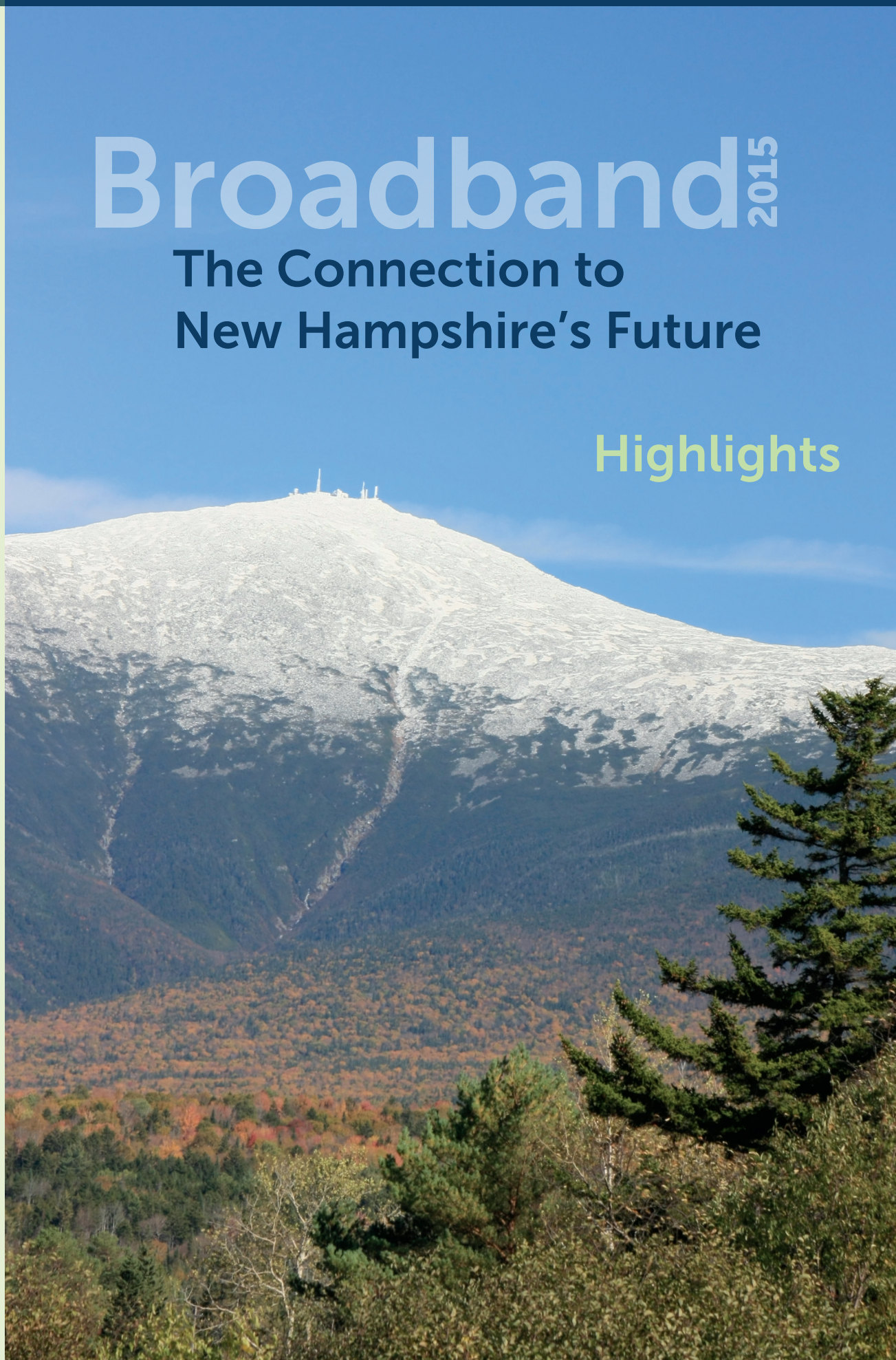
Broadband 2015

The Connection to New Hampshire's Future

Highlights



NEW HAMPSHIRE broadband MAPPING & PLANNING PROGRAM

University of New Hampshire

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PREFACE

This document contains highlights from the 84 page *Broadband: The Connection to New Hampshire's Future* report which presents the combined findings and recommendations of the state's nine regional broadband plans, developed by the regional planning commissions with extensive input from local committees, focus groups, public forums, and interviews with local stakeholders. To download a copy of the full report, go to http://www.iwantbroadbandnh.org/.

