New Hampshire Broadband
Mapping and Planning Program

Broadband Technical Assistance and Training

Sector Surveys 2012

Final Report
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UNH Cooperative Extension
Community Development

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The New Hampshire Broadband Mapping and Planning Program (NHBMPP)

The New Hampshire Broadband Mapping and Planning Program (NHBMPP) works to improve broadband access and use by assessing broadband availability, and by engaging communities and other stakeholders in conducting planning, capacity building, technical assistance, and training initiatives

Broadband

The Federal Communications Commission (FCC) defines Broadband as, "high-speed Internet access that is always on and faster than the traditional dial-up access". Broadband speeds are defined as (at least) 768 kbps downstream and 256 kbps upstream

- For each $1.00 invested in BB, the economy benefits nearly $3.00 (BEA)

- For every 1% increase in BB penetration, employment will increase by .2 – .3% per year (Brookings)

- Employment in manufacturing, financial services, health and education are correlated to BB access (Brookings)

- Health benefits to people 65 years and older estimated at $927 billion per year (Litan, 2008)

Broadband in New Hampshire

- In 2011, NH had a 73% BB penetration rate

- The total economic impact of Broadband was estimated at $634 million last year

- 11,000 net new jobs were created in NH in 2010 as a result of expanded Broadband infrastructure Source: Crandall, R., Singer, H. 2010. The Economic Impact of Broadband Investment. National Cable and Telecommunications Association.

Vision:

New Hampshire will have broadband infrastructure used by citizens, businesses, institutions, and government for the economic and social benefit of all. We envision a state where:

- A state-of-the-art broadband network supports economic competitiveness locally, regionally, and globally.
- All people have the opportunity to utilize broadband for business development, economic expansion, and competitiveness.
- Homes, businesses, organizations, government, and educational institutions, etc. will have the opportunity to connect affordably, easily, and securely to a broadband network.
- Broadband is recognized as having a positive impact on the environment and energy efficiency.
- Socially vibrant communities access and use broadband networks.
- Barriers are minimized and opportunities are enhanced for service providers, municipalities, public/private partnerships and others so they can expand broadband capacity and accessibility throughout the state.
- All people have the opportunity to integrate broadband into their daily lives for enhanced access to education, health, government, and emergency services. For example:
- Youth are provided with a world class, 21st century education, connecting them and their teachers to global libraries and one another, and giving them the digital skills they need for the future.
- Digital health tools in the hands of doctors and hospitals extend the availability and lower the costs of quality care and remove geographic barriers for patient treatment.
- Enhanced government services (e Government) are available through the Internet, reducing the need for travel and the time for processing data and information.
- Law enforcement officers and first responders have cutting edge, reliable communications technologies to respond to emergencies efficiently and effectively.

Why Broadband Matters for the NH economy:

Business: to provide the tools they need to be competitive, communicate with customers and grow.

Education: to provide access to emerging educational opportunities, online resources, and one another.

Healthcare: to ensure patients in rural and urban areas have access to affordable healthcare services, and our doctors and hospitals have access to the digital tools they need for records management and delivering quality patient care.

Government: to ensure government is efficient and government services and information, at all levels, are more readily available to citizens.

Public safety: to ensure law enforcement officers and first responders have reliable communications technologies to safely respond to emergencies quickly

Residents: to ensure all people have access to important information and services they need

Communities: to provide an array of tools that support civic engagement, economic development, and social interaction which help sustain vibrant communities.

Stakeholder Groups

NH BROADBAND PLANNING SECTOR BASED ANALYSIS SECTORS

EDUCATION	HEALTH	COMMUNITY SUPPORT / GOV	PUBLIC SAFETY	BUSINESS / ECON DVLPT
• K -12 • Higher Ed • Community / Continuing Ed • Museums, Science Centers	• Hospitals • Doctor Offices • Clinics • Nursing / Res Care Facilities • Human Service Agencies • Lab Services • Home Care Services • Adult Day Care	• Town / City Gov Admin & Services • County Gov Admin & Services • State Gov Admin & Services • Libraries • Community Centers • Land Trusts / Open Space	• Fire • Police • Emergency Management • Mutual Aid	• Chambers of Commerce • Economic Development Corporations • Travel & Tourism • Recreation • Food & Agriculture • Arts & Culture • Media • Real Estate • ISPs / Telecom • Banking / Finance • Manufacturing / Industry

