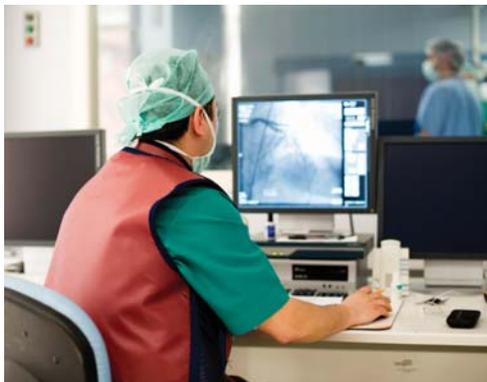


Developing Broadband in Maine: Strategic Plan

Prepared by James W. Sewall Company for the ConnectME Authority
24 April 2012





STATE OF MAINE
CONNECTME AUTHORITY
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DEAR CONSTITUENTS:

Recognizing that broadband infrastructure is critical to the state's economic health and well-being, the ConnectME Authority is charged with making broadband service as available as possible to residences, businesses, and community anchor institutions throughout the state. Part of this mission is to raise awareness of how people can use broadband to better their communities; for example, by enabling economic development, improving health and safety, providing access to online government services, and increasing educational opportunities.

While we have made good progress supporting the growth of service to unserved or underserved areas through our grant program, our work occurs in a rapidly evolving technological, regulatory, business, and social environment. Our enabling statute states that in addition to expanding the availability of broadband to unserved and underserved areas, the Authority shall collect and disseminate data, track investment, assess the availability of and the need for advance communications technology, identify and secure federal and other funding, and create and facilitate public awareness and educational programs to encourage the use of broadband.

To help insure we meet our statutory requirements in a way that is responsible to the changing environment, the Authority secured federal funding to undertake a planning process that identifies strategies to achieve our statutory responsibilities and makes recommendations that not only affect broadband availability but also address the adoption of broadband services. As part of this planning process, in June 2011 the Authority published the results of a comprehensive, statewide needs assessment summarizing our constituencies' broadband needs and interests.

The present document, the ConnectME Authority's Strategic Plan, is the first iteration of an ongoing process to develop priorities and programs to meet these needs and interests in the context of our overall mission. We hope this initial Plan will encourage discussion and engage our stakeholders in developing new and better ways to achieve the strategies and recommendations presented herein. We will update the plan as well as add more detail as outcomes and input from stakeholders are considered.

We welcome the continuing feedback and suggestions from all interested persons.

A handwritten signature in blue ink that reads 'Jean Wilson'.

Jean Wilson
Chair

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Developing Broadband in Maine: Strategic Plan

The ConnectME Authority Broadband Planning Project

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Acknowledgments

The ConnectME Authority and its Strategic Planning Team wish to thank all broadband stakeholders who developed, reviewed, and commented on this plan to increase broadband adoption in the State of Maine.¹ We also wish to acknowledge the funding sources for the ConnectME Authority Broadband Planning Project, including the federal government through the 2009 American Recovery and Reinvestment Act (ARRA) as administered by the Department of Commerce National Telecommunications and Information Administration (NTIA), and the State of Maine through the Authority.

The plan was authored by the ConnectME Authority staff:

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¹ The Authority received commentary on the first publicly released draft of the Strategic Plan from a small number of citizens and industry organizations. Comments are available at: <http://www.maine.gov/connectme/arragrants/planning.shtml>. The Authority welcomes continued public involvement in the ongoing Plan review, approval, and prioritization process.



1.0 Executive Summary

This Strategic Plan for developing broadband in Maine is a deliverable in the ConnectME Authority's multiyear (2010-2014) Broadband Planning Project.² The Plan's purpose is to identify strategies and make recommendations to the Authority for increasing broadband availability and broadband adoption, and for reducing barriers to adoption.

Increasing access and take rates is critical to Maine's education and economic prosperity. Nearly four years ago, approximately 86 percent of the state had access to high-speed internet service with an adoption rate of approximately 40 percent. In the four years since the Authority was established, broadband access or availability has risen to over 91 percent with 73 percent of Maine households subscribing to some type of broadband service (compared to 68 percent nationally). Despite the rise in both broadband availability and adoption, nearly 50,000 households still do not have access to broadband. To address this gap and the evolving broadband needs of Mainers as a whole, the Plan balances strategies to increase the availability of broadband with strategies to increase public awareness and adoption.

The Plan is organized into two main sections with Appendices:

The first section identifies relevant categories and data drawn from the Authority's comprehensive Needs Assessment, published June 2011, that serve as comparative baseline indices for measuring broadband availability and adoption annually through 2014.³

² This Plan was developed as Task M in the Authority's Broadband Planning Project in advance of the Authority's Broadband Capacity and Technical Assistance projects under development by other groups. These plans will be coordinated as they become available.

³ The 27 baseline indices were developed as Task J in the Authority's Planning Project workflow.

The second section proposes strategies to increase availability and adoption. It uses three levels of approach: (1) strategic recommendations, (2) tactics to implement these recommendations; and (3) action items as examples to further the tactics.

Level One—Strategic Recommendations identifies six general categories within which the Authority should organize its efforts to address its objectives and which we expect to be stable over the life of this Plan. The first and second categories are general to residential and business consumers and the third through sixth focus on particular consumer or stakeholder groups.

1. *For the general public:* The Authority will work to increase broadband adoption in homes by launching sustained public awareness campaigns on the benefits of broadband to the general public and by leveraging the Authority's various planning and implementation projects now under way.⁴ The Authority's Broadband Technical Assistance program implemented through the Maine Department of Education and the Office of Adult Education and Family Literacy is particularly relevant to this effort.⁵
2. *For businesses:* The Authority will work to increase broadband adoption in businesses by launching sustained public awareness campaigns on the benefits to businesses and by leveraging the Authority's Broadband Capacity Building project, which, by including business leaders from around the state, focuses on increasing adoption in businesses.⁶
3. *For the healthcare industry:* The Authority will work with decision makers of the Health Information Technology (HIT) initiatives and the healthcare community to increase broadband use to improve the efficiency and quality of healthcare and health outcomes.
4. *For the educational community:* The Authority will support educational and library organizations in their efforts to expand the availability and use of higher-tiered broadband services.
5. *For government services:* The Authority will support e-government efforts to facilitate citizen engagement through increased broadband use.

⁴ The Authority may not have the resources to implement all of the recommendations presented here. They are therefore presented in outline only and will be developed in detail according to the Authority's priorities.

⁵ <http://www.maine.gov/connectme/arragrants/technicalassist.shtml>

⁶ <http://www.maine.gov/connectme/arragrants/capacitybuilding.shtml>

6. *For the broadband industry:* The Authority will promote the expansion of higher-tiered broadband services to encourage use and investment, and to foster competition in the marketplace in order to lower costs.⁷

Level Two—Tactics identifies particular programs, projects, or initiatives that the Authority might choose to implement in pursuing the strategic recommendations. Tactics are intended to be modular; that is, a tactic can be implemented (or not) without compromising other tactics. Moreover, while tactics are listed under particular strategic recommendations for convenience, it may be the case that a single tactic, if implemented, will have consequences for more than one strategic recommendation. It is important to note that these tactical items are presented at the conceptual level only. Each tactic requires an implementation plan including an internal return on investment (ROI) and the identification of the relevant assessment indices before it is acted on. In this way, any particular tactical item will be assessed against its own implementation plan as well as the general assessment indices (Section 2.4).

Level Three—Action Items are examples of concrete steps that can be taken to further particular tactics.

Appendix A summarizes a proposed workplan for the public awareness campaign that is the centerpiece of a general outreach from the Authority to the consumer population. Appendix B lists the duties of the Authority as stated in 35-A §9204 of the Advanced Technology Infrastructure Act.⁸ Appendix C reviews measurement criteria, baseline values and data sources that will be used to measure broadband availability and adoption through 2014.

⁷ It is important to note that the strategic recommendations promote public-private investment in unserved and underserved areas where public funds are crucial. They do not promote public investment in areas where private funds are successfully driving expansion and uptake.

⁸ www.mainelegislature.org/legis/statutes/35-a/title35-Asec9204.html

2.0 The Broadband Needs Assessment and Broadband Baseline

This Plan is based upon information on broadband availability, adoption and barriers to adoption gathered through consumer and stakeholder surveys conducted in early 2011, as well as third party studies analyzed and published in the [Maine Broadband Needs Assessment](#). Relevant definitions, assessment methodology, and key baseline findings are reviewed in this section.

2.1 ASSESSMENT BACKGROUND

In June 2011, the ConnectME Broadband Planning team delivered the Maine Broadband Needs Assessment, which established a detailed statewide profile of existing broadband availability, adoption, and barriers to adoption. The assessment drew upon survey data gathered from stakeholders statewide, including residential and business consumers, service providers, community anchor institutions (CAIs), technology-dependent industries (e.g., telemedicine), State agencies, and Native Indian tribal entities. Survey data were aligned with location information on service availability and service speeds derived from the ConnectME Authority Mapping Project. Socioeconomic analysis identified both residential consumer characteristics (e.g., age, income and educational attainment) and business characteristics (e.g., industry and employment size) that affect broadband adoption. Analyses from the surveys were compared with national and regional data and preliminary recommendations on expanding adoption statewide were noted.

2.2 DEFINING BROADBAND

The term “broadband” has multiple and changing definitions that depend on context. In the Needs Assessment (Section 2.3.1), we defined broadband according to two criteria: (1) transmission speed and (2) type of technology.