INTRODUCTION

The New Hampshire Broadband Mapping & Planning Program (NHBMPP) is a comprehensive initiative that began in 2010 with the goal of understanding where broadband is currently available in the state, how it can be made more widely available in the future, and how to encourage increased levels of broadband adoption and usage.

The Program is an American Recovery and Reinvestment Act of 2009 (ARRA) project funded through the National Telecommunications and Information Administration (NTIA) of the U.S. Department of Commerce. The Program is managed by the New Hampshire Geographically Referenced Analysis and Information Transfer System (NH GRANIT) within the Earth Systems Research Center at the University of New Hampshire (UNH), and is a collaboration of multiple partners. These include the New Hampshire Office of Energy and Planning (OEP), the New Hampshire Department of Resources and Economic Development (DRED), University of New Hampshire Cooperative Extension (UNHCE), University of New Hampshire Information Technology (UNHIT), and the state's nine regional planning commissions (RPCs).

The full report and this summary are the culmination of a five-year effort by NHBMPP partners, including UNH, DRED, and the regional planning commissions in New Hampshire, to better understand the broadband landscape in the state, and to offer recommendations to promote increased broadband access, adoption, and utilization in New Hampshire.

ACKNOWLEDGMENTS

In addition to the project partners listed above, we extend a sincere thank-you to the more than 150 New Hampshire residents who participated in the focus groups and forums held as part of the regional planning process.

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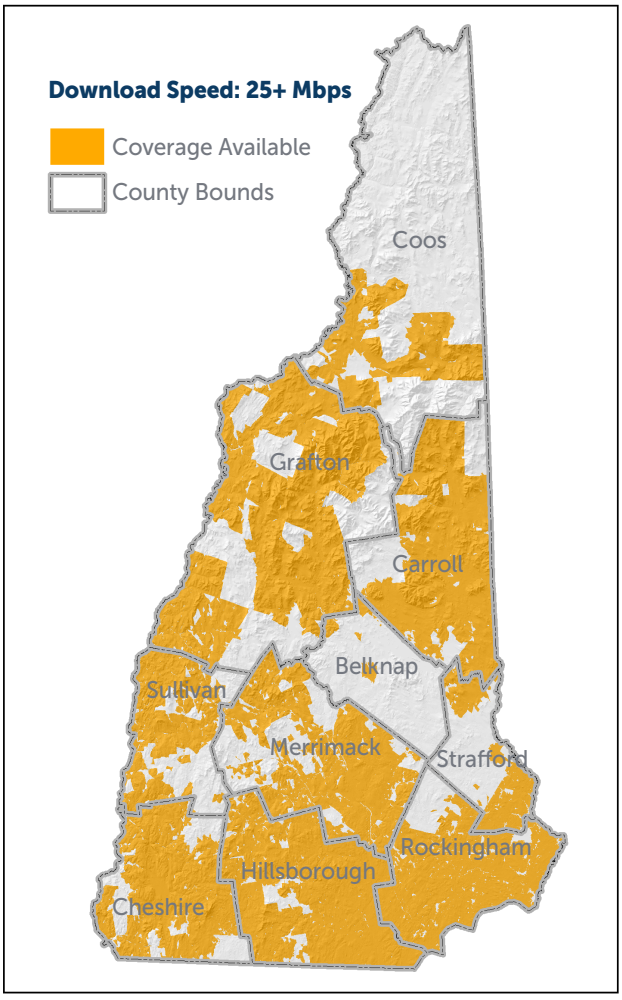
WHAT IS BROADBAND?

