TAB Report
July 2014

Appendix A

1. NH Broadband Mapping Broadband Availability Summary
2. NH Broadband Mapping Speed Tier Matrix
3. Current TAB Membership
4. Map of BTOP funded Assets
5. Broadband Mapping and Planning – Planning and Technical Assistance updates
6. Broadband Maps as of March 31, 2014
7. FairPoint Map of latest investments and Economic Infographic
8. TDS Telecom Celebration Flyer

Broadband Availability Analysis For New Hampshire - Spring 2014

Based on Wireline and Fixed Wireless Coverage

Population Analysis (All Providers)		
No Service	0	0.0%
Unserved	4,179	0.3%
Underserved	110,924	8.4%
Underserved with reported gaps	32,266	2.5%
Served	1,066,549	81.0%
Served with Gaps	102,552	7.8%
Total Population	1,316,470	100.0%

Household Analysis (All Providers)		
No Service	836	0.1%
Unserved	1,988	0.3%
Underserved	63,864	10.4%
Underserved with reported gaps	18,166	3.0%
Served	477,633	77.7%
Served with reported gaps	52,267	8.5%
Total Households	614,754	100.0%

Area Analysis (All Providers) sq. mi.		
No Service	1,151.15	12.3%
Unserved	123.48	1.3%
Underserved	1,584.05	16.9%
Underserved with reported gaps	797.55	8.5%
Served	3,433.10	36.7%
Served with reported gaps	2,259.44	24.2%
Total Sq. Miles	9,348.77	100.0%

Population Analysis (Residential Providers)		
No Service	0	0.0%
Unserved	8,715	0.7%
Underserved	155,545	11.8%
Underserved with reported gaps	36,430	2.8%
Served	1,029,178	78.2%
Served with reported gaps	86,602	6.6%
Total Population	1,316,470	100.0%

Household Analysis (Residential Providers)		
No Service	0	0.0%
Unserved	4,335	0.7%
Underserved	85,755	13.9%
Underserved with reported gaps	20,621	3.4%
Served	459,851	74.8%
Served with reported gaps	44,192	7.2%
Total Households	614,754	100.0%

Area Analysis (Residential Providers) sq. mi.		
No Service	0.00	0.0%
Unserved	1,320.99	14.1%
Underserved	1,676.59	17.9%
Underserved with reported gaps	782.29	8.4%
Served	3,438.52	36.8%
Served with reported gaps	2,130.38	22.8%
Total Sq. Miles	9,348.77	100.0%

Analysis Definitions

Served:

Maximum Advertised Download Speed: 6+ Mbps

Maximum Advertised Upload Speed: 1.5+ Mbps

Underserved:

Maximum Advertised Download Speed: 768 kbps - 6 Mbps

Maximum Advertised Upload Speed: 200 kbps - 1.5+ Mbps

Unserved:

Maximum Advertised Download Speed: < 768 kbps

Maximum Advertised Upload Speed: < 200 kbps

Reported Gaps:

Service coverage is based on data received directly from broadband providers in NH, reported at the census block level. "With gaps" identifies census blocks that provideres indicated are served but where the NHBMPP has received user emails, website surveys and/or town verification indicating specific locations with no service available. Additionally, areas where speed tests have been filed that do not meet the minimum speed criteria are flagged as having a gap in service.

Data Sources:

Population and Households - 2010 US Census

Broadband Availability - NH Broadband Mapping & Planning Program, March 2014

The New Hampshire Broadband Mapping & Planning Program is funded under grant #33-50-M09048 from the US Dept. of Commerce to the University of New Hampshire.

NEW HAMPSHIRE broadband MAPPING & PLANNING PROGRAM

"Broadband"

(As defined by the New Hampshire Broadband Mapping and Planning Program)

Broadband is defined by the National Telecommunications and Information Administration (NTIA), as "advanced communications systems capable of providing high-speed transmission of services such as data, voice, video, complex graphics, and other data-rich information over the Internet and other networks." Stakeholders often seek to define broadband in terms of download and upload speeds, in part because these are discrete, convenient, and standardized metrics. Download and upload speeds measure the amount of data transmitted per second, as reported in kilobits (kbps), megabits, (mbps) and gigabits (gbps).

At the state level, the New Hampshire Broadband Mapping and Planning Program (NHBMPP) is tasked with mapping where broadband is currently available, determining how it can be made more widely available in the future, and encouraging increased levels of broadband adoption and usage. NHBMPP is also offering broadband planning and technical assistance to a wide range of groups and organizations throughout the state.

For the purposes of discussion and planning, the NHBMPP has developed the attached matrix to assist stakeholders in understanding the diverse levels of broadband available in the state 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 Program has established broadband availability categories ("served", "underserved", and "unserved") to describe access to broadband service. These categories are based solely on the maximum speeds available to the end-user or end-device. While some states are also considering the number of providers servicing a given area when determining access levels, e.g. a degree of competition, the NHBMPP has not chosen to incorporate those analyses in its availability categories.

When using the attached matrix to evaluate access, determine the category by assessing both the download and upload speeds. Most broadband technologies (cable, wireless, satellite, etc.) are not capable of sending and receiving data at the same speed, with upload speed typically being more limited.

This document does not seek to supersede other national and/or state efforts to establish a standard definition for "broadband." It also limits the focus to transmission speed, while recognizing that affordability and functionality are also key factors when assessing broadband needs and barriers to adoption.

Broadband functions, applications and technologies are continually changing. Only 15 years ago, a 56 Kbps connection was sufficient to conduct most business on the internet. Today, in order to use many internet applications successfully, a minimum download speed of 1.5 Mbps is required. This trend towards increasing requirements for bandwidth capacity will certainly continue into the future, and the matrix of uses presented herein will evolve as well.

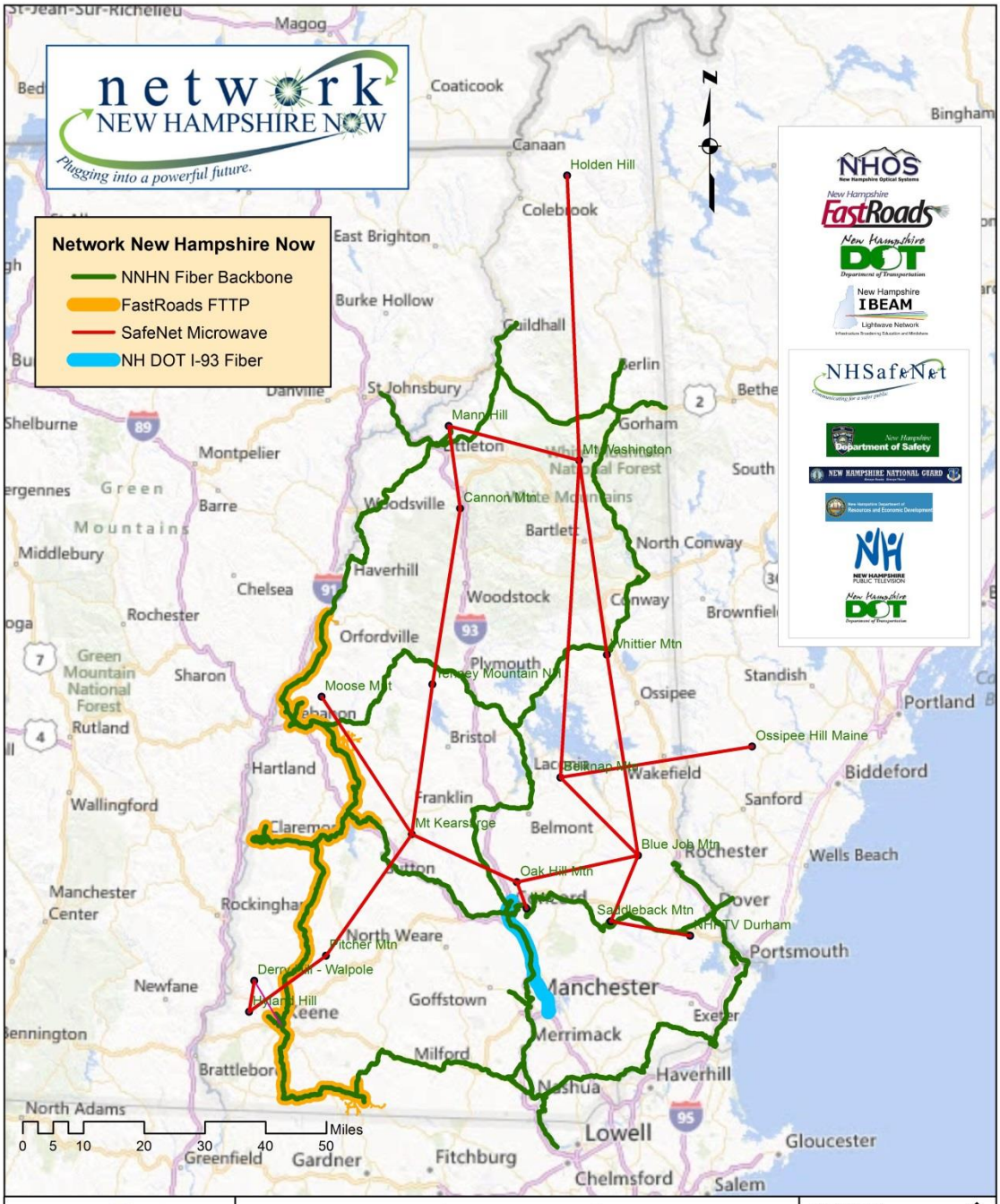
- For more information on the NHBMPP, please visit http://www.iwantbroadbandnh.org
- To take a customized speed test and measure your actual delivered upload/download speeds, please visit http://www.iwantbroadbandnh.org/speed_test