Broadband Technical Assistance and Training
Sector Surveys 2012

Overview: The Broadband Technical Assistance Project Team has been working to identify the training and technical assistance needs of key sectors including small business, education, healthcare, municipal and non-profit institutions. Web based surveys with questions designed for a better understanding of each sectors access and use of broadband technology have been developed. The small business, education and municipal surveys are complete. The health survey was recently launched and will be followed by the non-profit survey. In addition to the surveys developed by the team, The University of New Hampshire Survey Center included a series of questions on its April 2012 Granite State Poll which interviewed five hundred and thirty-eight adults by telephone. The response to the targeted surveys has been strong and we have had respondents from throughout the different regions of New Hampshire. The team has analyzed completed survey data and is developing and scheduling targeted training sessions. Included here you will find key finds for each sector. *Please note: This survey data it is not a statistical sample, but rather designed to target training to sectors around particular needs.*

Small Business/Education/Municipal: Key results across sectors

➢ 40% of educational institutions, 26% of small businesses and 19% of municipalities said that they did not have sufficient connectivity to meet their needs.

➢ The educational sector is more familiar with its upload and download speed than the municipal and small business sector.

➢ 85% of the municipal sector (79% business and 74% education) indicate that there is not or they are unsure of other internet connection options with greater speeds.

➢ Educational institutions source of internet connection is largely fiber optic and cable while municipalities and small business are served by cable and DSL.

➢ All three sectors indicated that their greatest technology related challenge to be keeping up with technology. The education and municipal sectors are also challenged by the lack of resources for the best technology.

➢ The small business sector is challenged by rapidly changing technology, lack of technology options and lack of information technology knowledge followed by lack of resources.

➢ All sectors are looking for training opportunities relative to their sector. The small business sector was able to identify a number of very specific training needs.
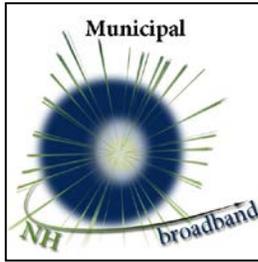
Municipal: The UNH Cooperative Extension in partnership with The NH Broadband Mapping and Planning Program developed this survey for NH municipalities to identify the broadband technology needs of local government with respect to communication, data management, marketing, and training. The 19 question survey was available from February 28, 2012 to May 30, 2012. 134 survey responses were received.

Key Findings:

- More than half (57%) of the survey respondents indicated that their municipality had cable internet connection; 17% have DSL and 7% have fiber optic.

- 73% have sufficient connectivity for their municipal work. One third does not know their current upload and/or download speed. The majority indicated that there are not, or they do not know if other internet connection options are available.

- Communications and research is the most common use of the internet and/or broadband connectivity for municipalities.

- Only 35% of municipalities have part or full time staff dedicated to technology while 44% use consultants.

- The key challenges for municipalities include the awareness of and keep up with the new options in the uses of technology; resources for technology and staff training.

- There is a strong interest in training for staff to expand the various uses of internet and/or broadband technology.

Municipal

Current internet use and/or broadband connectivity

Communication	92%
Research	83%
Electronic reporting	58%
Data management	55%
Mapping (e.g. parcel maps, services, etc.)	44%
Permits/license renewals	35%
Teleworking (use of broadband to work away from office)	33%
Train staff	30%
Billing	23%
Recruit employees	19%
Other (please specify)	10%

Level of technology support within municipalities

Consulting services	44%
Full-time person(s)	27%
None	16%
Part-time person(s)	8%
Other (please specify)	6%

Municipal Sector - Interest in training topics

E-Governance	54%
Making websites interactive	50%
On-line access to property valuation & tax maps	43%
Embedding interactive maps on your website	41%
Getting municipal service/facilities accurately listed on maps online, smartphones and in	39%
Data sharing between departments	37%
On-line tools to identify and promote economic development options	34%
Web-based Geospatial Technologies (GIS)	33%
E-newsletters	31%