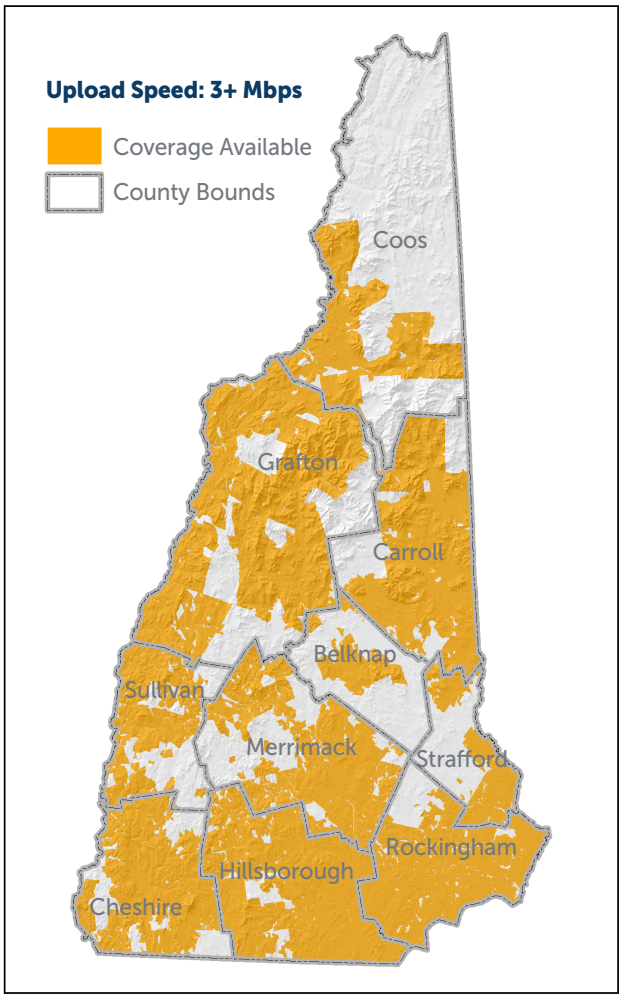
Broadband, also called "high-speed Internet," is the umbrella term referring to Internet access that is always on and is faster than dial-up Internet access. Broadband is typically measured by how fast a user's computer can download and upload information from the Internet. Download speed is the rate that a computer receives data from the Internet, while upload speed is the rate that a computer sends data.

When the NHBMPP began in 2010, the NTIA defined broadband as providing minimum speeds of 768 Kilobits per second (Kbps) download and 200 Kbps upload; however, in order to use many Internet applications successfully, much faster download and upload speeds are required. As a result, the NHBMPP adopted a revised measure that defined broadband access as 6 Megabits per second (Mbps) down and 1.5 Mbps up – a definition that was still considered conservative.

In February 2015, subsequent to the publication of the full report that this document summarizes, the U.S. Federal Communications Commission (FCC) changed how it defines broadband to download speeds of 25+ Mbps and upload speeds of 3+ Mbps. The maps below present broadband availability for wireline and fixed wireless technologies, e.g. exclusive of cell and satellite technologies, using this revised definition and based on data submitted by New Hampshire providers in March 2014.

State of New Hampshire
Broadband Availability at 25+/3+ Mbps





WHY IS BROADBAND IMPORTANT FOR NH?

New Hampshire's citizens and businesses increasingly require high-speed Internet access to conduct their daily activities. Broadband is now critical infrastructure for business, education, health care, public safety, and government operations.[1] Every New Hampshire resident, business, and organization should have access to fast, reliable, and affordable broadband to ensure our current and future prosperity and quality of life.

In New Hampshire, broadband is widely available at basic speeds. But not everywhere—there are communities and neighborhoods throughout the state with limited or no broadband access. This disparity in broadband access leads to disparities in economic opportunity, education, community vitality, public health and safety, and quality of life for New Hampshire residents. And the basic speeds that are available in much of the state today may limit the applications that can be effectively utilized now and in the future.