Rev. 2/14/14

Category	*Download Speed*	*Upload Speed*	*Typical Functions/Use (functions additive to level above)* NEW HAMPSHIRE broadband MAPPING & PLANNING PROGRAM
Unserved	**< 768 Kbps**	**< 200 Kbps**	• Email (Client/Server-based; POP)
Underserved	**768 Kbps to < 6 Mbps**	**200 Kbps to < 1.5 Mbps**	**Minimum Download Speed: 768 Kbps** | **Minimum Upload Speed: 200 Kbps** • Web-based email • Limited web browsing and shopping • Minimal social media use • Sending/receiving small documents/files (photos, word processing, invoices) • Use of internet not integrated in daily life function • Single user internet device **Minimum Download Speed: 1.5 Mbps** | **Minimum Upload Speed: 768 Kbps** • Web browsing and shopping • Medium social media use • Sending/receiving medium-sized documents/files (photos, word processing) • Limited streaming content; buffering a concern Standard Definition (SD) content • VPN access possible, but speed of operation not critical to job function • Internet integrated in daily life, and "always" connected • 1-3 simultaneous internet devices possible • Multiple functions working simultaneously possible (e.g. web browsing, streaming video/music, downloading content). Not concerned with speed of transmission. • VoIP (Voice over IP, i.e. telephone over the Internet) **Minimum Download Speed: 3 Mbps** | **Minimum Upload Speed: 768 Kbps** • Medium to high social media use • Sending/receiving medium to large-sized documents or files (photos, word processing) • Streaming SD content; buffering not a concern; downloading High Definition (HD) content (movies, video) • 3-5 internet devices possible • VPN access needed, speed of operation important but not critical to job function • Multiple functions performed simultaneously required (e.g. web browsing, streaming video/music, downloading content), but not concerned with speed of downloads • Low quality, small window frame videoconferencing (Skype) • Cloud-based computing and data storage
Served	**6 Mbps to 25+ Mbps**	**1.5 Mbps to 6+ Mbps**	**Minimum Download Speed: 6 Mbps** | **Minimum Upload Speed: 1.5 Mbps** • Heavy social media use • Sending/receiving large documents or files (photos, word processing, small videos) • Streaming HD content (movies, video); buffering not a concern • 5+ internet devices possible • VPN access needed, speed of operation critical to job junction • Higher quality, codec-based videoconferencing • Multi-player online gaming **Minimum Download Speed: 10 Mbps** | **Minimum Upload Speed: 3 Mbps** • Sending/receiving large files and small to medium-sized databases • HD quality, codec-based, large frame videoconferencing; multiple (bridged) sites/users • Remote synchronous education, professional development, workshops, etc., facilitated simultaneously at multiple classrooms and/or other locations • Telehealth/telemedicine applications possible **Minimum Download Speed: 25+ Mbps** | **Minimum Upload Speed: 6+ Mbps** • Sending/receiving medium to large-sized databases • HD quality, codec-based, large frame videoconferencing (Telepresence) connecting multiple (bridged) sites/users • High speed end to end network and business to business applications • Telemetry-based applications (rely critically on the ability of broadband to continuously monitor and multiplex data, i.e. remote patient monitoring, sensing systems, etc.) • Real-time HD medical imaging and consultation (remote dermatology, etc.) • "Internet 2" connectivity and applications

Telecommunications Planning and Development Advisory Committee
Member Designees
July 2014

II. The members of the committee are:
(a) The Governor, or Designee;
Christopher Kennedy - Governor's Office
(b) The Commissioner of Resources and Economic Development, or Designee;
Commissioner, Carol Miller, Director of Broadband Technology
(c) The Commissioner of Department of Safety, or Designee;
Arthur Durutte
(d) The Chairman of the Public Utilities Commission, or Designee;
Director of Telecom, Kathryn Bailey
(e) One member of the House of Representatives, appointed by the speaker:
Rep Laurence Rappaport
(f) One member of the senate, appointed by the president of the senate;
Sen Bob O'Dell
(g) The Chief Information Officer Department of Information Technology, or designee;
Steven Kelleher
III. The following persons nominated by the Commissioner of Resources and Economic development and appointed by the governor and council:
(1) Two members representing residential telecommunications customers;
Martha Mcleod, Ted Jastrzembski
(2) One member representing large business telecommunications customers;
Vacant
(3) One member representing small business telecommunications customers;
Elizabeth Merry
(4) One member representing educators providing distance learning;
Brian Shepperd
(5) One member representing municipal government;
Robert Ciandella
(6) One member representing county government;
Rodney Bouchard
(7) One member representing a regional economic development organization or a regional planning commission;
Michael Blair
and
(8) Up to 7 members representing several of the following sectors of the telecommunications industry: wireless, paging, incumbent local exchange carriers, competitive local exchange carriers, Internet service providers, cable, long distance providers, and broadcast television.
Christopher Hodgdon, Glenn Brackett, Marc Violette, Maura Weston, Brian Foucher, Ellen Scarponi, and Ingo Roemer



This work is partially funded under a grant from the US Dept. of Commerce # NT10BIX5570082

Network New Hampshire Now

A successful collaboration among multiple New Hampshire institutions.

University System of New Hampshire

University of New Hampshire

Prepared by:
Doug.Green@UNH.EDU
Network Architect
University of New Hampshire

Scale @ 8.5x11":
1 in = 20 miles

1/9/2014 8:05:14 AM

The New Hampshire Broadband Mapping and Planning Program (NHBMPP) *works to improve broadband access and use in the state by assessing broadband availability, and by engaging communities and other stakeholders in conducting planning, capacity building, technical assistance, and training initiatives. We recognize that a vibrant local and state economy requires broadband infrastructure to support economic development, energy efficiency, advances in health care, public safety, improved educational opportunities, and overall quality of life.*

NEW HAMPSHIRE broadband MAPPING & PLANNING PROGRAM

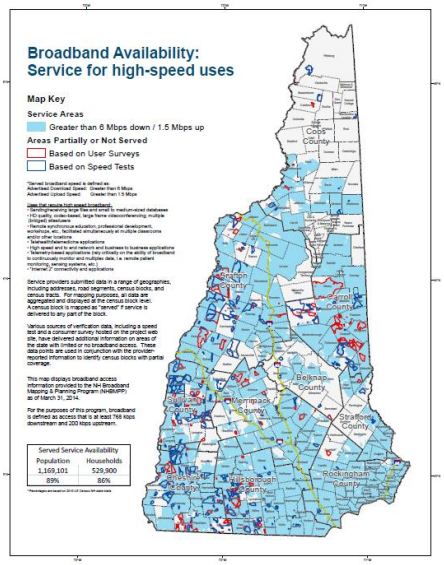
http://iwantbroadbandNH.org

Funded in 2010 by the American Recovery and Reinvestment Act through the National Telecommunications and Information Administration (NTIA), the NHBMPP is managed by the University of New Hampshire's GRANIT System, Earth Systems Research Center, Institute for the Study of Earth, Oceans, and Space.

Broadband Mapping Project Update Summer 2014

Mapping Project Objectives

- Collect data from Internet Service Providers (ISPs) in New Hampshire to build the state's broadband map.
- Collect data from Community Anchor Institutions (CAIs) in the state to contribute to the state's broadband map.
- Analyze data to identify areas in the state that are served, underserved, and unserved.
- Provide broadband data to legislators, community officials, businesses, stakeholders, and residents to frame public discussions and to plan for expanded and enhanced availability.



Broadband availability based on March, 2014 data

Mapping Project Activities

- Map Broadband Service Availability – on a semiannual basis, collect and process broadband data from each of the 60+ active ISPs to understand where broadband is available, the technology used to provide the service, and the maximum advertised speeds (up/down) of the available service.
- Map Community Anchor Institutions – on a semiannual basis, collect and process broadband availability data from ~4,000 institutions of local/regional significance, including schools, healthcare providers, libraries, public safety offices, and other municipal offices.
- Collect Verification Data and Related Data Sets -
  - Consumer Surveys – an online survey to understand where residential broadband is and is not available and/or adequate.
  - Speed Tests – an online tool to record data transmission speeds.
  - Field Data – statewide mobile wireless drive tests to collect data transmission speeds.
- Analyze Mapping Results – compile and analyze the full suite of data collected to characterize broadband availability in New Hampshire.
- Promote the State Broadband Map – increase awareness of the state broadband map and how it can be effectively utilized.

