrated effort of leadership from the Governor’s Office and the State ARRA Director, empowered the Department of Resources and Economic Development (DRED) to convene the right people in the state to secure federal funding from the Broadband Technology Opportunities Program (BTOP). As a result, New Hampshire received a \$44.5 million federal grant that, when matched with \$18 million state and private funding, infused over \$62.5 million into the state.

This grant, known as Network New Hampshire Now (NNHN), was managed by the University of New Hampshire on behalf of the state. The purpose of this grant award is to expand broadband into unserved and underserved areas of NH, paying particular attention to connecting core facilities in our communities – community anchor institutions (CAI). By focusing the development of broadband for CAIs that exist in every community, the commercial providers can expand broadband to reach the homes and businesses that surround these CAIs and reach a fully connected country more quickly than waiting for the market to move. With the requirement that the BTOP assets be open-access and provided in a non-discriminatory manner, all have access to this publicly-funded broadband network.

NNHN project successfully completed broadband expansion in the following 5 areas:

- Built over 850 miles of 144 to 288 fiber strands across all 10 counties in New Hampshire, connecting 325 community anchor institutions, including the University System of New Hampshire, the Community College System of New Hampshire, and several municipal, police, fire, ambulance, healthcare, libraries and educational institutions.
- Replaced the existing public safety microwave networks of the NH State Police, NH Department of Transportation, NH Department of Resources and Economic Development, NH Public Television and the NH Army National Guard with a new system, called NHSafeNet, that operates with more bandwidth using current digital broadband communications and prepares New Hampshire for any future emergency communications scenario while sharing the operating costs for the network.
- Expanded the capacity and capability of the NH Department of Transportation’s Intelligent Transportation System (ITS) to integrate the I-93 corridor from Manchester to Concord with the Salem to Manchester fiber segment and other parts of the state through the public safety microwave system.
- Provided western New Hampshire with fiber access for each of 22 towns within the service area of New Hampshire FastRoads, a community network service provider that operates as a wholly-owned subsidiary of the Monadnock Economic Development Corporation, and offers fiber-to-the-premises (FTTP) in two US Census block groups in Enfield and Rindge, impacting over 1300 homes and businesses in the region. This last mile component was limited to less than 20% of the project by the grant requirements. Currently has 4 providers sign on to utilize the open access network and 290 customers receive high speed connectivity.

- Create a research and education optical network (RON) to propel New Hampshire's research economy to be on par with or exceed those of Massachusetts, Texas and California with research data rates that exceed 10Gbps.
- Going forward annual reoccurring fees to pole owners is estimated at \$700,000 for the next 20 years and through the life of the asset.
- Created 79 direct jobs and hundreds of indirect positions.

(Refer to Appendix A for a map that displays the complete set of broadband assets created as part of the BTOP award to New Hampshire.)

New Hampshire Broadband Mapping & Planning Program (NHBMP) – NTIA BTOP 5 year project:

New Hampshire has been fortunate to partner with the University of NH – GRANIT to provide data on broadband availability, and planning and technical assistance to communities across the state. The \$6.1 Million NTIA BTOP project grant funding ends on December 31, 2014 when the FCC will take over the mapping based through the telecom 477 form filings which are filed semi-annually. Grant funding has been pursued to continue mapping activities in Coos County with the Northern Border Regional Commission and the NH Charitable Foundation's Tillotson Fund. Additional funding is needed to provide the data from the rest of the state. A number of sources will be pursued from the USDA, and the FCC Universal Service Fund.

- As of March 2014 current mapping results show that 70,000 of New Hampshire households reside in reported broadband availability service gaps areas and 4,500 households have no broadband at all.
- The Regional Planning Commissions have drafted Regional Broadband Plans which are being summarized by the NH Office of Energy and Planning for a statewide report to be released late 2014.
- The Capacity Building/Community Resource utilizing a team of subject matter experts, is a component of the planning side of the grant. The team is conducting pilot projects in Greenfield, Bethlehem, and Moultonborough. The project is designed to help communities make decisions about broadband and implement an action plan for change.
- Web based training modules and technical assistance will feature a Broadband Solutions and Funding Toolkit which will be made available for communities to model at <http://www.iwantbroadbandnh.org>.

(Refer to Appendix A for component updates on Mapping, Planning, Capacity Building/Community Resources, and Technical Assistance/Training. A full complement of the latest mapping results including a visual representation of the level of competition statewide, different technology summarized by population and households showing gaps in broadband service availability.)