BROADBAND IN NEW HAMPSHIRE AND ITS REGIONS

While basic broadband speeds are available to most New Hampshire residents, lower percentages of the population have access to the faster speeds required today for simultaneous use of multiple devices, cloud-based business applications, telemedicine, etc.

In areas with low population density, particularly in the southwestern and northern parts of the state, fewer potential subscribers can mean a low return on infrastructure investment, making it more difficult to attract providers.[2] The lack of competition can in turn lead to higher prices for broadband consumers.

As with broadband availability, there are also regional differences in broadband adoption or use attributable at least in part to demographic trends. Lower-income households may not be able to afford broadband service, and older residents may be less likely to subscribe to broadband at home even if it is available.

The full state report summarizes the characteristics of New Hampshire's nine planning regions, including geography and demographics, and presents the broadband issues and priorities identified in each of their regional broadband plans. The nine regional plans are available at http://www.iwantbroadbandnh.org/planning.

BROADBAND OPPORTUNITIES BY SECTOR

While broadband access plays an important role in almost all aspects of our daily lives, the full report describes the current status and future needs of broadband in six specific sectors: economic development, education, health care, community support/local government, public safety, and residents.

Jobs related to broadband and information technology are expected to grow by 25% between 2008 and 2018, a rate 2.5 times faster than the average for other occupations and industries.[3] It has been estimated that in New Hampshire, significantly increasing broadband availability and adoption could create more than 11,000 jobs and $634 million in economic impact.[4]

For New Hampshire businesses, broadband helps improve efficiency, expand markets, reduce costs, and increase revenues. According to the National Broadband Plan, "By using web-based technology tools, 68% of businesses surveyed nationally boosted the speed of their access to knowledge, 54% saw reduced communications costs, and 52% saw increased marketing effectiveness." [5]

In the public safety sector, personnel need the ability to communicate quickly with each other, access online resources via personal computers or mobile devices, and transfer critical video and information during emergencies. Broadband can enable first responders to share information digitally and in real time with hospitals and emergency facilities from the ambulance or point of response. Broadband supports mobile command-post operations and remote access to databases, such as criminal history and medical records.

In the healthcare sector, emerging technologies can improve health outcomes while controlling costs and extending the reach of providers.[6] Many of these technologies depend on broadband. They include online billing systems, data management, electronic health records, prescription management, health information exchanges, and providing information and services to patients online.[7] Patients can benefit from remote consultations with specialists and the high-speed transmission of medical images and records without having to leave their community health center or, in some cases, their home.[8]

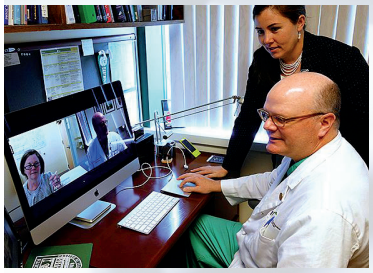
Reliable broadband technology is an important tool for education. Broadband can extend learning beyond the classroom, provide more customized learning opportunities, and increase the efficiency of school systems.[9] A wide range of Internet-based resources—such as distance learning programs, online learning modules, and digital textbooks—allows students to engage in multimedia lessons, take virtual trips, and communicate with classrooms in other parts of the world. Broadband also provides adult learners easy access to online professional development and educational opportunities, and offers educators a platform to share curricula.

In addition, broadband helps local government to deliver services efficiently and cost-effectively. At NHBMPP-sponsored focus groups and interviews, municipal representatives identified the importance of having reliable, redundant broadband connections for both the municipality and its residents as a key broadband issue.

Small Business

"We need a high-speed system to help track our product from net to market and get New Hampshire seafood on the map locally."

Bob Campbell, Former Manager, Yankee Fishermen's Cooperative



Health Care

"Nearly 500,000 New Hampshire residents live in rural parts of the state, so a viable broadband infrastructure is crucial for delivering first-rate telehealth services."