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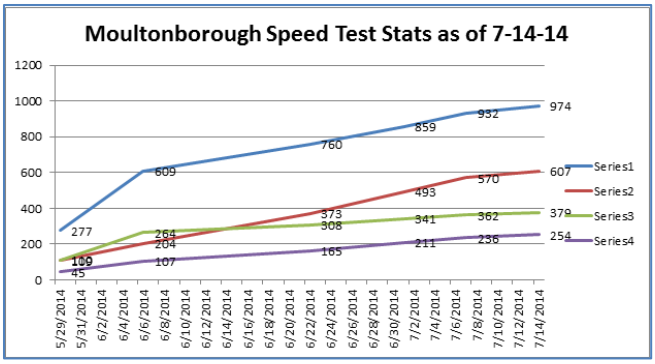
The NHBMPP is funded under grant #33-50-M09048 from the U.S. Dept. of Commerce to the University of New Hampshire

Mapping Project Results / Products



Speed test records submitted, Moultonborough, NH, May-July 2014

- Speed Tests – expanded marketing of NHBMPP speed test tool and generation of weekly reports for selected communities (see figure at right). Also ongoing efforts to incorporate speed test tools and data from external sources.
- Statewide Maps –production of statewide maps and analyses describing broadband availability by speed tier and by technology.
- Address Data - comprehensive address level mapping for selected communities in NH.
- Community Anchor Institutions - provision of technical support to NH Department of Education in responding to FCC eRate program modernization.
- Statewide Broadband Plan – production of map series for incorporation in forthcoming statewide documents.
- Broadband Cost Model – research into development of GIS-based broadband expansion cost modeling techniques focusing on wireline technologies.

(10,173 results as of 7/1/2014)

Download speed	Percentage
4 Mbps or less	49%
- FCC Minimum Broadband Speed -	
4-10Mbps	31%
10-25 Mbps	17%
More than 25 Mbps	3%

Upload speed	Percentage
1 Mbps or less	51%
- FCC Minimum Broadband Speed -	
1-3 Mbps	24%
3-10 Mbps	18%
More than 10 Mbps	7%

Statewide speed test results, July 2014

Future Plans / Next Steps

- Continue mapping broadband availability in New Hampshire.
- Continue updating the Community Anchor Institutions data set.
- Conduct further analysis of populations in the underserved and unserved areas of the state.
- Coordinate with regional broadband planning teams, providing data and analyses to support the regional plan development efforts.
- Expand the suite of data verification methodologies and resources, including developing web-based tools for provider data validation.
- Increase the dissemination of project results through an enhanced web interface.

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Broadband Planning Project Update Summer 2014

Planning Project Objectives

- Understand the important role of broadband availability and accessibility in maintaining vibrant economies and quality of life.
- Establish advocacy for broadband needs within NH's regions, municipalities and sector groups.
- Engage communities in better understanding their broadband access options.
- Integrate on-going broadband mapping and technical assistance and training efforts into broadband planning activities.
- Develop broadband plans for NH's nine regions to be integrated into a statewide broadband document.

Planning Project Activities

- Form Regional Broadband Stakeholder Groups (BSGs) – NH's nine regional planning commissions to establish groups of stakeholders representing municipalities, businesses, schools, healthcare, etc. to review and discuss broadband-related issues.
- Identify broadband needs and barriers as well as strategies to address those barriers.
- Conduct analysis to determine broadband needs specific to certain sectors such as education, health/medical, businesses, public safety, and government services.
- Expand the dialogue by sponsoring regional broadband public forums on an annual basis.
- Promote the use of the broadband speed survey to enhance the resolution of coverage throughout New Hampshire.
- Timeframe: January 2011 – December 2014.

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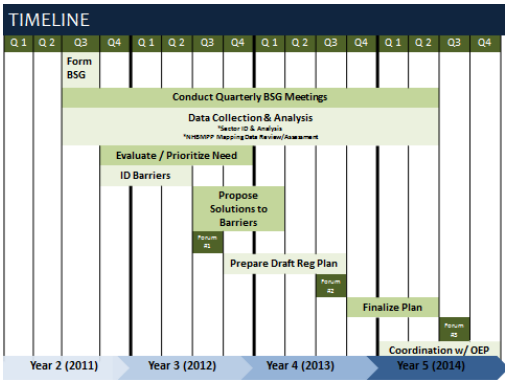
Planning Project Results / Products

- Regional planning commissions (RPCs) have completed regional broadband plans which are now available for review as they are being refined prior to adoption.
- In conjunction with BSGs, RPCs have conducted public forums to announce the release of regional broadband plans and to encourage public dialogue and input.
- A uniform implementation matrix has been developed for common usage in regional broadband plans to facilitate a clear assessment of strategies being employed statewide.
- To enhance draft broadband plans, RPCs have completed a municipal broadband service map verification project to improve the accuracy of existing map products.
- Coordination is occurring with representatives of the NH Office of Energy and Planning (OEP) for developing a state-level broadband planning document.
- Broadband usage, adoption, and infrastructure needs have been integrated into Comprehensive Economic Development Strategies (CEDS) in several NH regions.

Future Plans / Next Steps

- Facilitate and encourage public input on regional broadband plans.
- Complete refinements to incorporate input from program partners, community officials, and the general public into draft plans.
- Adopt regional broadband plans.
- Collaborate with OEP in their effort to integrate the nine regional plans into a statewide broadband planning document.
- Conduct the 3rd in a series of regional public forums.
- Assist municipalities in moving toward enhanced broadband services available in their communities.
- Continue to engage BSGs in working towards progress in implementing strategies developed in regional broadband plans.



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Capacity Building/Community Resources Update

Summer, 2014

Capacity Building/Community Resources Objectives

- Work with the NH Director of Broadband Technology, BSGs, the NH Telecommunications Planning and Development Advisory Committee (TAB), and others, to identify broadband deployment and adoption barriers and potential solutions.
- Research funding options for communities to expand broadband access in rural areas.
- Develop a "NH Broadband Solutions and Funding Toolkit" to help communities with broadband planning and decision making.
- Assist communities in developing support for broadband expansion, adoption and use.

Project Activities

- Continue meetings with Bethlehem, Greenfield, and Moultonborough to review assessment plans and to working with each community to develop a broadband plan of action.
- Initiated a summer speed test campaign in Moultonborough NH. Results will be compiled this fall in town GIS mapping.
- Coordinated with Greenfield, NH to begin a project to map broadband by street address.
- Developed and currently enhancing an online "NH Broadband Solutions and Funding Toolkit."
- Collaborated with NH Regional Planning Commissions and the NH Office of Energy and Planning as the team finalizes state broadband plans.

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Project Results

- Conducted a "Community Resources" workshop at the May 16th "NH Broadband Conference.
- *Worked with the TAB to create an education sub-committee who will work on compiling data regarding schools utilization rates of e-rate and documenting broadband speeds in preparation for the national ConnectED Initiative.*
- Developed Community Broadband Survey for Greenfield.
- Participated in "Talk of the Town" in Moultonborough to highlight activities and goals of the broadband committee
- Collaborated with New Hampshire Regional Planning Commissions to compile the "NH Broadband Solutions and Funding Toolkit" content
- Met with ISP to evaluate future plans for expansion in Greenfield, NH.

Future Plans / Next Steps

- Schedule a Fall workshop with Regional Planning Commissions to review lessons learned from consulting with NH communities.
- Conduct meetings with Bethlehem, Greenfield, and Moultonborough to review results of the assessment tools and to develop a broadband plan of action for each.
- Execute the Greenfield Broadband Survey.
- Develop a Broadband Feasibility Matrix exercise. Test with towns and add to the "NH Broadband Solutions and Funding Toolkit"
- Enhance "NH Broadband Solutions and Funding Toolkit" and promote to communities.

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Broadband Technical Assistance & Training Project Update

Summer, 2014

Technical Assistance & Training Project Objectives

- Assess broadband training and technical assistance needs of stakeholder groups including educational institutions, municipalities, organizations, small business, and healthcare providers. Determine:
  - Topics that stakeholders would like to receive training on.
  - Functions/applications that would be of use to stakeholders.
- Design and develop face to face and web-based learning modules
- Deliver workshops, training and technical assistance to broadband stakeholder groups to support increased use of broadband adoption and use

Educational Institutions schools and colleges

Health Organizations hospitals and health care providers

Municipalities local officials, boards, service providers

Small Business agriculture, seafood, tourism and forestry

Technical Assistance & Training Project Activities

- Conduct needs assessments - targeted surveys, focus groups, phone surveys (Granite State Poll), and feedback sessions.
- Develop curriculum - presentations, workshops and online training resources.
- Provide targeted technical assistance to enhance broadband adoption and utilization.
- Develop training sessions for sector groups.