Hand-held and smart phone applications	31%
On-line survey tools	31%
On-line billing and motor vehicle registration	30%
Website maintenance	27%
Producing webinars (i.e. on-line seminars)	26%
Videoconferencing	26%
Tracking website use	25%
Regulation & permitting of broadband infrastructure	19%
Web marketing (services, industrial sites, etc.)	17%
Social media	17%
Other (please identify):	5%
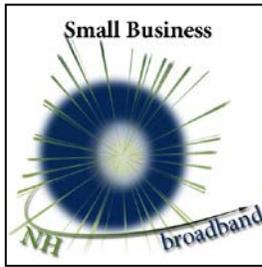
Small Business: The UNH Cooperative Extension in partnership with The NH Broadband Mapping and Planning Program developed this survey to identify the broadband technology needs of small businesses with respect to communication, data management, marketing, and training. The 21 question survey was available from January 13, 2012 to April 30, 2012. 129 completed surveys were received and 60 partial surveys.

Key Findings:

- Half of the small business survey respondents (50%) indicated that they had cable internet connection; 19% have DSL; 14% have wireless and 8% have fiber optic.

- 64% have sufficient connectivity for their municipal work. 41% did not know their upload speed and 39% did not know their download speed.

- Small business is using the internet for research, communications, advertising, sales, support and telework.

- 85% of small businesses have a website and 70% are using social media for their business.

- The key challenge for small business is awareness of and keeping up with the new options in the uses of technology; lack of resources for technology and lack of information.

- There is a strong interest in using the internet and/or broadband connectivity for selling products, advertising, managing data, research and support services.

- Small business would are interested in training in web marketing, search engines, social media, website development, e-commerce, market analysis.

Small Business - Current internet use and/or broadband connectivity

Research	77%
Advertise	61%
Sell your Product	55%
Support Services	51%
Manage Data	49%
Teleworking (use of broadband technology to work away from 'office')	44%
Train Staff/Clients	23%
Other (please specify)	20%
Recruit Employees	12%

Other : basic communications; bill paying; connect with clients via video chat; electronic data transfer; email; marketing /newsletters; network; online access to programs necessary to fix computers.; participant recruiting; photos/graphic design; publishing; Remote Services; run credit card transactions; share creative ideas; social network; telemedicine


Broadband technologies used by small business

Business website	85%
Social Media (e.g. Twitter, Facebook, etc.)	70%
Business listing on Google Maps or Bing	33%
E-newsletter	31%
E-mail list-serve	28%
Interactive on-line maps (e.g. embedded map on your website)	15%
Other (please specify)	15%

Small Business Sector - Interest in Training Topics

Web marketing	68%
Getting your business placed better on search engines	63%
Social media for business	62%
Website development	52%
E-commerce	51%
Tracking website use	50%
Market analysis	48%
Making websites interactive	45%
E-newsletters	41%
On-line survey tools	35%
Data management (e.g. inventory, etc.)	35%
Getting your business accurately listed on maps online, in smartphones and on GPS	34%
Creating webinars	31%
Accessing data/information on the web	24%
Videoconferencing	23%
Embedding interactive maps on your website	18%
Other (please identify):	7%

Other -

ipad use/tools for business; ERP, CRM; Programs to run the business on the computer, right now we do everything in a manual ledger.; Use of Skype; A seminar on how to build a secure network that can be accessed by remote employees. Discuss VPN and associated equipment and software requirements.; Cloud computing; Communications; crowd sourcing; Facebook, website building, spreadsheet and catalogue template creation; farm safety training; How to develop mobile apps. How to market globally; How to fix the website that you currently have. ; How to outsmart Google!; How to use estimating software; how to use software that is inexpensive and reasonably easy to develop and maintain a website.; Photoshop; Project management; General MS Office skills for tier 1 staff; General MS Windows skills for tier 1 staff; QuickBooks or accounting software by webinar; Reviews by peers of existing products.
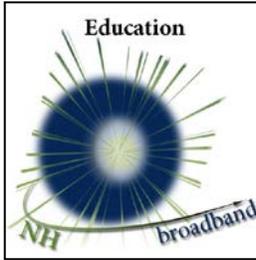
Education: The UNH Cooperative Extension in partnership with The NH Broadband Mapping and Planning Program developed this survey to identify the broadband technology needs of the education sector with respect to communication, data management, marketing, and training. The 21 question survey was available from April 10, 2012 to May 30, 2012. 47 completed surveys were received…

Key Findings:

- 74% of survey respondents represented K-12 education. Respondent's primary area of focus is teaching (30%), administration (26%) and technical support (23%). 62% report that they have full-time person and 19% have a part time person for technology support.