Dr. Sarah Pletcher, MD, MA, Medical Director of the Dartmouth-Hitchcock Center for Telehealth

Science Education

"In science teaching, high-speed access to Internet resources is critical for students to be able to utilize the tools necessary to develop and apply the 21st-century skills they will need in the future."

Ina Ahern, Science Teacher, Plymouth Regional High School and co-founder, NHEdGIS Partnership

BROADBAND RECOMMENDATIONS

The 37 recommendations in the full report seek to ensure that high-speed broadband is available to everyone in the state, that it is affordable, and that people know how to use it effectively. Implementing the necessary policies and changes will require a willingness to act and invest now. All recommendations will take effort and resources to implement. Some require state agency activity, some require legislation, others require private market activity, and many require a combination. The recommendations can be broadly summarized as follows:

Establish a Broadband Authority and Broadband Council

New Hampshire needs an official entity that is responsible for developing and advancing the state's strategic broadband plan, for continuing to collect data and map broadband availability and use, and for seeking funding to support infrastructure expansion—a statewide authority. It also needs a broadly representative stakeholder group to advise the authority and other public officials—a broadband council. Creating an official state authority and an advisory council to plan, promote, finance, assess, and support expanded broadband deployment and adoption efforts is a critical first step to ensuring that all New Hampshire residents and businesses have access to affordable broadband.

Eliminate Barriers to Broadband Availability

In addition to increasing speeds in areas that are currently served, New Hampshire needs to extend broadband service to areas of the state that are currently unserved or underserved. Ensuring that fast, reliable broadband service is accessible to all New Hampshire residents, businesses, and organizations who want it is essential to a prosperous New Hampshire with a high quality of life.

One way to encourage broadband expansion is to eliminate barriers to broadband availability. This includes working with service providers, utility pole owners, regulators, and legislators to 1) streamline the pole attachment and tower siting processes; 2) improve the use of highway rights-of-way; and 3) streamline utility pole licensing procedures.

Encourage Competition to Improve Broadband Affordability

The cost of broadband service makes it unaffordable to a significant number of New Hampshire residents. Much of the state has coverage from only one or two wireline broadband providers, and this lack of competition can lead to higher prices. New Hampshire needs to encourage competition among providers to bring the lowest possible cost to consumers.

One way to accomplish this is to amend New Hampshire law (RSA 53-C:3-b) to remove the requirement that new service providers build out an entire network identical to the existing cable provider in order to provide new and competitive services in a given franchised community. At the national level, New Hampshire officials should support policies that give the Federal Communications Commission (FCC) the tools to encourage broadband competition.

Coordinate, Promote, and Sponsor Trainings to Increase Broadband Adoption

New Hampshire needs to coordinate, promote, and sponsor trainings for residents, businesses, and organizations on the benefits of broadband usage. Increased skills and knowledge of broadband applications encourages broadband use and will lead to a well-educated, prosperous, healthy, and safe New Hampshire.

Monitor Broadband Availability and Adoption

New Hampshire needs to monitor, inventory, and evaluate its broadband availability, affordability, adoption, and competitive position on an ongoing and regular basis. Grant funding from the NTIA for the NHBMPP ended in early 2015. Continuing to collect statewide broadband availability and adoption data is necessary in order to measure the effectiveness of broadband efforts and to provide a clear picture of New Hampshire's broadband competitive position in comparison to other states and countries.

CONCLUSION

Broadband, or high-speed Internet access, is critical infrastructure to ensure that the state's residents and businesses are connected locally, nationally, and globally. While broadband is widely available at basic speeds in New Hampshire, there remain some areas of the state with limited or no broadband access. And further, the basic speeds that are available in much of the state today may limit the applications that can be effectively utilized now and in the future. To ensure that New Hampshire provides high-quality education, economic opportunities, vital communities, and critical public health and safety services to all, comprehensive planning followed by aggressive implementation actions are required.