University of New Hampshire

The NHBMPP is funded under grant #33-50-M09048 from the U.S. Dept. of Commerce to the University of New Hampshire

Technical Assistance & Training Project Results

Trainings and presentations made to over 250 people including business, municipal and community leaders, and the university community:

- ***Development of Technology Discovery Laboratory*** at Families in Transition housing complex in Manchester, NH. This laboratory, with seven work stations, will introduce vulnerable children and their parents to computer literacy. Extension staff and two grad students will deliver educational programs this Fall through next year.
- ***Technology Application for Marketing Local Seafood*** piloted by the Yankee Fishermen's Co-op. This real-time technology, which connects fresh fish to markets, saved $50,000 in staff time and led to cultivation of new, high-value markets.
- ***Leveraging Broadband for Economic Development*** presented at three venues: State Extension Advisory Council, Belknap County, and the State Association of Counties. Workshop participants tested municipal e-readiness tool to assess their broadband readiness.
- ***Leveraging Broadband for Small Business*** presented to small business owners, state decision-makers, and business service-providers at State Broadband Conference.
- ***On-line Learning Modules for Businesses, Communities, and Economic Decision-makers*** underway and being beta-tested with these audiences.
- ***Marketing your Food in Real-time Workshop*** conducted in Strafford County, introducing local food enterprises to new technology applications for linking local food with new customers (drawing on program implemented by Yankee Fishermen's Cooperative)
- **Community Broadband Assessment Readiness Tool** has been used by over 40 communities in 2014 to gauge their readiness towards implementing a successful broadband plan.

Future Plans / Next Steps

- The Technical Assistance and Training (TAT) Team will have the on-line learning modules live on September 15th for a soft launch.
- Technology Learning Laboratory will have educational program underway in the Fall of 2015.
- Technical Assistance and Training Team will work with Capacity Planning and Community Resources Team to have a Community Toolbox fully developed and on-line by Fall of 2015.
- The Economic Development Academy a hybrid face-to-face and on-line course for economic development practitioners will be up-and-running in August of 2015. Broadband and Technology is a major component of the curriculum.

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NH Broadband Mapping & Planning Program:
Number of internet service providers

Map Key

Other Features

Interstate

County boundary

Number of Providers

Number of Providers

1
2
3
4
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12

The map displays broadband access information submitted to the NH Broadband Mapping & Planning Program (NHBMPP) as of March 31, 2013.

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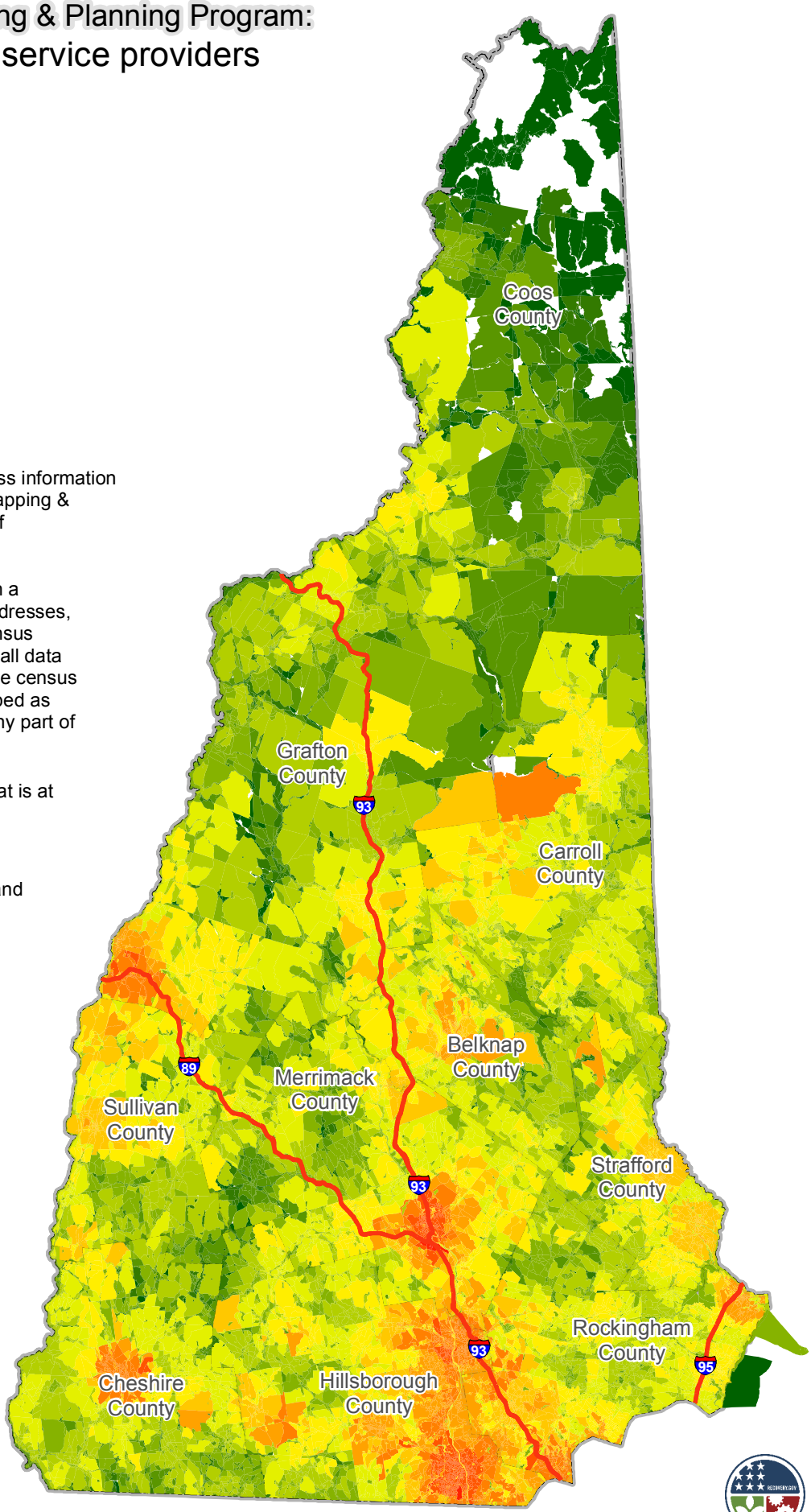
Broadband is defined as access that is at least **768 kbps downstream** and **200 kbps upstream**.

Maximum download speed was calculated without satellite broadband service.



Please visit the NHBMPP web site at: iwantbroadbandnh.org

NEW HAMPSHIRE broadband MAPPING & PLANNING PROGRAM

March 2013

NH Broadband Mapping & Planning Program:

Broadband Service Availability

Broadband Availability

- Broadband service available
- Areas identified as having gap(s) in service

Other Features

- Interstate
- County boundary
- Lakes and ponds
- Conservation land

Service Availability	
Population	Households
1,316,470	614,754
100%	100%

Report(s) of gap in	
Population	Households
134,818	70,433
10%	11%

** Percentages are based on 2010 US Census NH state totals*

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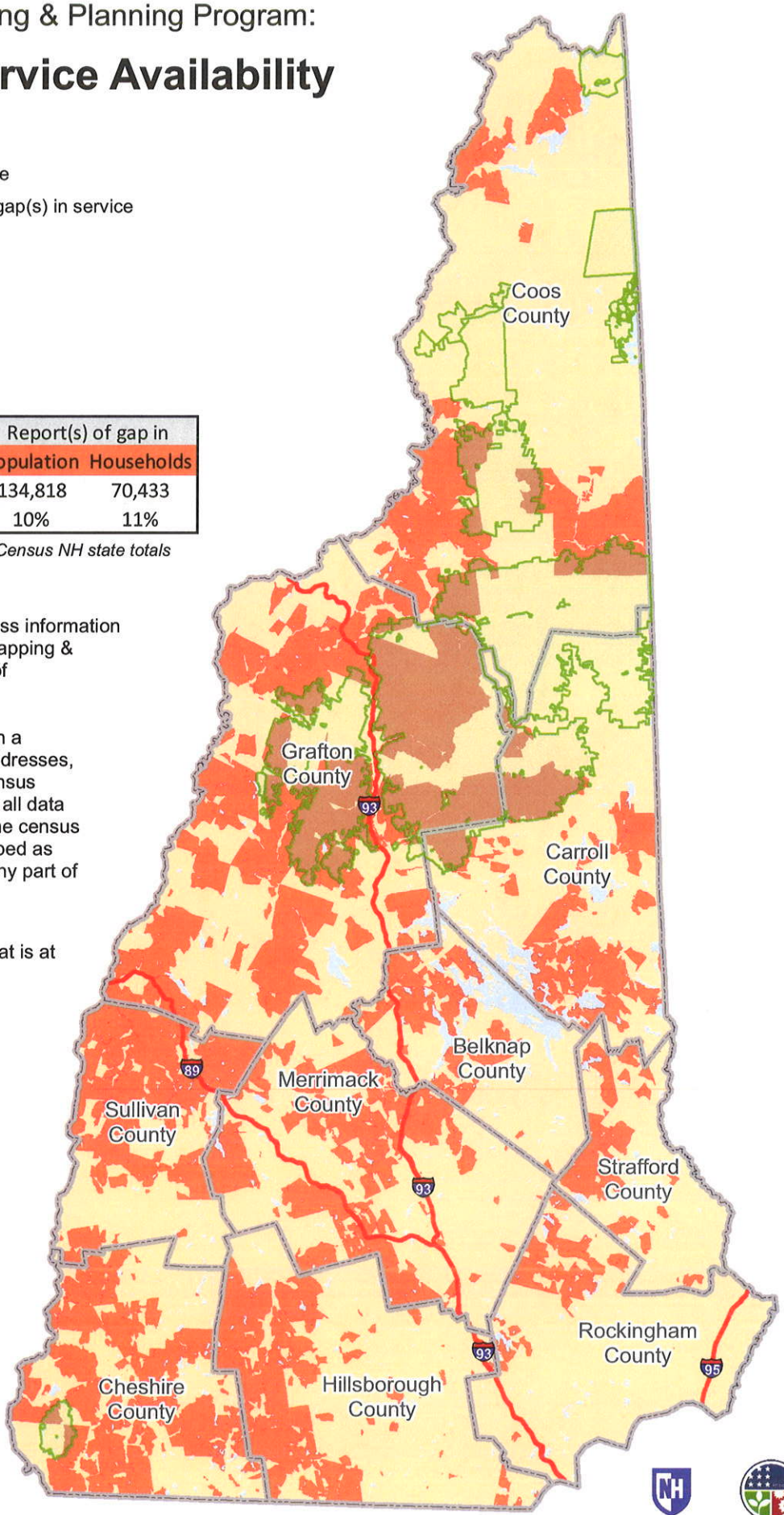