- 53% indicate that they have sufficient internet connectivity for their educational work. 34% have a fiber optic connection; 30% have a cable connection and 15% have DSL.

- In the educational sector the internet is used for professional development and training (83%); student/parent access (83%); website (77%); professional networking (62%); data management (60%) and e-newsletter (49%).

- The biggest technology-related challenge faced by educational institutions is keeping up with technology and the lack of resources to get the best technology.

Education Sector - Current internet use and/or broadband connectivity

Prof development/ Training	83%
Student/parent access	83%
Institution's website	77%
Professional networking	62%
Data Management	60%
E-newsletter	49%
Smart phone/ mobile devices	40%
Social media Communication	36%
Streamline Administration	34%
Teleworking (use of broadband to work away from office)	32%
Recruit Employees	21%
GIS/GPS	13%

Other: Teaching; Staff/Student Internet and Document Access; daily classroom instruction; Streaming content in classroom; VoIP; cloud-based learning; Student/Teacher access; not sure about this question, but it is instrumental to my daily teaching; Skype; Streaming educational video; homeschooling; Videoconferencing

Education Sector - Interest in Training Topics

Self-paced or directed learning using technology	66%
Enhanced teaching/learning using technology	59%
Videoconferencing	49%
On-line learning course development	44%
Conducting webinars for content delivery	44%
Game based learning	44%
Website development: making interactive	39%
Data storage and management	37%
Tracking website use	37%
Using on-line survey tools	34%
Using Social media for communication	32%
Using GIS/GPS technologies for learning	29%
Internet Security	27%

Granite State Poll
EXECUTIVE SUMMARY

The University of New Hampshire Survey Center included a series of questions on its April, 2012 Granite State Poll for UNH Cooperative Extension. The major purpose of these questions was to understand the level of internet access and usage among New Hampshire. Five hundred and thirty-eight (538) New Hampshire adults were interviewed by telephone between April 9 and April 20, 2012. The margin of sampling error for the survey is +/- 4.2%. The major findings of the survey include:

- Most New Hampshire adults (84%) have access to the internet at their home, 15 percent do not, and 1 percent is not sure.

- A Granite State Poll release in June, 2009 showed that 87% of New Hampshire residents had internet access at home

- Among those who do not have internet access at home (n=83), 31 percent cited the expense as the main reason for not having internet access at home, followed by no knowing how to use it (26%), no availability where they live (7%), and access at another place such as their job (4%), while 23 percent cited some other reason and 10 percent did not know.

Home Internet Access and Usage (n=451)

- Three quarters of New Hampshire residents (73%) got internet access from a broadband connection such as cable or DSL, 15 percent from a dial-up connection, 10 percent from satellite, and 2 percent were not sure.

- Four out of five New Hampshire adults (81%) use their internet at home to check email, and they find the connection speed adequate for that purpose, 69 percent do online shopping and find the speeds adequate, 46% watch online video such as YouTube or Netflix and find the speeds adequate, and 26 percent connect to another computer using a VPN and find the speeds adequate.

- Nearly all New Hampshire residents (93%) consider their internet connection at home adequate for their usage, 6 percent do not, and 1 percent did not know.

Source: Granite State Poll for UNH Cooperative Extension. The Survey Center University of New Hampshire. April 2012.