Broadband Transmission Speed

Broadband levels of service are generally understood to provide higher speeds of data transmission, allowing more content to be carried through the telecommunications pipeline. Connection speed is determined by bandwidth—the amount of data that can

be transmitted at any given period of time—and by latency—the amount of time it takes to transmit the data. In brief: the greater the bandwidth, the faster the connection. The Federal Communications Commission (FCC) defines broadband in a tiered approach with distinct levels based on upload and download speeds.

Table 2-1: FCC’s Seven-Tier Broadband Classification

| FCC Speed Tier | Upload/Download Speeds | Broadband (Y/N) |
|-----------------------------------|------------------------|-----------------|
| • 1 st Generation Data | 200 Kbps to < 768 Kbps | No |
| • Tier 1 | 768 Kbps to < 1.5 Mbps | Yes |
| • Tier 2 | 1.5 Mbps to < 3 Mbps | Yes |
| • Tier 3 | 3 Mbps to < 6 Mbps | Yes |
| • Tier 4 | 6 Mbps to < 10 Mbps | Yes |
| • Tier 5 | 10 Mbps to < 25 Mbps | Yes |
| • Tier 6 | 25 Mbps to 100 Mbps | Yes |
| • Tier 7 | > 100 Mbps | Yes |

For purposes of this Plan, broadband understood as transmission speed is defined as transmission speeds at and above Tier 1. In May 2011, the ConnectME Authority approved adopting the FCC’s seven speed tiers definition of broadband to measure transmission speed with a preference for funding projects that provide service at Tier 3 or better.

It is important to note that percentages of availability and use decrease significantly at higher speed levels. Thus levels of available service do not necessarily match consumer and business needs.

Broadband Technologies

Broadband can also be defined by specific technologies that achieve higher speeds of data transmission. As shown in Table 2-2, speeds beginning at 768 Kbps can currently be achieved with any of five technologies: digital subscriber loop (DSL), cable, fixed wireless, T-1, and fiber optic.

Table 2-2: Broadband Technologies

| Technology | Broadband (Y/N) | Download Speeds |
|-----------------------|-----------------|-------------------------|
| • Dial-up | No | Up to 56 Kbps |
| • Mobile | No | 56 Kbps – 1.5 Mbps |
| • Satellite | No | 200 Kbps – 2 Mbps |
| • Electric power line | No* | 256 Kbps – 3 Mbps |
| • DSL | Yes | 768 Kbps – 6 Mbps |
| • Cable | Yes | 1 Mbps – 10 Mbps |
| • Fixed wireless | Yes | 1 Mbps – 10 Mbps |
| • T-1 | Yes | 1.5 Mbps |
| • Fiber optic | Yes | Up to 150 Mbps & higher |

** Electric power line services are not available in Maine and are thus not considered in this study*

Current satellite service may achieve broadband level speeds, but the excessive latency or delay precludes the use of many broadband applications. While cellular service is beginning to achieve broadband speeds, especially in urban areas, implementation in Maine has focused primarily on mobile connectivity.

2.3 SURVEY FINDINGS AND BASELINE NUMBERS

Baseline data for assessing progress, established June 2011, is as follows: Baseline (B) numbers B-1 to B-8 are concerned with general consumer availability and barriers to adoption; B-9 to B-14 give Maine's national rankings with respect to broadband infrastructure; and B-15 to B-27 list factors relevant to specific stakeholder groups.

General Consumer Broadband Availability and Use

Maine Locations:

- B-1** 91.1 percent of Maine street locations currently have access to some form of broadband connection from at least one service provider.
- B-2** Maine municipalities are served by an average of 4.3 broadband service providers.

Maine Households:

- B-3** 89.6 percent of surveyed Maine households currently have some form of internet connection from at least one provider, although this connection may not be at broadband levels.
- B-4** 72.7 percent of surveyed Maine households currently subscribe to services at a broadband level.

Maine Businesses:

- B-5** 90.1 percent of surveyed Maine businesses currently have some form of internet connection, although this connection may not be at broadband levels.
- B-6** 85.7 percent of surveyed Maine businesses currently subscribe to services at a broadband level.

General Consumer-Identified Barriers to Broadband Use

- B-7** The primary barrier to broadband adoption for surveyed households is lack of perceived need or value in owning a computer (44.7 percent), with cost as second (21.3 percent).
- B-8** The primary barrier to broadband adoption for surveyed Maine businesses is lack of perceived need or value (39.1 percent), with cost as second (28.3 percent).

Maine's Broadband Infrastructure

- B-9** The average broadband download capacity in Maine is 768 Kbps; the national average is 3.9 Mbps.
- B-10** The percentage of Maine households connected at internet speeds of at least 3 Mbps is 55 percent. Percentage of Maine households connected at internet speeds of at least 10 Mbps is 6 percent. Maine's ranking in internet speeds greater than 10 Mbps is 43rd.
- B-11** Maine ranks 45th in deployment of broadband telecommunications.
- B-12** Maine ranks 41st in the number of information technology (IT) professionals in non-IT industries.⁹
- B-13** Maine ranks 35th in high tech jobs as a percentage of all jobs.
- B-14** Maine has one end user service provider deploying next generation access (NGA).

Focused Stakeholder Groups

Healthcare Provider Community:

Availability and Use

- B-15** 88 percent of medical providers, dental providers and hospitals have access to broadband (9 percent are unsure about their internet access, 2 percent have access using technologies at less than broadband speeds, and 1 percent do not have internet access); and 18 percent use healthcare services and reporting.

Barriers to Adoption

- B-16** The primary barrier to broadband adoption for surveyed healthcare facilities and providers is lack of perceived need or value (42 percent), with cost as second (12 percent).

The Education Community:

Availability

- B-17** 100 percent of Maine schools and libraries have broadband service; 44 percent have fiber optic connections. Many adult education program sites, however, do not presently share the same high level of service.

Barriers to Adoption

- B-18** Barriers to adoption include price at the Maine State Library Network (MSLN) project level, sufficient bandwidth, and lack of middle and last mile infrastructure.

⁹ http://www.itif.org/files/2007_State_New_Economy_Index_Small.pdf

Community Anchor Institutions (CAIs):

Availability

B-19 92 percent of community anchor institutions (CAIs) not including schools and libraries (see “The Education Community” above) have broadband service.¹⁰

Table 2-3 shows institutions confirmed to have broadband service, those confirmed not to have broadband service, and those for which broadband service is unknown.

Table 2-3: CAI Broadband Availability

| CAI Type | Broadband - Yes | Broadband - No | Broadband - Unknown | Total |
|--|-----------------|----------------|---------------------|-----------------|
| Library | 202 | 0 | 137 | 339 |
| Medical & healthcare | 639 | 17 | 251 | 907 |
| Other community support-government* | 427 | 2 | 726 | 1,155 |
| Other community support-nongovernment** | 65 | 32 | 125 | 222 |
| Public safety | 475 | 96 | 277 | 848 |
| School (K-12) | 623 | 0 | 321 | 944 |
| University, college, other postsecondary | 29 | 0 | 52 | 81 |
| Total | 2,460 | 147 | 1,889 | 4,496*** |

*Examples are post offices, city halls or town offices, veteran services offices, courthouses.

**Examples are airports, rail and bus stations, ferry terminals; recreational or community centers, historical societies.

***This total is a sum of CAIs surveyed as of April 2011 and does not include all CAIs in the state.

Barriers to Adoption

B-20 Based on a telephone survey of 1,097 CAIs, 8 percent indicated perceived value (cost and quality service) as barriers to adoption. Other common factors listed as adoption barriers were outdated equipment (4 percent) and lack of technical support (3 percent).

State Agency Stakeholders:

The Maine State Office of Information Technologies (OIT), which provides centralized technical resources to State agencies, noted only that the majority of State agencies have access to and use broadband internet services. The few exceptions where internet is not available appear to be remote parks or campgrounds. The following two points are a qualitative, anecdotal summary.

¹⁰ This percentage, based on the CAI types that participated in the Needs Assessment surveys, does not include those entities where the status of broadband service is unknown.

Availability

B-21 Broadband availability is estimated at 98 percent.

Barriers to Adoption.

B-22 Barriers to adoption are limited or no carrier access to remote areas and funding.

Native American Communities:

Availability

Broadband availability to Native Indian tribes in Maine is profiled below:¹¹

Table 2-4: Tribal Broadband Availability

| Name of Tribe | Avail* | Speed Tiers |
|--|--------|--|
| B-23 Aroostook Band of Micmac Indians | 98% | 1 st Generation, Tier 1 |
| B-24 Houlton Band of Maliseet Indians | 65% | Tier 1 |
| B-25 Penobscot Nation – Indian Island | 100% | 1 st Generation, Tiers 1, 3 |
| Penobscot Nation – remaining lands | 21% | |
| B-26 Passamaquoddy Tribe – Pleasant Point | 100% | Tiers 1, 3 |
| Passamaquoddy Tribe – Indian Township | 100% | Tiers 1, 3 |
| Passamaquoddy Tribe – remaining lands | 12% | |

**Percentages are based on the best available service provider data—i.e., lands with addressed street segments per E911—and are not intended to be an absolute measure of last mile service.*

Barriers to Adoption

B-27 Cost of computer ownership and internet services.

2.4 ANNUAL ASSESSMENT

The Authority is committed to conducting updates and assessments of broadband availability and adoption on an annual basis. These assessments are currently scheduled through 2014 as part of the Planning Project. Assessment criteria, baseline values, and update sources are provided in Appendix C.

¹¹ It is important to note that the high connectivity of Native Indian tribes in Maine is based upon both program support provided by the Bureau of Indian Affairs as well as the proximity to existing and developing broadband infrastructure in the State.