Please visit the NHBMPP web site at:
iwantbroadbandnh.org

NEW HAMPSHIRE broadband MAPPING & PLANNING PROGRAM

University of New Hampshire

March 2014

NH Broadband Mapping & Planning Program:

Maximum Advertised Download Speed

Broadband Availability

Maximum Advertised Downstream Speed

- >= 768 kbps and < 1.5 mbps
- >= 1.5 mbps and < 3 mbps
- >= 3 mbps and < 6 mbps
- >= 6 mbps and < 10 mbps
- >= 10 mbps and < 25 mbps
- >= 25 mbps and < 50 mbps
- >= 50 mbps and < 100 mbps
- >= 100 mbps and < 1 gbps
- >= 1 gbps

Other Features

- Interstate
- County boundary
- Lakes and ponds
- Conservation land

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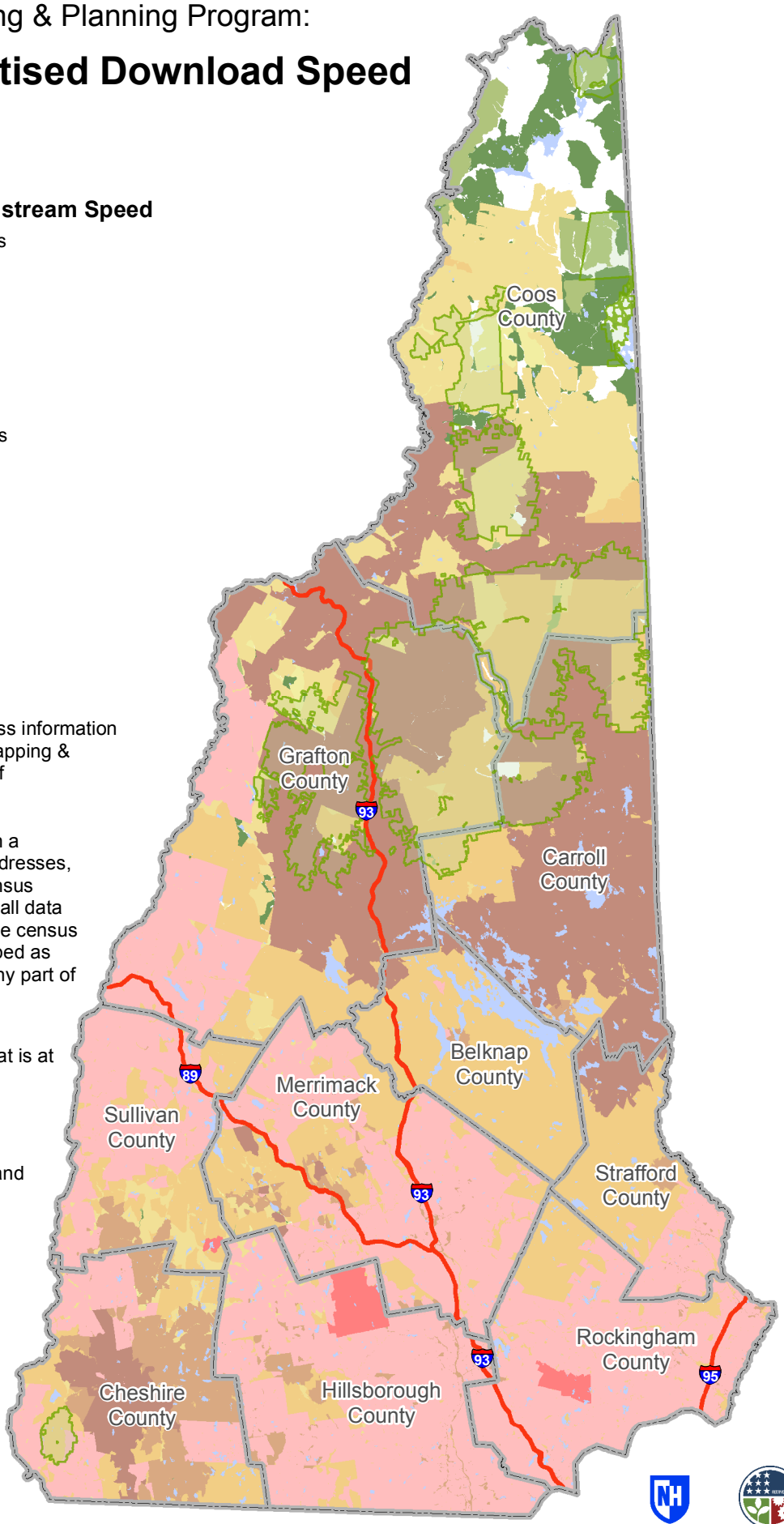

Please visit the NHBMPP web site at: iwantbroadbandnh.org

NEW HAMPSHIRE broadband MAPPING & PLANNING PROGRAM

University of New Hampshire

March 2014

NH Broadband Mapping & Planning Program:

Maximum Advertised Download Speed Greater Than or Equal to 50 mbps

Broadband Availability

Maximum Advertised Download Speed Greater Than or Equal to 50 mbps

Other Features

- Interstate
- County boundary
- Lakes and ponds
- Conservation land

Service Availability	
Population	Households
1,093,120	491,749
83%	80%

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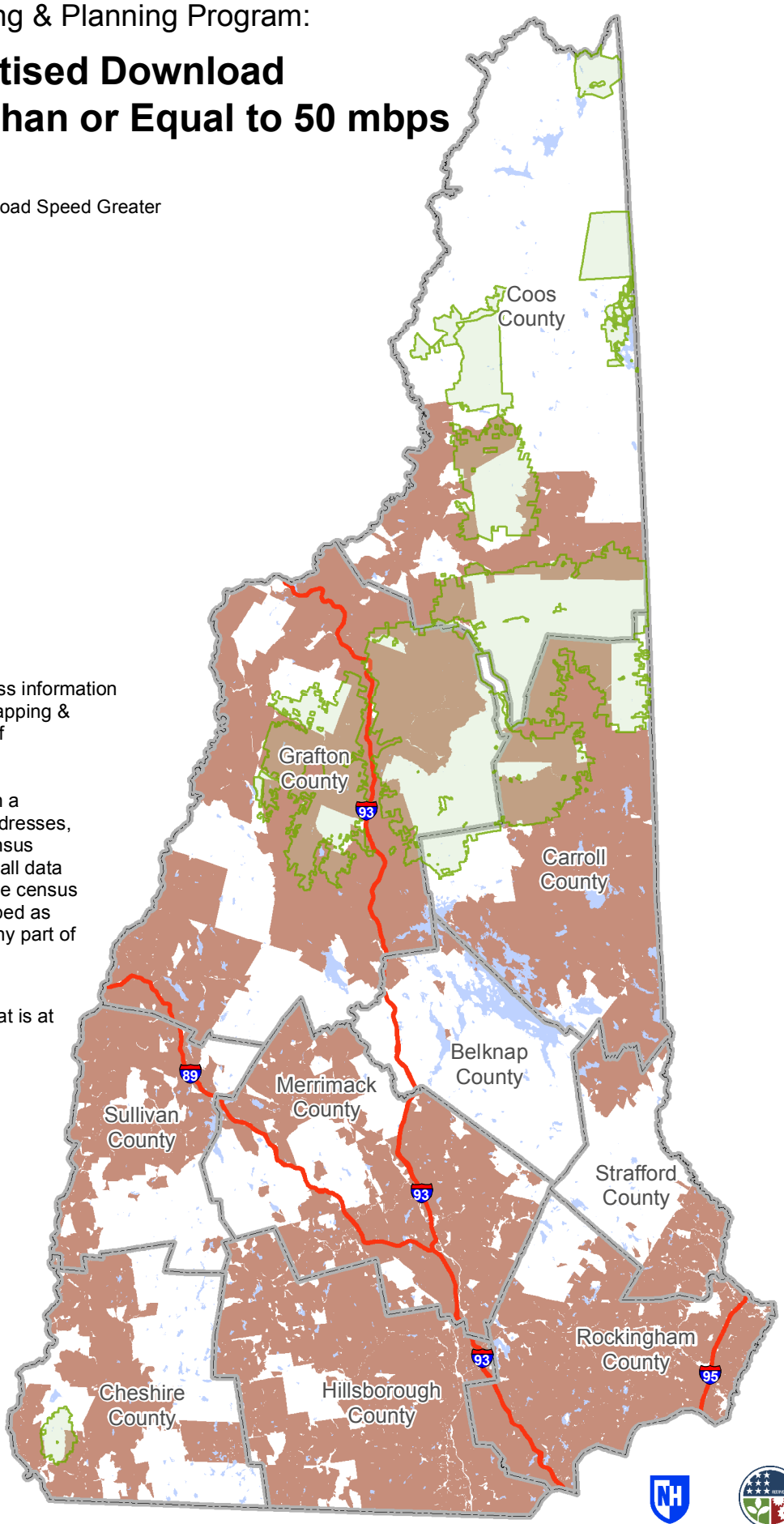