Broadband Access by Geography

Granite State Poll, April 2012

Region	Percent with Internet access	Type of Internet Access
Western New Hampshire	89.6%	Dial-up or Satellite – 38% **Broadband – 62%**
Northern New Hampshire	85.6%	Dial-up or Satellite – 31% **Broadband – 69%**
Central NH/ Lakes Region	83.4%	Dial-up or Satellite – 30% **Broadband – 70%**
Seacoast Region	86.1%	Dial-up or Satellite – 25% **Broadband – 75%**
Central NH/ Hillsborough County	84.0%	Dial-up or Satellite – 17% **Broadband – 83%**

Broadband Access by Geography -Granite State Poll
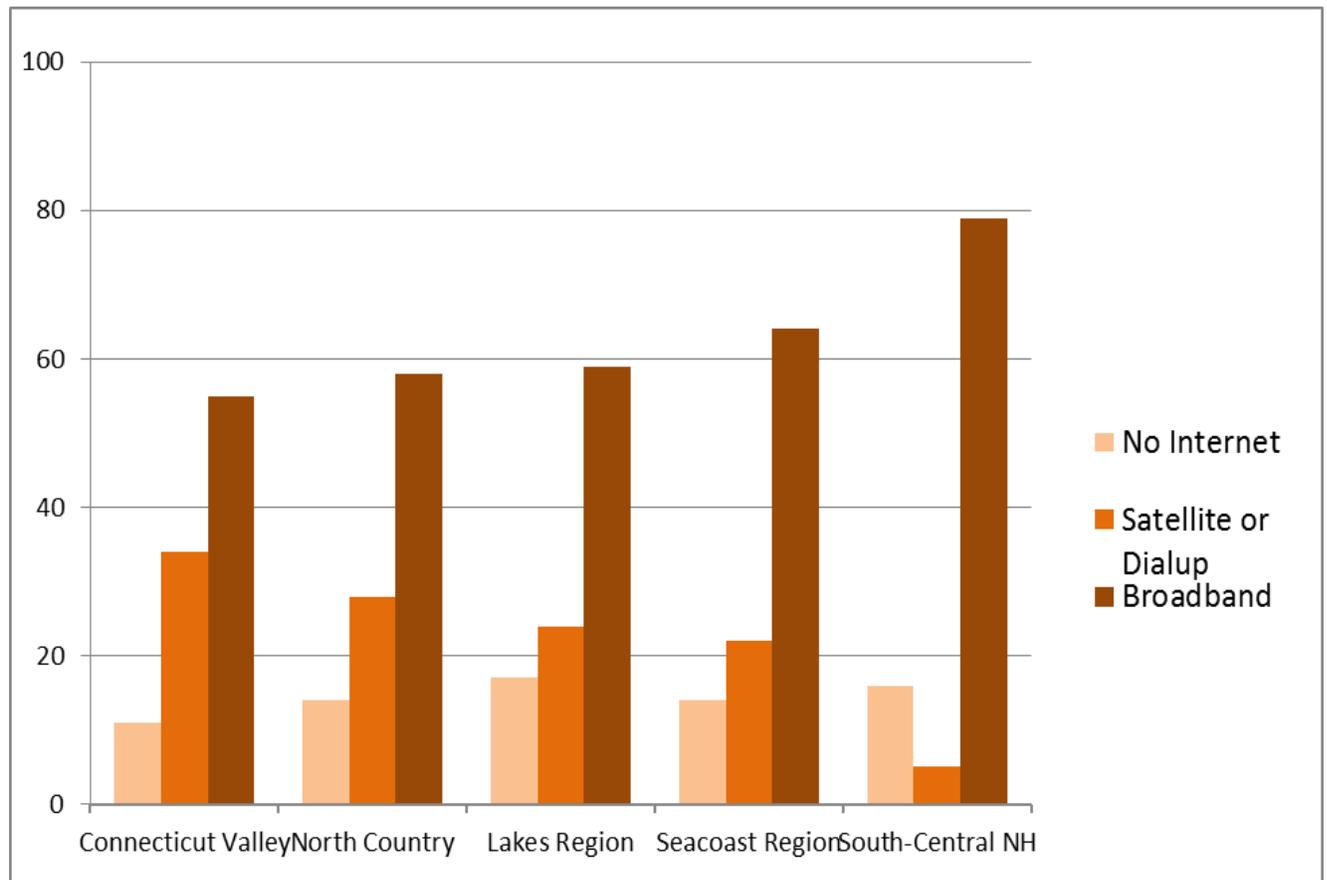
Poll conducted by UNH Survey Center, April 9-11, 2012