New England Telehealth Consortium (NETC):

An FCC USF grant was awarded to ProInfoNet in Bangor ME for \$24 million in 2009 to network and connect health care sites across ME, NH, and VT. Red tape and challenges prevented the network launch until last year. NETC currently has 264 health care site lit up and in use on the network. They have \$750K in unallocated subsidy that can be used to subsidize 85% of network costs for a new site and in the process of installing 51 sites. The network has been successfully up and running for 19 months.

Private Sector Funded Broadband Initiatives Updates (not all inclusive*)

FairPoint Communications continues to make serious investments in New Hampshire: expanding broadband access and bandwidth; contributing to local organizations through donations; leadership and volunteerism; employing a skilled workforce, and buying local products and services. Over the past year FairPoint employed 1,077 people from 112 NH communities with more than \$520,000 in community and civic contributions. They invested \$361 million in the network and infrastructure since 2008 including \$72 million in broadband expansion, and met a 95% broadband availability benchmark with over 100,000 new broadband access lines. They maintain and pay tax on 128 locations and maintain 476 vehicles. They were awarded over \$800,000 recently from the FCC “Connect America Fund” to enhance deployment to rural unserved territory in NH to be spent over the next few years.

(Refer to Appendix A for a map of DSL Broadband Expansion efforts thru 2014 and a statement from FairPoint highlighting their commitment and investment in NH.)

TDS Telecom recently completed their rural territory build out announcing Hollis NH as the first NH town to have 1Gbps fiber internet service for residents and business. They announced on July 21, 2014 the addition of New London to their Gigabit Communities Fiberville deployment. They are actively engaged in upgrading all their rural NH territory to fiber for next generation services. They have invested upwards of \$8 million in facility upgrades and improvement, and employ 58 people.

(Refer to Appendix A for a look at the official First in Fiber Celebration announcement.)

Comcast announced in May 2014 the addition of a new 600-seat Customer Care Support Center in Hudson NH with 100 positions hired by the end of 2014. The announcement underscored Comcast’s continued investment in New Hampshire. Over the past year network, employee and community investment, including payroll, taxes, benefits, training totaled almost \$426 million. Comcast employs 1,700 people while providing cable video, voice and broadband internet service to over 100 communities in NH. Comcast contributed more than \$1.74 million in community investment through grants, scholarships, and “Internet Essentials” providing discounts broadband services to eligible low income families with children. Recent investments included deployment of a residential 505 Mbps service and the announcement of the 13th speed enhancement in the last 12 years.

MetroCast Cablevision based in Belmont serves approximately 30 communities in the Lakes Region. They employ 240 people in NH and have invested \$8.5 million in expansion efforts to upgrade facilities to a digital format.

186 Communications, LLC and New Hampshire Optical Systems, Inc.

NHOS, a private funding/construction partner, contributing more than \$8M in match to the BTOP funded Network New Hampshire Now’s middle mile project moved its self and sister company Waveguide, Inc. (along with 75 employees) from Chelmsford MA, to Nashua NH in 2013. Acquiring the formal US Postal processing center off the Everett Tpk.’s Exit 8, the 30,000 sf facility sits on 9 acres and has become the new home for these growing organizations. Additional 2013/2014 details include:

- 186 Communications, LLC formed. NH CLEC providing retail dark and lit fiber high capacity data services. Employing 6 people.
- 27 new hires for Waveguide, Inc. with 7 positions currently open.
- Economic contributions include \$6.2M annual payroll; \$4M in new infrastructure.
- Colocation sites established in Concord and Peterborough; 2-3 additional sites scheduled EOY 2014.
- Nashua data center completed in 2Q 2014, currently 50% occupied, expansion plans set for 2015.
- Current network expansion projects in Boston and Springfield MA as well as Albany NY.
- Additional network expansion projects underway in NH, NC and PA.
- Construction expansion to Canada nearing completion, utilizing fiber assets in NH and VT.

AT&T Mobile (Cell Carrier) has been aggressively building and collocated facilities in NH since 2009. From the recent 2013 Annual Sustainability Report, AT&T invested close to \$110 million in its best-in-class wired and wireless networks from 2011 through the end of 2013. AT&T employees and retirees gave more than 7,700 hours to community outreach activities and contributed more than \$460,000 through giving programs. AT&T is slated to invest another \$30 million in infrastructure facilities and upgrades this year.

ViaSat, Inc./Exede expanded the coverage area in New Hampshire during 2013 resulting in statewide coverage for its satellite internet access services.

*The private investment figures are not all inclusive. It represents only those companies who have share their investment information.