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NEW HAMPSHIRE broadband MAPPING & PLANNING PROGRAM

University of New Hampshire

March 2014

NH Broadband Mapping & Planning Program:

Maximum Advertised Wireline Download Speed

Broadband Availability

- Greater than 200 kbps and less than 768 kbps.
- Greater than or equal to 768 kbps and less than 1.5 mbps.
- Greater than or equal to 1.5 mbps and less than 3 mbps.
- Greater than or equal to 3 mbps and less than 6 mbps
- Greater than or equal to 6 mbps and less than 10 mbps.
- Greater than or equal to 10 mbps and less than 25 mbps.
- Greater than or equal to 25 mbps and less than 50 mbps.
- Greater than or equal to 50 mbps and less than 100 mbps.
- Greater than or equal to 100 mbps and less than 1 gbps.

Other Features

- Interstate
- County boundary
- Lakes and ponds
- Conservation land

The map displays broadband access information submitted to the NH Broadband Mapping & Planning Program (NHBMPP) as of March 31, 2014.

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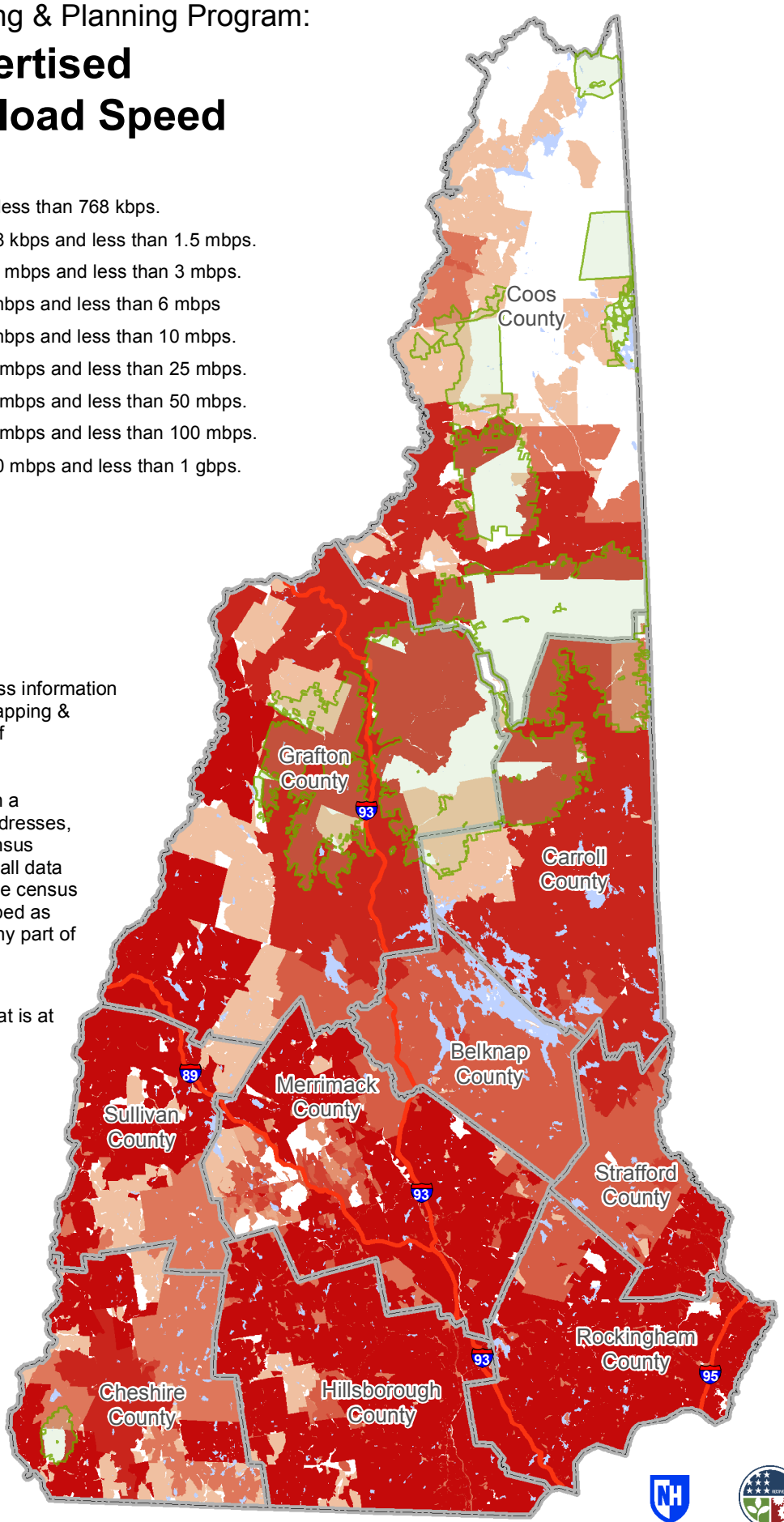

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NEW HAMPSHIRE broadband MAPPING & PLANNING PROGRAM

University of New Hampshire

March 2014

NH Broadband Mapping & Planning Program:

Optical Carrier / Fiber to the End-User Service Availability

Broadband Availability

Optical Carrier / Fiber to the End-User

Other Features

- Interstate
- County boundary
- Lakes and ponds
- Conservation land

Service Availability	
Population	Households
41,557	19,201
3%	3%

** Percentages are based on 2010 US Census NH state totals*

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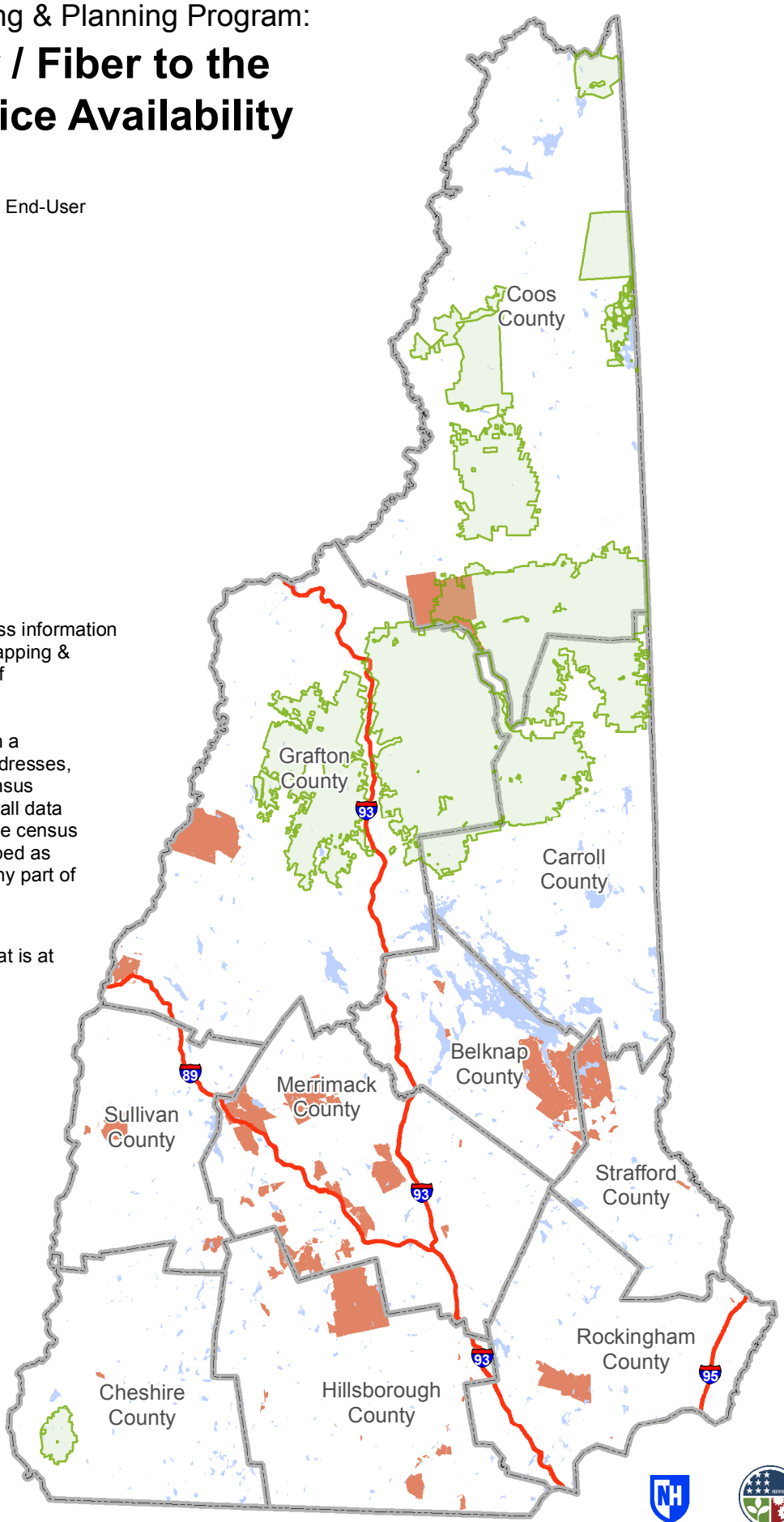