3.0 Strategic Recommendations

This section presents six strategic recommendations directed to key stakeholders statewide. With each strategic recommendation there is a list of proposed tactics, or initiatives, for implementing the recommendation. These tactics are intended to be modular; that is, they can be implemented, amended, or set aside without affecting other tactics. It is assumed that new tactics will be added and some tactics dropped or amended during the life of the project. Finally, each tactic has action items that suggest initial implementation steps. Action items will be supplemented if and when a tactic is developed for implementation.

3.1 HOUSEHOLDS

STRATEGIC RECOMMENDATION 1: Work to increase broadband adoption in homes statewide by launching sustained public awareness campaigns on the benefits of broadband to the general public.

Tactics

1. Initiate a sustained public awareness campaign on the benefits of broadband to residential consumers.

Background. The Needs Assessment indicated that a lack of perceived need or value in owning a computer is the primary barrier to broadband adoption among residential consumers. Although 91.1 percent of Maine street locations have access to some form of broadband connection and 89.6 percent of surveyed households have some form of internet connection, only 72.7 percent subscribe to services at a broadband level. Related findings include:

- 44.7 percent of households that do not have a computer indicate lack of interest as the main reason.
- Of those households that do not connect to the internet from home, 22.8 percent report that they neither need nor want internet at home, citing various reasons including lack of interest, lack of ability to use the resource, and privacy concerns.
- Among non-internet-connected residents who stated a desire for, and had potential access to, the internet, only 26.3 percent planned to subscribe in the next 12 months.

- Forum attendees anecdotally reported a widespread “sense of futility” among residents in unserved regions, resulting in loss of interest in and demand for service.

Action item.

- Initiate a proposed comprehensive public awareness campaign for targeting residential consumers (see Appendix A).
2. Empower residential opinion leaders to serve as broadband champions within their respective spheres of influence.

Background. Some consumers, often educators, emerge as opinion leaders when given opportunities to learn or speak on the issue of broadband in Maine. For example, at the six initial public forums, a number of residential internet users spoke on behalf of those in underserved areas. Outreach activities should seek to identify opinion leaders who can be supported in the informal role of increasing adoption rates within their communities.

Service providers can also exert positive influence on residential consumer broadband adoption behavior. At the forums, residential consumers were attentive to and appreciative of service provider representatives when they spoke in response to questions and made recommendations.

Finally, children and young adults can function as peer-to-peer opinion leaders. Survey findings show that the presence of children in a household increases the likelihood of owning a computer, having internet access, and of the household spending 20 or more hours online each week. As primary users and early adopters of internet technology, children and young adults can drive the expansion of broadband activities in their and other households. A simple example would be developing online communications with grandparents through the exchange of email and “visits” using Skype™. In this way, consumer-to-consumer influence can help bring populations with lower adoption rates on board.

Action items.

- Include the identification and support of residential broadband opinion leaders as part of outreach activities. Sections 3.6 (tactic #6: training/educational programs) and Appendix A (public awareness campaign) discuss ways in which residential opinion leaders can be identified and supported as broadband champions. These individuals and groups can be supported by:
 - Special communications delivered through the GovDelivery system designed for this group of recipients

- Personal invitations to attend relevant public meetings, ConnectME Authority presentations, and educational sessions
- Access to print and online marketing materials, promotional items, and other resources they can use to influence others

3. Leverage the Authority's Technical Assistance Project.

Background. Through the Authority's Technical Assistance Project, the Maine Department of Education Adult and Community Education Program is developing [Community Connection](#), a network of adult education programs providing Maine citizens with broadband technical assistance, including information on using the State's expanding high-speed network to access resources in education, personal enrichment, health, economic and community development, and governmental services. The Technical Assistance Project, with a combination of ARRA and State adult education funding, is also supporting the expansion of the Maine Adult Regional Technology Initiative (MARTI), by providing intensive, ongoing training and mentoring in the use of technology in the classroom to adult educators across the State. Given the limited broadband resources in many adult education centers in Maine, funds will be available to MARTI classrooms to improve access to broadband and technology tools. This program will also support increased use of Maine's growing digital infrastructure (see Sections 3.3 on healthcare, 3.4 on education and 3.5 on e-government services).

Action item.

- Collaborate with the Maine Department of Education Office of Adult Education and Family Literacy to promote the Community Connection in all Authority communications (e.g, cross-link web sites, distribute promotional posters).

4. Address the second most cited barrier to adoption. 21.3 percent of survey respondents reported cost of equipment and service as a barrier to broadband adoption in the home.

Action items.

- Support those public and private programs that lower the costs of purchasing computer equipment and subscribing to broadband service. For example:
 - [PCs for MAINE](#) (Belfast, Maine)
 - [FCC's Connect to Compete](#), which includes cable companies operating in Maine such as Time Warner Cable; and Comcast's [Internet Essentials](#)
 - FCC changes to USF-supported [Lifeline/Link Up](#) programs for broadband access.

- Consider developing a high-installation cost support program funded by the Authority, as discussed more fully in Section 3.6.4 below.

3.2 BUSINESS

STRATEGIC RECOMMENDATION 2: Work to increase broadband adoption in businesses statewide by launching sustained public awareness campaigns on the benefits of broadband to businesses.

Tactics

1. Initiate a sustained public awareness campaign on the benefits of broadband to business consumers.

Background. Public forums and surveys conducted during the needs assessment indicated that lack of awareness is a critical barrier to adoption among Maine businesses.

- 39.1 percent of small businesses report that they do not have any perceived use for internet connectivity.
- Among non-internet-connected small businesses which stated a desire for and had potential access to the internet, only 10.6 percent planned to subscribe in the next 12 months.

Action item.

- Initiate a comprehensive public awareness campaign for targeting business consumers (see Appendix A).
2. Empower local business opinion leaders to serve as broadband champions within their respective spheres of influence.

Background. Members of the business community with an interest in having vendors, customers, and business partners online are intrinsically motivated to become broadband champions. Service providers in particular can exert positive influence on business consumer broadband adoption behavior. For example, interaction between business consumers and service providers at the forums highlighted consumer desire for greater transparency in provider activities, whose responses in the forum were openly appreciated.

Action items.

- Include the identification and support of business broadband opinion leaders and the targeting of broadband leader groups as part of outreach activities. Section 3.2 (tactic #3: the Broadband Capacity Building Project), Section 3.6 (tactic #6: training/educational programs; tactic #7: service

provider/ community leader partnerships) and Appendix A (public awareness campaign) discuss ways in which business opinion leaders can be identified and supported as broadband champions. These individuals and groups can be supported by:

- Special communications delivered through the GovDelivery system designed for this group of recipients
- Personal invitations to attend relevant public meetings, ConnectME Authority presentations, and educational sessions
- Access to print and online marketing materials, promotional items, and other resources that they can use to influence others
- Encourage broadband champions in the business community to participate in presentations within their industry, to other businesses, and in their geographic area.

3. Leverage the Authority's Broadband Capacity Building Project.

Background. The goal of this project is to increase the use of broadband through growth and adoption by businesses, residents and local support organizations.

The Authority has implemented the Broadband Capacity Building Task Force, which is made up of business opinion leaders and champions. The task force will convene statewide conferences and meetings intended to disseminate technical information about broadband availability and to provide opportunities to review current and upcoming programs as well as opportunities and changes in federal-level funding for broadband initiatives. The task force will:

- Recommend ways to review State laws and regulations that may increase the growth of broadband (Section 3.5).
- Involve suppliers of IT services to bring technical knowledge to the project (Section 3.6).
- Identify ways Maine can increase its broadband speed to attract and grow companies that need to send more data faster (Section 3.6).
- Help economic developers understand business broadband needs.
- Help businesses understand the potential users of broadband to grow their companies (Appendix A).
- Create a central web-based clearinghouse for one-stop shopping for data, grant information, and broadband resources (Section 3.5).
- Work with the decision makers of Health Information Technology (HIT) initiatives to increase the quality and efficiency of healthcare service delivery (Section 3.3).

The task force will also use information from the Authority's Planning Project to implement strategies that take advantage of broadband's economic potential for Maine. The task force will access the Authority's Technical Assistance Project for

conducting outreach through the Department of Education's Community Connection initiative (Section 3.1, tactic #3) and the State's 100+ adult education programs. Through this partnership, adult educators will promote broadband education through community presentations, workshops and coursework making 21st-century skills available to all.

Action items. The Authority will:

- Help integrate the broadband capacity building activities into existing State initiatives, including the State's Pine Tree Zones, Maine Technology Institute, Office of Innovation, Mobilize Maine and Health Information Technology (HIT) programs.
- Support the Broadband Capacity Building Task Force in their effort to manage and implement the recommendations of this Strategic Plan, to increase quality of service.

3.3 HEALTHCARE

STRATEGIC RECOMMENDATION 3: Work with decision makers of the Health Information Technology (HIT) initiatives and healthcare community to increase broadband use to improve the efficiency and quality of healthcare and health outcomes.

Tactics

1. Collaborate with State agencies, stakeholders and healthcare organizations such as the American Red Cross, Maine's HealthInfoNet, and the Maine Hospital Association, to define the support role the Authority can play in developing broadband communication systems that will enhance HIT and healthcare services.