Broadband: The Connection to New Hampshire's Future presents the status of broadband in New Hampshire along with statewide, regional, and sector challenges and recommendations. The findings and recommendations were developed in conjunction with the nine regional planning commissions in the state and extensive input from committees, focus groups, public forums, and interviews with local stakeholders. They provide critical short-term and mid-term policies, initiatives, and actions to ensure that broadband is available to everyone in New Hampshire, that it is affordable, and that people know how to use it effectively. Implementing the policies and changes will take effort and resources along with a willingness to act and invest now. It will also require the cooperation and dedication of state agencies, municipalities, legislators, and private entities.

Broadband: The Connection to New Hampshire's Future was written to highlight the importance of broadband to New Hampshire's prosperity and quality of life. New Hampshire cannot afford to accept the status quo while other states, and the world, move forward. New Hampshire must continue to lead—and the time to act to improve broadband availability, affordability, and adoption in New Hampshire is now.

Endnotes

1 *Building Community Capacity through Broadband Initiative,* University of Wisconsin Extension, November 2010.

2 Southern NH Planning Commission Broadband Plan, March 2014.

3 Federal Communications Commission: Connecting America. *The National Broadband Plan, 2010.*

4 The Economic Impact of Stimulating Broadband Nationally, Report from Connected Nation Inc., Feb. 2008.

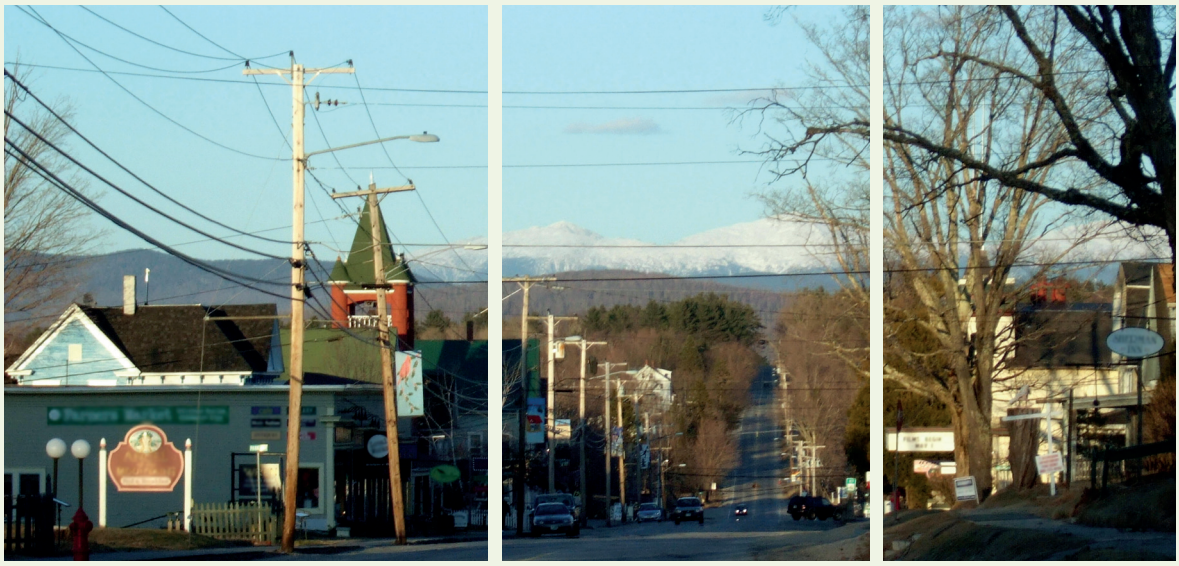
5 *How Companies Are Benefitting From Web 2.0,* McKinsey Quarter, Sept. 2009; National Broadband Plan, 2010.

6 Understanding Broadband Work Group, August 2013.

7 Ibid.

8 *Broadband Transforms Rural Health Care,* Broadband Communities Magazine, September, 2013.

9 Understanding Broadband Work Group, August 2013.



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(download the full report at:)

iwantbroadbandnh.org

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