Please visit the NHBMPP web site at: iwantbroadbandnh.org

NEW HAMPSHIRE broadband MAPPING & PLANNING PROGRAM

University of New Hampshire

March 2014

NH Broadband Mapping & Planning Program:

DSL Service Availability

Broadband Availability

DSL service available

Other Features

Interstate

County boundary

Lakes and ponds

Conservation land

Service Availability	
Population	Households
1,296,060	602,289
98%	98%

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Please visit the NHBMPP web site at: iwantbroadbandnh.org

NEW HAMPSHIRE broadband MAPPING & PLANNING PROGRAM

University of New Hampshire

March 2014

NH Broadband Mapping & Planning Program:

Cable Service Availability

Broadband Availability

Cable service available

Other Features

Interstate

County boundary

Lakes and ponds

Conservation land

Cable Service Availability Statistics	
Population	Households
1,249,967	574,890
95%	94%

** Percentages are based on 2010 US Census NH state totals*

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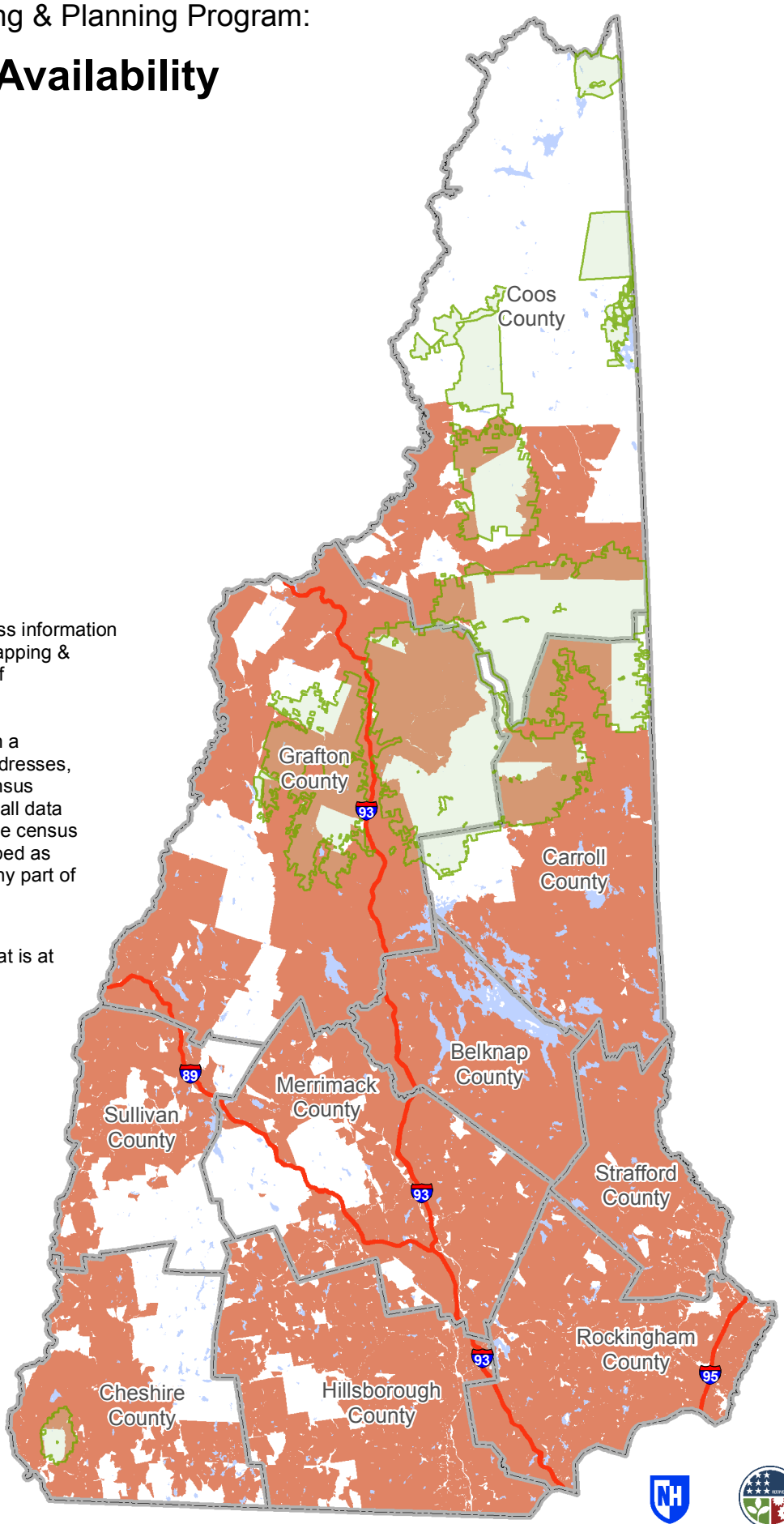

Please visit the NHBMPP web site at: iwantbroadbandnh.org

NEW HAMPSHIRE broadband MAPPING & PLANNING PROGRAM

University of New Hampshire

March 2014

NH Broadband Mapping & Planning Program:

Terrestrial Fixed Wireless Service Availability

Broadband Availability

Terrestrial fixed wireless service available

Other Features

- Interstate
- County boundary
- Lakes and ponds
- Conservation land

Service Availability	
Population	Households
489,529	218,593
37%	36%

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NEW HAMPSHIRE broadband MAPPING & PLANNING PROGRAM

University of New Hampshire

March 2014

NH Broadband Mapping & Planning Program:

Terrestrial Mobile Wireless Service Availability

Broadband Availability

Terrestrial mobile wireless service available

Other Features

- Interstate
- County boundary
- Lakes and ponds
- Conservation land

Service Availability	
Population	Households
1,310,976	609,517
100%	99%

** Percentages are based on 2010 US Census NH state totals*

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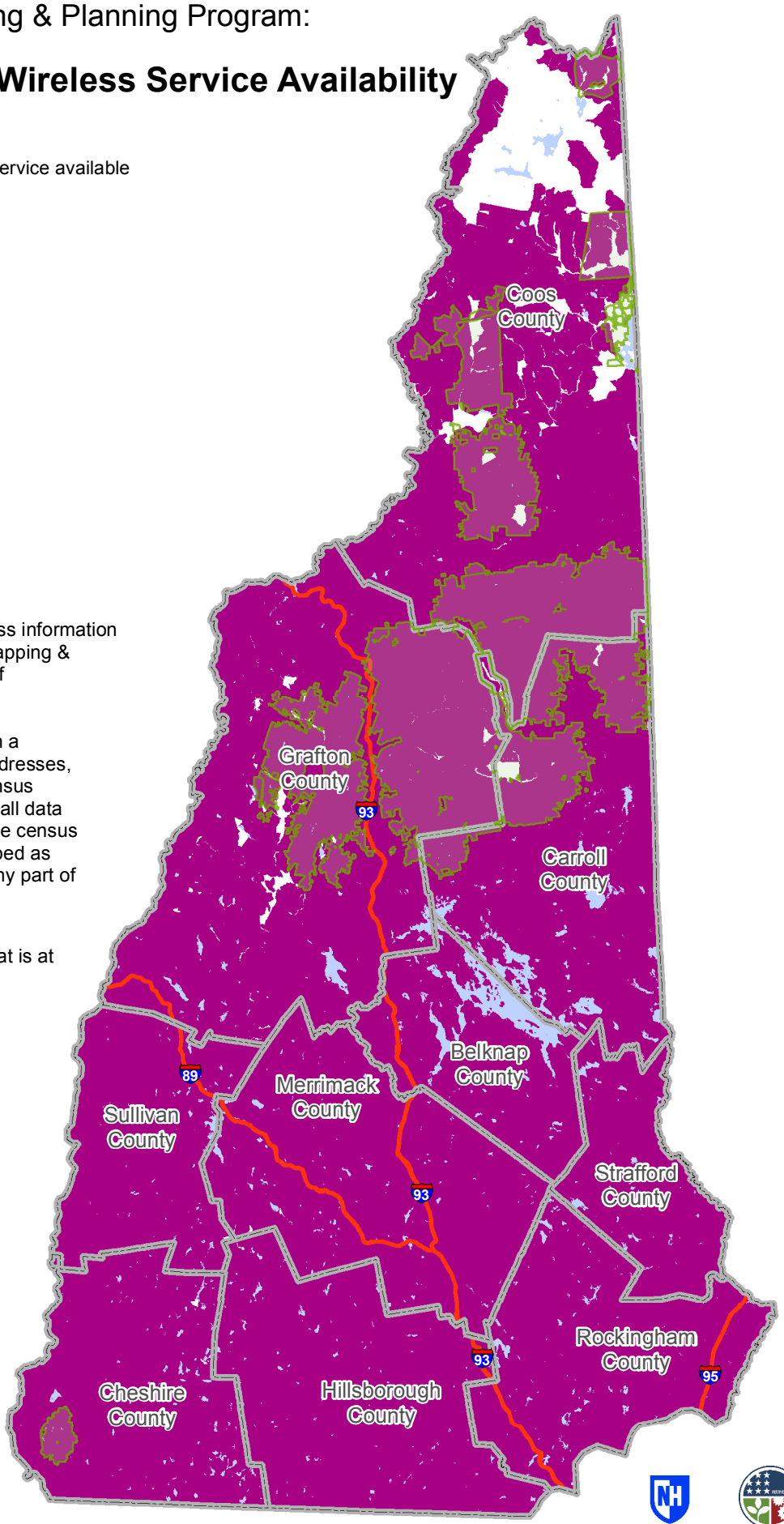