Background. Estimates indicate that the adoption and use of electronic health record (EHR) systems and remote monitoring technology could create over \$700 billion in net savings over the next 15 to 25 years nationwide.¹²

The adoption of HIT can make a significant difference in Maine, a rural state with a large number of older residents, residents who are full or part-time shut-ins, and medical facilities that may be a long way from home. The use of EHRs and the exchange of clinical and claims data will streamline the delivery of healthcare and improve health outcomes. According to a 2010 survey of Maine healthcare professionals who participate in Medicaid, only 47 percent currently use EHRs.¹³ (For hospitals, the percentage is higher.) Medical

¹² [National Broadband Plan, Section 10.1.](#)

¹³ Maine's State Medicaid Health Plan, Survey Results, Maine EHR adoption, May, 2011.

practices that do not have EHR technology identified the cost to acquire it as the primary barrier to adoption; the cost to maintain the technology the second; and the third a mix of return on investment concerns, internal knowledge and technical resources. However, the professional- and hospital-combined responses indicated that 40 percent of those that do not use EHRs plan to by 2012 and another 30 percent by 2014. In fact, under current federal law, providers that do not implement EHR systems will see a reduction in Medicare reimbursements after 2015.

To encourage the expansion of HIT services, the Office of the State Coordinator for HIT and the federal Office of the National Coordinator are leading efforts to develop and implement data exchanges in states. In Maine, a private company, HealthInfoNet, is contracted with the Office of the National Coordinator to operate a Health Information Exchange (HIE). One goal of the HIE is to have professionals and hospitals submit and exchange (use) clinical data. Efforts are under way to expand both the number of participants who use HIE data and their use of the data. Another entity, Maine Health Data Organization (MHDO), houses claims data. It is expected that clinical and claims data will be exchanged and available in a seamless system. These efforts all require high-speed internet access.

To achieve efficiencies and improve health outcomes, EHR systems and exchange of data need high speed internet access. Understanding the barriers to the adoption of broadband technologies, including cost, is an important step to extending HIT services.

Action items.

- Work with stakeholder agencies, including DHHS, Office of the State Coordinator for HIT, MaineCare's HIT program, Maine InfoNet, Maine's Office of Rural Health and Primary Care, Eastern Maine Healthcare Systems, Maine Health, the Maine Telehealth Collaborative, Maine Telemedicine Services, the New England Telehealth Consortium (NETC), and the Maine Department of Education Adult and Community Education to define the benefits of increased telemedicine and EHR adoption and develop programs to educate the community of providers on the benefits of broadband and HIT adoption.
- Engage with their key stakeholder agencies to determine if the cost or delivery characteristics of broadband service are limiting factors to the recognition of HIT benefits.
- Use the National Broadband Plan as a source for collaborative ideas.
- Based on these collaborative findings, help develop policies and initiatives designed to increase network capacity to support HIT applications and reduce barriers to adoption inherent in the broadband network.

2. In alignment with the National Broadband Plan, support efforts that promote HIT, including telemedicine and the exchange of clinical and claims data, which will result in higher broadband take rates and more efficient healthcare.

Background. Hospitals and healthcare professionals cite funding and unclear investment returns as major barriers to EHR and home-based service technology adoption. Additionally, most reimbursement rates for medical care have not kept up with new technologies. For example, the federal government saves money by using a robust e-care program to avoid unnecessary veterans' hospital admissions and expensive home-based care.¹⁴ If a private hospital implemented a similar program, it might lose money, forgoing revenue that would otherwise be earned through admissions and home-based care services. New ways to reimburse healthcare providers could be developed to provide the return on investment necessary to drive the adoption of broadband, telehealth, and HIT systems.

As major payers of delivered services, the Centers for Medicare & Medicaid Services (CMS) and MaineCare DHHS can significantly influence these reimbursement programs. Maine has taken positive steps in this direction. For example, Maine's 2009 law requiring insurance reimbursement for telemedicine services and MaineCare's existing program with incentives for electronic medical system adoption are policies that help reduce barriers to adoption.

Action items.

- Establish or participate in a working group with the key stakeholder agencies CMS, MaineCare, DHHS and major healthcare systems to support efforts that promote broadband adoption as part of the increased use of telehealth services.
 - Monitor federal HIT program requirements and policies and address these as needed.
3. Promote the advancement of communications systems that support mobile health.

Background. Mobile and networked health solutions are in their infancy. The applications and capabilities available even two years from now are expected to vary markedly from those available today. Some will be in specialized devices; others will be applications using capabilities already built into widely available mobile phones such as global positioning systems and accelerometers. Though the promises of these applications are great, the challenges presented by Maine's mobile telecommunications infrastructure to support these applications are also great.

¹⁴ [National Broadband Plan, Section 10.3.](#)

Action item.

- Work with providers of mobile health systems to define the telecommunications technologies and platforms necessary to support these applications, and work with policy makers and mobile telecommunications providers to increase deployment and adoption of these systems tailored to Maine’s needs.
4. Work with broadband service providers to increase capacity and speed of service to healthcare providers.

Background. As with many other sectors, healthcare providers often find available broadband services not in line with their business drivers. For example, the cost of broadband service is not directly reimbursable under current billing practices and business grade broadband systems are often perceived as too small a gain in productivity for small practices. The following chart taken from the National Broadband Plan represents the estimated broadband capacity needs for healthcare providers.

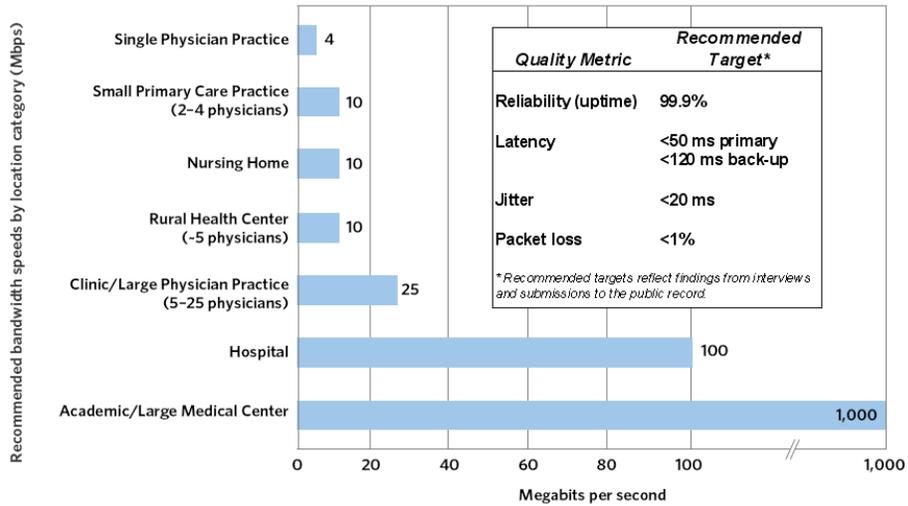


Figure 3-1: Required Broadband Connectivity and Quality Metrics

The broadband data transfer rates indicated in this chart are not generally available in Maine without subscription to dedicated service at premium cost rates, representing a barrier to increased adoption for smaller-sized businesses.¹⁵

¹⁵ [National Broadband Plan, Exhibit 10-C, p. 210.](#)

Action item.

- Work with service providers to increase the standard capacity available throughout the State, working toward a goal of affordable 10 Mbps standard broadband service available to small and rural healthcare providers by 2015.

3.4 EDUCATION

STRATEGIC RECOMMENDATION 4: Support educational and library organizations in their efforts to expand the availability and use of higher-tiered broadband services.

Tactics

1. Support the University of Maine as it collaborates with members of the University Community Next Generation Innovation Project (Gig.U) in seeking market-based strategies to accelerate the installation of next-generation broadband services.

Background. Developing world-leading networks and applications are vital to spur economic growth, innovation and job creation. Gig.U is a nationwide group of universities and communities working to accelerate deployment of next generation networks and services throughout the US.¹⁶ The ConnectME Authority can support this effort through its Broadband Technology Opportunities Program (BTOP)-funded projects and access to key market enablers, including broadband providers, state regulatory agencies, and application service providers.¹⁷

Action items.

- Assist the University of Maine Gig.U with public awareness efforts.
- Explore innovative ways to expand Gig.U services to under-represented groups.
- Help promote the involvement of State agencies to find solutions to regulatory constraints that inhibit the development of next-generation-level services.
- Help create incentives for private capital to deploy next generation networks.
- Coordinate involvement of the BTOP-funded Broadband Capacity Building Task Force with the Gig.U project.

¹⁶ <http://www.gig-u.org/>

¹⁷ [35-A MRSA 9204 \(3\) \(F\)](#). “Create and facilitate public awareness and educational programs to encourage the use of broadband services.”

2. Support the Networkmaine Council in exploring ways to expand and promote public library wireless internet access efforts and coordinate with the libraries on the public awareness campaign.

Background. The Networkmaine Council was created in 2009 through a memorandum of understanding between the University of Maine System, the Maine State Department of Education, the Maine State Library, and the Maine State Government Office of Information Technology. It is a coordinating body for the operation and management of a statewide communications delivery system and services developed to support education, research, public service, government, and economic development. The Networkmaine Council's goals parallel that of the ConnectME Authority's with a narrower focus on a subsection of the education community.

Action items.

- Work with Networkmaine to explore ways to expand and promote the public library wireless internet access efforts.
 - Partner with the Maine State Library on its BTOP-funded Maine Public Library Information Commons Project to establish or enhance public computer centers in public libraries across Maine.
 - Explore ways to coordinate the public libraries' existing initiatives, the public awareness campaign and the Technical Assistance project to foster digitally inclusive communities.
 - Explore ways to work with Maine high schools to develop programs that have students assisting the elderly with using the internet as part of meeting their service-learning requirement for graduation.
 - Help the MSLN leverage its ability to act as an anchor-tenant in underserved communities, thereby assisting service providers in offering new or enhanced services to area residents.
3. Develop ways to augment existing community college and university programs to help increase the number of graduates in IT fields and to provide training and continuing education opportunities to those already in the workforce.