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NEW HAMPSHIRE broadband MAPPING & PLANNING PROGRAM

University of New Hampshire

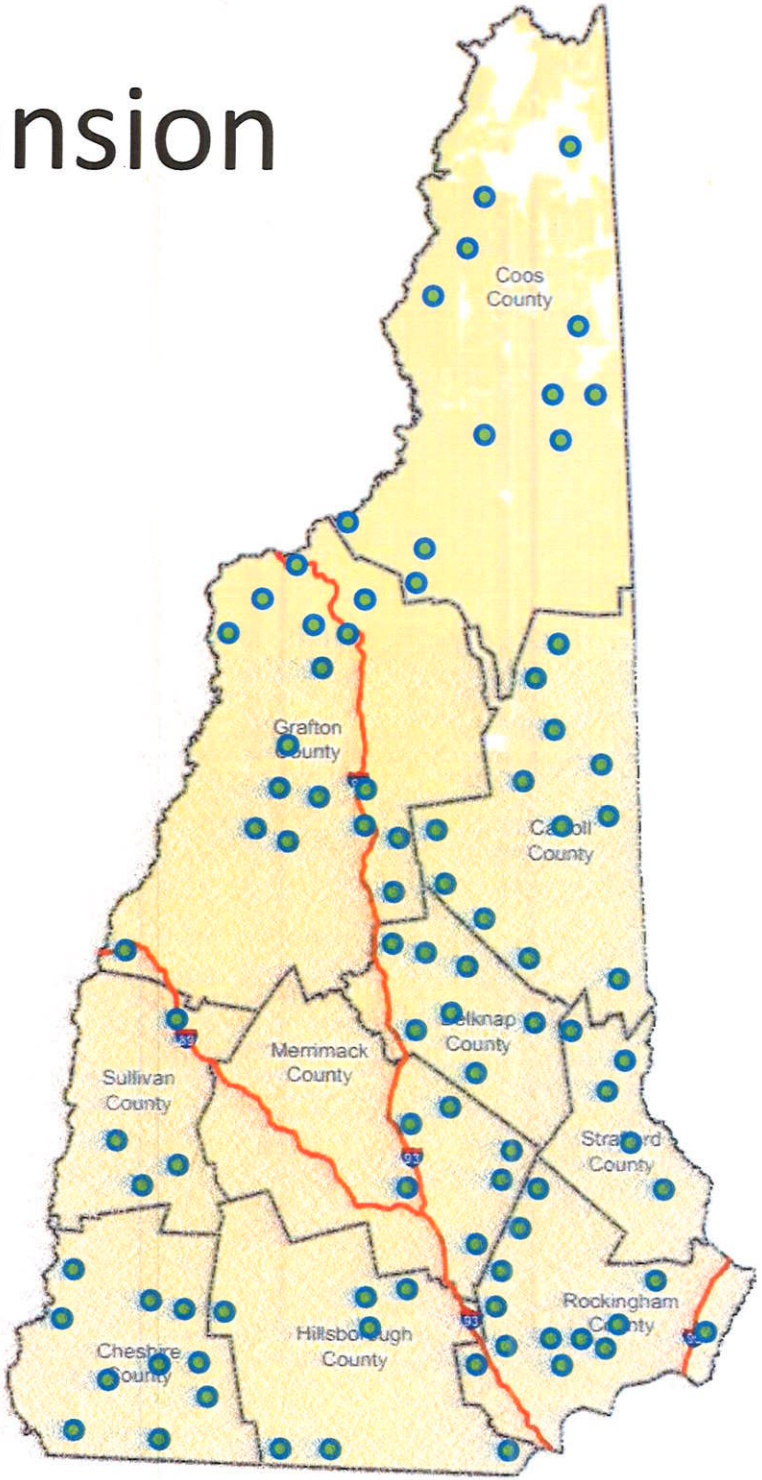
March 2014

DSL Broadband Expansion

FairPoint communications

- Each dot represents a NH town where FairPoint has expanded DSL service in the period of 2010-2014

- Does not indicate where FairPoint already is serving in the state



FOR NEW HAMPSHIRE, A BROADER BROADBAND

FAIRPOINT COMMUNICATIONS BRINGS HIGH-SPEED INTERNET TO MORE OF THE STATE'S HOMES AND BUSINESSES

In a growing number of towns across New Hampshire, people are experiencing the advantages of high-speed Internet for the first time. FairPoint Communications has expanded broadband service to scores of previously unserved homes and businesses in communities all across the state. From Gorham to Gilford, from Laconia to Middleton and many places in between, FairPoint high-speed Internet is now available to more than 95% of its New Hampshire service area.

As a provider of advanced data, voice and video technologies to residential, business and wholesale customers across northern New England, it is FairPoint's job to help people connect.

"FairPoint is dedicated to delivering high-speed broadband services to rural New Hampshire communities," said Pat McHugh, FairPoint state president for New Hampshire. "We're proud to help the state advance its goal of bringing universal broadband to our citizens and believe this is a key milestone to our future success."

In fact, since April 2008, FairPoint has invested more than one million dollars per week in its communications infrastructure, technology and services in northern New England in an effort to reach new customers and upgrade its network. The Granite State received a major part of that investment, as the company has put $361 million into broadband service and its IP-based New Hampshire network, adding thousands of miles of new fiber.

Broadband service on the IP-based network means customers can smoothly stream live video, play online games, and upload photos and large files with ease. Reliable broadband access provides almost instant connections to information, news and entertainment.

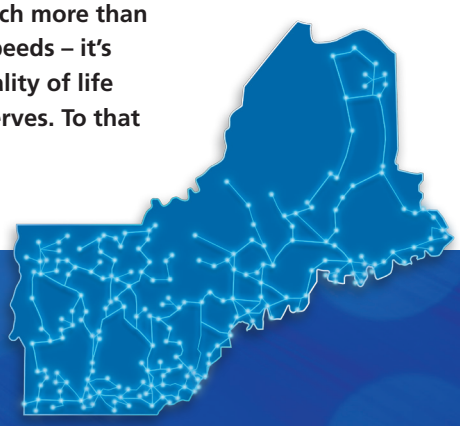
"I believe there's no provider who has done more than FairPoint to bring broadband to New Hampshire," said McHugh, who noted that in 215 of the state's communities over 100,000 homes and business that were unserved prior to 2008, now have access to high-speed Internet. "Broadband availability brings the world to the doorsteps of residents and businesses in New Hampshire and is fundamental to our state's future economic growth."

Still, FairPoint believes that its investment is about much more than economics and faster speeds – it's about enriching the quality of life in the communities it serves. To that end, FairPoint employs an experienced workforce of 1,070 employees in New Hampshire, and made more than $520,000 in civic contributions while purchasing more than $37 million in local goods and services in 2013.

Now, with more than 16,000 miles of fiber, and access to 95 percent of all businesses across northern New England, FairPoint's network is the most robust and ubiquitous in the region. It's a network that meets the demands of some of the region's largest institutions, such as regional healthcare facilities, financial institutions, and government and education entities.

"FairPoint's new, fiber-based, high-capacity network is helping New Hampshire connect to the ever-changing, ever-expanding global community," McHugh says. "We're offering people a faster, better way to communicate – one upload, one online sale, one phone call at a time."

For more information about FairPoint, visit FairPointConnects.com.



FairPoint communications

INVESTMENT

Since April 2008, we've invested over one million dollars a week in the communities we serve to develop new technology, infrastructure and services that connect even the most remote communities to the ever-changing, ever-expanding global community.

NETWORK COVERAGE

We offer the largest network in northern New England, with more than 16,000 fiber route miles in Maine, New Hampshire and Vermont, and are able to connect more than 95% of businesses in the region.

MORE THAN TECHNOLOGY

The way we see it, our business is more than fiber and wires and signals. It's about forging connections great and small, ordinary and extraordinary.

First in Fiber Celebration

Celebrate Hollis becoming the first (and only) N.H. town to have 1Gbps Internet service!

May 27
12:30 p.m.
Hollis Town Hall

TDS®

Hear from U.S. Senator Kelly Ayotte, local officials, and TDS® representatives.

Refreshments will be served.

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