Background. As identified in the Needs Assessment, one barrier to greater broadband adoption is the lack of an IT-knowledgeable workforce. The Chancellor of the University of Maine System has set a goal of doubling the number of IT graduates from its campuses over the next four years.¹⁸ The community colleges excel at offering specialized technical training and workforce education. Maine's higher education institutions are thus well positioned to address this challenge.

¹⁸ <http://bangordailynews.com/2011/03/30/education/university-system-chancellor-weve-cut-back-spending/>

Action items.

- Coordinate with the leadership of both the University and community college systems to provide data in support of their workforce initiatives.
 - Participate in industry panels or boards of visitors of IT-related departments (engineering, information sciences, etc.) at various campuses to help shape course offerings and programs.
4. Promote and leverage the Authority’s Technical Assistance Project with the Maine Department of Education Office of Adult Education and Family Literacy as detailed in Section 3.1 (tactic #3). This initiative is designed to provide Maine citizens with information on how broadband internet access can enhance educational opportunities, enrichment activities and provide access to health information.

Action items.

- Support the Community Connection presentations by promoting participating adult education programs on the ConnectME Authority website and by spotlighting individual programs as space and time allows.
- Present adult education as an active partner on the proposed eMaine website and promote and participate in broadband technical assistance activities and meetings.

3.5 GOVERNMENT SERVICES

STRATEGIC RECOMMENDATION 5: Support e-government efforts to facilitate citizen engagement through increased broadband use.

Tactic

1. Leverage the current Maine.gov model of promoting access to public information, government services, and public participation in democracy using current and innovative technologies to promote broadband use and adoption.

Background. In 1998, the Maine State Legislature enacted the [InforME Electronic Access to Public Information Act](#), creating a public-private long-term partnership to build a portal network to public information. The network is operated with oversight by the InforME Board, which is comprised of public and private members who set policy and approve fees for InforME services. Maine.gov is the public facing web portal for the State, managed by InforME.

Since 1999, Maine.gov has been combining advanced technology with user-friendly design to meet the service needs of citizens, businesses, and government. InfoME has developed more than 450 e-government services, an

award-winning Maine.gov web site and a variety of enterprise solutions. InforME and Maine.gov have become an integral part of the State's delivery of services to the public.

Action items.

- Use Maine.gov as a two-way communications system relating to broadband for:
 - Inbound communications from constituents concerning internet access to government and nongovernment entities as well as select “generic” broadband concerns;
 - Outbound communications from the ConnectME Authority to public and private entities as well as to constituents; and
 - Outbound branding and awareness/education from the Authority.¹⁹

This communications system should enable the Authority to:

- Offer an online portal/triage function that (re)directs people to the proper entity for their needs, as well as an online chat function;
- Offer a phone line to replicate an online triage function for those without internet access. Ideally this should be done through an existing statewide system such as the state library reference desks;
- Utilize select social media outlets for limited direct communication with constituents; and
- Educate, promote, and augment the relevant functioning of each partnering entity, allowing each to serve as a “broadband champion” (Section 3.1, tactic #2; Section 3.2, tactic #2; Appendix A).

The key is for constituent groups to understand that there is “a place to go” in Maine for their broadband-related informational needs.

3.6 BROADBAND SERVICES

STRATEGIC RECOMMENDATION 6: Promote the expansion of higher-tiered broadband services to encourage use and investment, and to foster competition in the marketplace in order to lower costs.

Tactics

1. Consider broadening focus from last-mile development to include higher-tiered services that support higher-level applications.

¹⁹ InforME has indicated an interest in partnering to promote this proposed system, using GovDelivery for outbound communications.

Background. Through the Authority, Maine has invested millions of dollars to increase broadband services to unserved areas through a grant program that focuses on “last-mile” infrastructure projects. Each completed grant project is evaluated on the number of unserved households and potential subscribers reached relative to the project’s implementation plan and size of the grant awarded. During recent grant rounds, it has become apparent that additional programs may be needed to bring broadband services to hard-to-reach consumers and to encourage the provisioning of higher-tiered broadband services.²⁰

Action item.

- Designate areas as underserved for broadband on an annual basis, as stated in the Authority’s Final Adopted Rule. In so designating an underserved area, consider the following: The lowest cost broadband service that is available is provided at a price that exceeds 150 percent of the statewide average for reasonably similar service; or the overall capacity, reliability, or quality of the broadband service available is inadequate to meet current or projected needs for the area.²¹ This may become particularly relevant depending on how the FCC implements its [Connect America Fund](#) for mobile telephone and broadband in rural communities and needy areas.
2. Support telecommunications regulatory reform at state and federal levels.

Background. The country is rapidly transitioning from the Public Switched Telephone Network (PSTN) to IP technologies and network.²² For example, telephone access line subscriptions fell nearly 6.6 million between Q2 2010 and Q2 2011, a 7.3 percent decrease in just one year (Figure 3-2). It is projected that by 2018 less than 6 percent of the US population will subscribe to PSTN service.²³ In Maine there are already more cellular subscribers than

²⁰ [ConnectME Authority Final Adopted Rule](#), Chapter 101, Subsection 6C. The Authority’s final adopted rule [2007] recognizes the eventuality of addressing underserved areas by including language designating service and eligible areas. The rule lists as eligible activities the provision of public infrastructure, services, facilities and improvements needed to implement new broadband services, enhance existing broadband services, implement new mobile communications service, or enhance existing mobile communications service.

²¹ [ConnectME Authority Final Adopted Rule](#), Chapter 101, Subsection 5C1, a-b

²² Plan of the Maine Public Utilities Commission to Reform Telecommunications Regulation, December 30, 2011, p. 47; and FCC Report and Order of Further Notice of Proposed Rulemaking, FCC 11-161, paragraph 6.

²³ http://transition.fcc.gov/presentations/06292011/2010_06_29-presentation.pdf

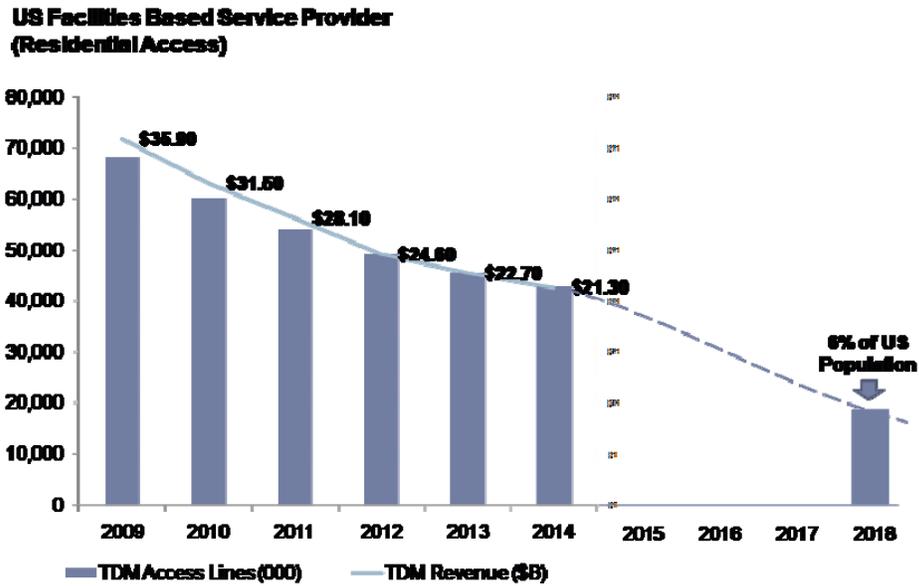


Figure 3-2: Residential Access

landline subscribers. Mainers are also rapidly converting to Over the Top voice services based on VoIP technology. While we believe Maine may trail the rest of the US in this transition, it needs to avoid too great a lag. The alternative is to risk significant negative economic impacts, including direct costs, as the expense of maintaining PSTN services across a dwindling subscriber base increases, and opportunity costs resulting from substandard infrastructure.

This transition creates a number of general challenges. The State will need to understand and respond to required regulatory impacts and changes driven by this transition. An expanding set of applications for broadband networks will require new quality and reliability metrics that go beyond bandwidth. Latency, jitter, packet loss, and availability will all become more important as the transition progresses. Further, regulators will need to understand and respond to the economic impacts of this transition, addressing carrier-stranded assets, for example, and non-carrier stranded devices (e.g., alarm systems, sensors).

Action items.

- Continue to create incentives for operators to provide broadband services (that can include voice) to unserved and underserved areas.
- Monitor the transition and develop the Authority’s approach to:
 - The MPUC’s plan to reform telecommunications regulation realigning the “provider-of-last-resort” regulatory requirements to emerging

technologies. Such realignment will likely be undertaken in conjunction with the FCC and its efforts to reform the federal Universal Service Fund (USF).²⁴

- Changes to Maine's USF program to ensure universal broadband coverage.
- The creation of a consumer-focused incentive program that assists with the purchasing of adapters for devices dependent on analog telephone service or for the purchasing of new equipment.
- The funding of an accelerated transition of the public service access points (PSAPs) to enable integration with IP networks (e.g., Next Generation 911).
- The inclusion of broadband service as part of Maine's Lifeline Assistance program, which provides discounts on basic monthly service for qualified telephone subscribers.
- The continued guaranteed access to communications for persons with disabilities including additional means of communications beyond just voice.

3. Evaluate the opportunities for funding open access projects.

Background. Infrastructure components funded in various grants can be leveraged by multiple retail service providers if the ConnectME Authority grant program incorporates some level of open-access requirements. Such change will encourage a competitive broadband marketplace rather than closing off hard-to-reach areas.

Action item.

- Consider incorporating open-access requirements for passive infrastructure (e.g., towers, fiber optics or copper cables) in all grants or creating a program specifically targeted for open access wholesale offerings.
4. Consider supporting cost incentives such as waived installment fees, trial periods, and discount computers for targeted consumers.

Background. Residential surveys conducted during the needs assessment indicated that cost was the second critical barrier to adoption among Maine households:

²⁴ On December 30, 2011, the Maine Public Utilities Commission (MPUC) released a plan to reform telecommunications regulation. In this plan, the MPUC proposes many bold changes to the telecommunications regulatory environment necessary if Maine is going to benefit from a robust telecommunications marketplace.

- 21.3 percent of households that do not have a computer indicated cost as the primary reason.
- Among households with computers, 26.7 percent indicated they would not connect to the internet because of cost.
- Among households with internet users, 55 percent indicated they would not subscribe to faster internet service because of cost.

Action items.

- Consider establishing programs targeted at reducing or removing identified financial barriers to broadband adoption. These programs could mirror or augment existing programs such as the FCC's [Connect to Compete](#) and Comcast's [Internet Essentials](#), which provides broadband service with no activation fee, a low monthly cost along with a low-cost computer and free internet training to low-income households.
- Consider new programs that:
 - Mitigate high-cost installations. Even in areas considered served, there are often individual locations too expensive to reach due to surrounding geographic characteristics in the case of wireless, or distance from the road in the case of cable. In other instances, connection is beyond the consumer's financial means. A consumer-focused rebate program would increase the availability of broadband service while increasing adoption. This program could be implemented in conjunction with broadband service providers' programs to make the most efficient use of available ConnectME Authority resources.
 - Support the installation of higher bandwidth tiers. Most of Maine is currently served by low-speed broadband services—a minimum speed of 768 Kbps (FCC Tier 1) (Figure 3-3).²⁵
 - Although Tier 1 speeds meet Maine's current definition of broadband, the Authority stated in May 2011 a preference for funding projects that deliver service at 3 Mbps (FCC Tier 3) or higher. The Authority should confirm and strengthen its preference for speeds at Tier 3 and above, raising the bar that the private sector must meet before receiving public subsidies.

²⁵ [Maine Broadband Needs Assessment](#).

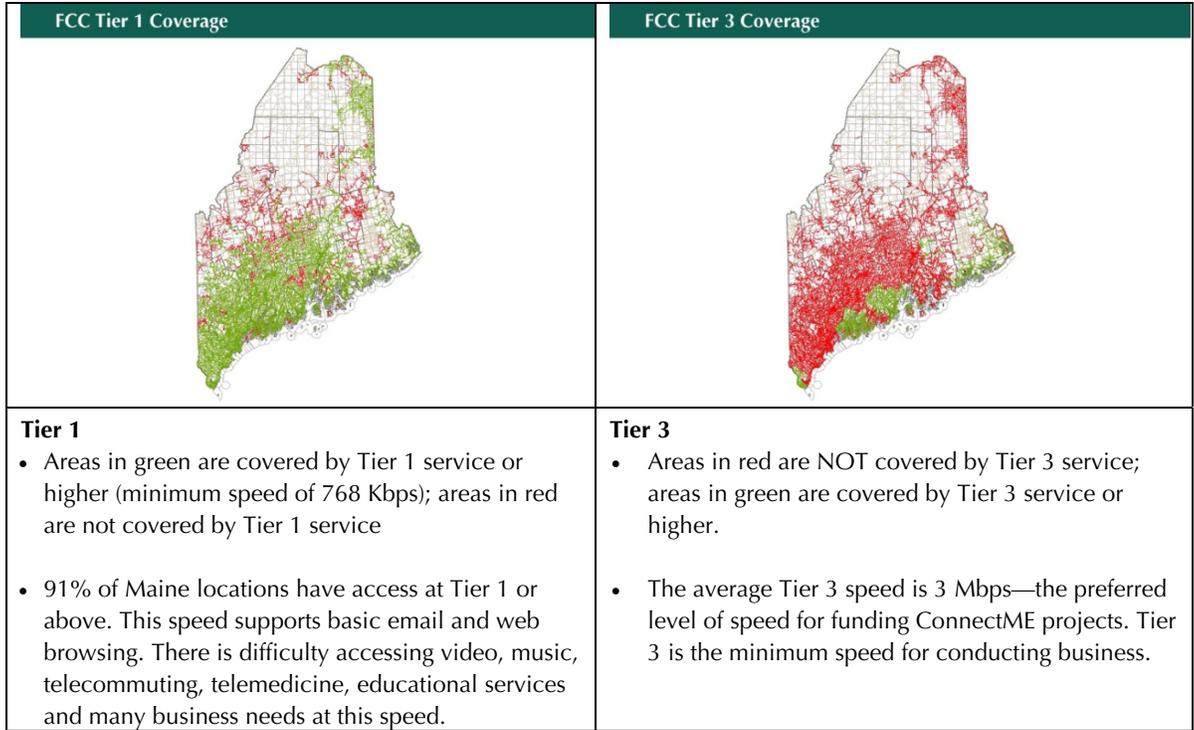


Figure 3-3: Tier 1 and Tier 3 Coverage in Maine

- Solicit proposals for delivering higher-tier broadband to underserved areas. A reverse or procurement auction program would define a minimum bandwidth (both up and down) and the geographic area for which the Authority solicits bids. By leveraging information available through the Authority’s Broadband Mapping Project, the Authority can identify underserved areas bordered by unserved areas as program candidates. By combining unserved with underserved areas into a single aggregated area, service providers will be able to deliver higher-tier broadband to the unserved more cost-effectively.
5. Explore the benefits of an international telecommunications backbone through Maine to New Brunswick.

Background. To attract out-of-state investment and spur economic development, Maine must not be viewed as the proverbial cul-de-sac on the information highway. Interconnecting Maine’s broadband infrastructure with that of the Maritime provinces would provide the lowest latency path between New York and London. In an industry where fractions of a second can be measured in the millions of dollars, every microsecond of latency saved by using a shorter path is valuable. Thus, better interconnections of Maine with the Maritime providences would change Maine’s position on the information highway from that of a cul-de-sac to being a gateway to the rest of the world.

Action items.

- Support investigating the creation of an international broadband backbone through Maine and the Maritime Provinces as a gateway to Europe, partnering with strategic stakeholders including Maine’s Department of Economic and Community Development, Atlantica Group LLC, the Maine International Trade Center, and Atlantic Institute for Market Studies to add broadband infrastructure to their agendas.
 - Support a resolution that supports interconnecting international broadband infrastructure and that pledges to seek assistance from US and Canadian governments for such an effort.
6. Encourage service providers to offer training/educational opportunities about the value broadband can deliver.

Background. The three-way partnership of the ConnectME Authority, providers, and consumers has proven fruitful in bringing broadband to unserved areas and increasing consumer satisfaction. Georgetown, Maine, provides a recent example. With Authority funding and cooperation with a service provider, this island community brought long-sought service to their town and surrounding area. By supporting provider-sponsored consumer education, the Authority will help increase similar efforts.

Action items.

- Support and encourage service providers, which may include:
 - Providing materials and education (ideally in conjunction with the Technical Assistance Project).
 - Partnering in marketing/promotional activities
 - Marketing training to ensure consumer-centric communications and interactions from providers to consumers
 - Leveraging GovDelivery system for regular updates and relevant news to consumers regarding service providers’ client training opportunities
7. Encourage service providers to partner with community leaders to increase and aggregate demand.

Background. Positive interaction between service providers and consumers at the forums highlighted the need for similar opportunities to improve communications between the two groups, clarify misconceptions and enhance relationships for mutual benefit.

Action items.

- Encourage providers to facilitate and enhance their relationships with community leaders to increase local demand and adoption.
- Create educational programming that brings providers and opinion leaders together to enhance understanding of common goals and to map out tactics for achieving those goals.
- Continue to foster the ConnectME Authority-provider-consumer partnerships as part of the Authority grant process.
- Review consumer communications to the Authority for opportunities to bring together consumers as partners to fuel and coordinate local demand.

3.7 NEXT STEPS

This Plan makes strategic recommendations to the ConnectME Authority for increasing broadband availability and for reducing barriers to adoption in Maine. The Plan also suggests tactics for each recommendation and gives examples of actions to further the tactics. The next steps are for the Authority to prioritize these recommendations and, in collaboration with the Broadband Capacity Task Force, develop an implementation plan for each recommendation, identifying tactics, action items and metrics for evaluation.

In fall 2012, the Broadband Planning Project team will conduct the first annual assessment of broadband development progress using the comparative baseline indices established in the Needs Assessment of June 2011 (Section 2.3). Assessment results will be provided in a report to the Authority. Followup assessments with reports will be conducted annually through 2014.

This isn't just about faster Internet or fewer dropped calls. It's about connecting every part of America to the digital age. It's about a rural community in Iowa or Alabama where farmers and small business owners will be able to sell their products all over the world. It's about a firefighter who can download the design of a burning building onto a handheld device; a student who can take classes with a digital textbook; or a patient who can have face-to-face video chats with her doctor.

President Obama, State of the Union Address, January 25, 2011

A.0 Appendix A. Public Awareness Campaign

An outline of the proposed public awareness campaign (Sections 3.1-3.2) for the ConnectME Authority is provided here. If approved, a complete plan will be developed and implemented as part of a separate scope of work.

As noted in the baseline (Section 2.3), a significant percentage of consumers—both households and businesses—identify lack of perceived value in computer and internet use as the greatest single barrier to broadband adoption. A campaign to increase public awareness of broadband’s benefits is thus a recommended tactic to increasing adoption rates, advancing the 12th point of the ConnectME Authority’s mission as stated in the Authority Rule and Enabling Statute: The Authority will “create and facilitate public awareness and educational programs to encourage the use of broadband services.” A successful awareness campaign will also directly address the digital literacy and relevance issues described in the National Broadband Plan.²⁶

The public awareness campaign will be a public-private partnership. It is designed to benefit Maine residents, businesses and service providers throughout the state. By generating interest in broadband service and increasing subscribership, the campaign will pave the way for new economic, educational, social, and other opportunities for Maine citizens. Increased adoption rates also translate into service provider benefits. The awareness campaign will support service provider marketing efforts by increasing consumer awareness and affecting demand, thereby helping contain provider costs. Further, higher adoption rates will reduce the customer-per-mile ratio necessary to justify provider investment in new or end-mile areas, lowering barriers to expansion, and increasing ROI.

A.1 THE ISSUE TO BE ADDRESSED

Data confirm that lack of awareness is the primary barrier to adoption among both residents and small businesses. For example:

- 44.7 percent of households that do not have a computer indicate lack of interest as the main reason.

²⁶ [National Broadband Plan, Section 9.9.3.](#)

- Of those households that do not connect to the internet from home, 22.8 percent report that they neither need nor want internet at home for various reasons (e.g., lack of interest, lack of ability to use the resource, privacy concerns).
- Among non-internet-connected residents who stated a desire for and had potential access to the internet, only 26.3 percent planned to subscribe in the next 12 months.
- Forum attendees anecdotally reported a widespread “sense of futility” among residents in unserved regions, resulting in loss of interest in and demand for service.
- 39.1 percent of small businesses report that they do not have any use for internet connectivity.
- Among non-internet-connected small businesses who stated a desire for and had potential access to the internet, only 10.6 percent planned to subscribe in the next 12 months.

A.2 THE PROPOSED AWARENESS CAMPAIGN

Campaign Goals

The campaign will be statewide in scope. It will work to promote and increase broadband adoption by all stakeholder groups, and increase the Authority’s impact as a critical broadband resource.

Campaign Theme

The proposed awareness campaign theme is *Put ME on the Map*. This theme, which will be woven throughout the campaign is in keeping with the Authority’s goal of broadband access and adoption to every corner of the state map. It also promotes the Authority’s goal to put the State of Maine on the national map of “broadband rich” states.

Campaign Strategy

The strategy of the campaign, and the basis of all campaign messaging, tactics, and outreach activities, is to inform and educate stakeholder groups as to the benefits of broadband. In accord with widely accepted marketing theory,²⁷ the campaign will highlight benefits, compatibility, ease of use, low risk, and immediacy of benefits by creating risk-free opportunities to observe or try out high-speed internet. Specific trial internet experiences will be tailored to each target market.

²⁷ The Everett Rogers Diffusion of Innovations Theory explains the rate of new product adoption. According to this and related theories of adoption, the rate of diffusion is positively influenced by: Observability (the ability to see the product/service in use); Trialability (the ability to experiment using the product/service); Perceived advantage/benefit/ROI; Compatibility with existing lifestyle and products; Ease of use (little or no sense of complexity); Low risk; and Immediacy of benefits.

Outreach, in this context, refers to bringing observation and trial opportunities to localities throughout Maine. Given the sense of marginalization often experienced by constituent groups in unserved areas, it is important to bring the campaign to constituents throughout the state with an explicit commitment to geographic equality.

Marketing Messaging

To insure a comprehensive strategy, we recommend that the ConnectME Authority target multiple markets with tailored messages to each. Our recommendations follow in Table A-1 and include primary communications vehicles used to reach each target market. While the Authority will be the primary message disseminator in coordination with service providers, from time to time the Authority will rely on municipal officials, business organizations, business, community, education and healthcare leaders and others for support and assistance.

Table A-1: Target Market Matrix

| Target Market | Key Messages | Primary Communication Vehicles |
|---|--|---|
| Residential opinion leaders (broadband champions) | <ul style="list-style-type: none"> • As opinion leaders, you can spread the ConnectME message & share your experiences using broadband. • By increasing demand, you can play a role in bringing broadband to your community • By increasing adoption rates, you can help drive down price. | <ul style="list-style-type: none"> • outreach • social media • promotional activities • website • peer-to-peer communication |
| Residential adopters | <ul style="list-style-type: none"> • There is so much you can do via broadband (education, employment, municipal services, medical, etc.). • You can use broadband to save time/money by conducting more transactions online. | <ul style="list-style-type: none"> • outreach • social media • mass communications via providers & other intermediaries • promotional activities • website |
| Residential non-adopters | <ul style="list-style-type: none"> • You can experience the benefits of broadband through a trial • Internet usage is perfectly compatible with various life-styles. • It is easy to use & nearly risk-free. • You can use broadband to save time/money by conducting these transactions online. • You can connect to people & services that matter to you. | <ul style="list-style-type: none"> • outreach • advertising • PR • promotional activities |
| Small business opinion leaders (broadband champions) | <ul style="list-style-type: none"> • As opinion leaders, you can spread the ConnectME message & share your experiences using broadband. • By increasing demand, you can play a role in bringing broadband to your community. • By increasing adoption rates, you can help drive down price. • Increased business & consumer broadband use translates into economic development and improved ROI for you. | <ul style="list-style-type: none"> • outreach • social media • conferences/speaking engagements • promotional activities • website • peer-to-peer communication |

| Target Market | Key Messages | Primary Communication Vehicles |
|---|---|---|
| Small business adopters | <ul style="list-style-type: none"> • There is so much more you can do via broadband to improve your bottom line. • You can use broadband to save time/money by conducting more business transactions online. | <ul style="list-style-type: none"> • outreach • social media • conferences/speaking engagements • mass communications via providers & other intermediaries • promotional activities • website |
| Small business non-adopters | <ul style="list-style-type: none"> • You can experience the benefits of broadband through a trial • You will achieve a positive ROI using broadband for your small business. • Internet usage is perfectly compatible with your business. • It is easy to use & nearly risk-free. • You can connect to people & services that matter to your business. | <ul style="list-style-type: none"> • outreach • advertising • PR • promotional activities |
| Residents and small businesses in unserved areas | <ul style="list-style-type: none"> • You can band together & make your voice heard – ConnectME is listening. • Grants are available. • Understand the determinants of broadband expansion – take action. | <ul style="list-style-type: none"> • outreach • advertising • PR • promotional activities |
| All | <ul style="list-style-type: none"> • Here are the benefits you can gain from the ConnectME communication system. | <ul style="list-style-type: none"> • advertising • earned media (all) • website |

Sample Tactics

The proposed campaign could feature the following sample tactics to increase observability and trialability for areas with current or pending internet service:

- ConnectME Authority staff in coordination with the Authority's Technical Assistance Project, service providers and other collaborators will conduct outreach throughout the state. Traveling to various destinations, events, public places, etc., the staff will engage targeted audiences in internet-based observation and trial experiences. For example, parents and grandparents could be given an opportunity to Skype, a small business owner could search online for a lower-priced parts vendor, potential students could observe part of an online course, a resident may reregister a dog, or a medical practitioner could experience reading an MRI image online. Education will be key, highlighting benefits/ROI, compatibility with existing lifestyle, ease of use, and low risk. Materials and promotional items will be distributed. Providers and other collaborators may offer promotional activities in conjunction with these visits. Significant public and personal communications will precede the visits to generate buzz and motivate attendance.
- Through the ConnectME Authority website, select social media outlets, and possible offline media, the public can monitor the schedule and location of

visits on a map of the state, tying this in to the Put ME on the Map campaign theme.

- An indoor exhibit display will be used when the activities take place inside. This can be used in conjunction with visits or independently at libraries and special events such as conferences and school sports playoffs.
- Communications will include educating community/opinion leaders and constituent groups using the Authority's Broadband Technical Assistance Project Community Connection and other resources on why areas are selected for broadband service, the benefits of high adoption rates, the role individuals can play, etc. Adult education programs provide experienced, trained staff available across the state familiar with the challenges of helping adults learn and acquire new skills. These programs also provide value-added trial opportunities and existing connections to civic and social organizations, the business community and other target populations. Participants will be provided with service provider contacts and resources to support local adoption.

The proposed campaign will feature the following sample tactics to increase observability and trialability for areas without current or pending internet service:

- The outreach concept will be applied to areas without current or pending internet service to educate constituents about why areas are selected for broadband service, what can be done to increase the likelihood of getting access, and about the ConnectME Authority grant application process. Consumers will be provided with service provider contacts and the resources to maximize their ability to influence broadband expansion and adoption.
- Educational materials, promotional activities, and promotional items will be made available to these groups. The focus of the effort will be on awareness and interest, as creating too much desire in the absence of "product" can lead to frustration and anger. Staff will focus on facilitating empowerment. Constituents will be made to understand the relationship between adoption rates and provider profitability, and the relationship between potential profitability and selection of areas for service provision.
- Target constituents will be encouraged to use the internet at public facilities such as libraries and career centers.

Other campaign tactics will revolve around the activities described in this section and will tie to the *Put ME on the Map* theme.

A.3 OVERVIEW OF MARKETING TOOLS

Collaborative Relationships

Central to an awareness campaign is collaboration with other entities sharing the ConnectME mission or having complementary goals. Although there is no direct cost for such partnerships, the ConnectME Authority will need to invest significant human resources to cultivate collaborative relationships and the resulting joint activities. Such activities may include collaborative public presentations, PSAs, promotional activities, and social media endeavors. Service providers and other partnering organizations within Maine government can disseminate the ConnectME awareness message through their existing communications infrastructure, reaching campaign target markets including residents, businesses, community anchor institutions, legislators, and other service providers.

Conferences/Speaking Engagements

Conferences and public speaking engagements are key in reaching highly targeted audiences. Examples of events at which ConnectME Authority should exhibit or make presentations include:

- Annual Telemedicine Summit
- Association of Computer Technology Educators' MAINEducation Conference
- Health Information Technology Conference sponsored by Maine Osteopathic Association, Maine Medical Association, and Maine Hospital Association
- Maine Adult Education Association's Annual Conference
- Maine Association of Nonprofits' Annual Leadership Conference
- Maine Library Conference
- Mainebiz Momentum Conferences
- Maine Municipal Association
- Telecommunications Association of Maine
- Telephone Association of New England
- Telecommunications Relay Service (TRS) Broadband Summit
- Trade and fraternal groups

Many of these presentations and exhibits could be done in conjunction with partnering organizations to minimize cost and lend credibility within target populations. Less traditional venues such as sporting events, recreational activities, and fairs offer direct connection with the broad citizenry of the State and are also recommended.

Promotional Activities

Peer-to-peer communication is particularly powerful in the current marketing era. Although driven by internet-based technologies, it is no less powerful through

other modes of communication; it is just less “viral” in nature. Since the campaign is focusing on those who have yet to adopt high-speed internet, promotional activities that promote peer-to-peer communication and leverage internet-using opinion leaders will primarily be “offline.” Implementing promotional activities with collaborators will reduce ConnectME Authority costs and allow access to targeted markets that might otherwise be inaccessible. For example, the Authority and Department of Education could partner to create and implement a contest for student beneficiaries of the laptop program. The contest could focus on educational and/or societal benefits of activities dependent on internet access. Students, classes, or schools could compete and the process could be heavily publicized through earned media.

Advertising

Paid advertising should be kept to a minimum for a number of reasons. It is a medium that is highly useful for disseminating information, but is less efficient than earned media for influencing public opinion in the short term. Public relations communications are more likely to be regarded as more trustworthy. Finally, as a State of Maine agency, the ConnectME Authority has access to select media outlets for PSAs and other public communications at no charge. That said, free PSAs are aired at the discretion of the media outlet and most often not at an optimal time while paid advertising offers full control over both message and timing, allowing highly targeted communications.

Public Relations and Social Media (Earned Media)

Earned media, in contrast to sales and advertising, do not carry a price tag for message dissemination, but are costly in terms of human resources. In the case of social media, there is a need to manage constituent input intended for public consumption. The awareness campaign will emphasize earned media as it is highly effective and has a high ROI when integrated with a larger marketing campaign.

Website

As a hub for the awareness campaign and the proposed communications system described in Section 3.5, the ConnectME Authority website should be updated to assure full integration with the awareness campaign and new branding. Changes will focus on increased public accessibility and interactivity. The site should be the “one-stop shop” for all Authority projects and initiatives (Broadband Mapping, Planning, Technical Assistance, and Capacity Building).

B.0 Appendix B. ConnectME Authority Duties

As stated in the provisions of the Advanced Technology Infrastructure Act (M.R.S.A. 35-A §9204),²⁸ duties of the Authority include:

1. Establish criteria defining unserved and underserved areas;
2. Enhance communications technology infrastructure;
3. Monitor wireless coverage in areas where the Authority determines the quality of the coverage is adequate;
4. Expand the availability of broadband to residential and small business customers in unserved or underserved areas;
5. Expand the availability of broadband with bandwidth, synchronicity, reliability and security adequate to serve business, education and enterprise consumers in unserved or underserved areas;
6. Otherwise enhance the State's communications technology infrastructure in unserved and underserved areas;
7. Collect, aggregate, coordinate and disseminate information and data concerning communications services and advanced communications technology infrastructure in the State;
8. Track investment in advanced communications technology infrastructure;
9. Continually assess the availability of and need for advanced communications technology infrastructure in unserved or underserved areas within the State;
10. Identify and secure federal and other funding sources for broadband or wireless deployment or education;
11. Identify opportunities for coordination among providers, consumers, and state and local government entities, including coordination with the statewide emergency radio network; and
12. Create and facilitate public awareness and educational programs to encourage the use of broadband services.

²⁸ www.mainelegislature.org/legis/statutes/35-a/title35-Asec9204.html

c.0 Appendix C. Updating the Baseline

Broadband availability and adoption will be measured annually through 2014 against the 2011 baseline values provided in Table C-1.

Table C-1: Measurement Criteria, Baseline Values and Update Sources

| MEASUREMENT CRITERIA | BASELINE 2011 | UPDATE SOURCE |
|---|-------------------------------|--|
| General Statewide Broadband Availability and Use | | |
| Maine Locations | | |
| B-1. Percent of street locations having access to some form of internet connection from at least 1 SP | 91.1% | ConnectME Inventory and Mapping 6-month updates |
| B-2. Average number of broadband SPs per Maine community | 4.3 | ConnectME Inventory and Mapping 6-month updates |
| Maine Households | | |
| B-3. Percent of surveyed Maine households having some form of internet connection | 89.6% | ConnectME Planning annual surveys |
| B-4. Percent of surveyed Maine households subscribing at broadband levels | 72.7% | ConnectME Planning annual surveys |
| Maine Businesses | | |
| B-5. Percent of surveyed Maine businesses having some form of internet connection | 90.1% | ConnectME Planning annual surveys |
| B-6. Percent of surveyed Maine businesses subscribing at broadband levels | 85.7% | ConnectME Planning annual surveys |
| Consumer Identified Barriers to Broadband Use | | |
| B-7. Barriers for surveyed households <ul style="list-style-type: none"> Lack of perceived value in owning a computer Cost | 44.7% 21.3% | ConnectME Planning annual surveys |
| B-8. Barriers for surveyed businesses <ul style="list-style-type: none"> Lack of perceived value in owning a computer: Cost | 39.1% 28.3% | ConnectME Planning annual surveys |
| Maine's Broadband Infrastructure | | |
| B-9. Average broadband download capacity <ul style="list-style-type: none"> Maine National | 768 Kbps 3.9 Mbps | FCC Internet Access Service reports updated as available |
| B-10. Internet speeds in Maine <ul style="list-style-type: none"> Percent of households having at least 3 Mbps Percent of households having at least 10Mbps Maine's ranking in speeds >10Mbps | 55% 6% 43 rd | FCC Internet Access Service reports updated as available |
| B-11. Maine's ranking in deployment of broadband telecommunications | 45 th | FCC Internet Access Service reports updated as available |

| MEASUREMENT CRITERIA | BASELINE 2011 | UPDATE SOURCE |
|--|-------------------------------|--|
| B-12. Maine’s ranking in number of IT professionals in non-IT industries | 41 st | FCC Internet Access Service reports updated as available |
| B-13. Maine’s ranking in high tech jobs as a percentage of all jobs | 35 th | FCC Internet Access Service reports updated as available |
| B-14. Number of Maine end user SPs deploying NGA | 1 | ConnectME Inventory and Mapping 6-month updates |
| Focused Stakeholder Groups | | |
| The Healthcare Community | | |
| B-15. Broadband Availability and Use by Medical/Dental Providers & Hospitals <ul style="list-style-type: none"> • Percent with access to broadband • Percent that use healthcare services & reporting • Percent unsure about internet access • Percent with internet access at less than broadband speeds • Percent without internet access | 88% 18 % 9% 2% 1% | Health Information Technology (HIT) Survey updates as available |
| B-16. Barriers to Broadband Adoption for Surveyed Healthcare Facilities & Providers <ul style="list-style-type: none"> • Lack of perceived need or value • Cost | 42% 12% | Health Information Technology (HIT) Survey updates as available |
| The Education Community (K-12) | | |
| B-17. Availability and Use by Maine Schools and Libraries <ul style="list-style-type: none"> • Percent with broadband service • Percent with fiber optic connections | 100% 44% | Networkmaine’s annual survey |
| B-18. Barriers to Adoption <ul style="list-style-type: none"> • Price, at Maine State Library Network level • Sufficient bandwidth • Lack of middle and last mile infrastructure | -- | Networkmaine’s annual survey |
| Community Anchor Institutions | | |
| B-19. Availability and Use <ul style="list-style-type: none"> • Percent with broadband service (does not include schools and libraries or those entities where the status of broadband service is unknown) | 92% | ConnectME Inventory and Mapping 6-month updates/ ConnectME Planning annual surveys |
| B-20. Barriers to Adoption <ul style="list-style-type: none"> • Perceived value (cost and quality service) • Outdated equipment • Lack of technical support | 8% 4% 3% | ConnectME Planning annual surveys |
| State Agencies | | |
| B-21. Availability (estimated) | 98% | Office of Information Technology (OIT) |
| B-22. Barriers to Adoption (anecdotal) <ul style="list-style-type: none"> • Limited or no carrier access to remote areas • Funding | -- | Office of Information Technology (OIT) |
| Native American Communities | | |
| B-23. Aroostook Band of Micmac - Availability | 98% | ConnectME Inventory and Mapping 6-month updates |
| B-24. Houlton Band of Maliseet Indians - Availability | 65% | ConnectME Inventory and Mapping 6-month updates |

| MEASUREMENT CRITERIA | BASELINE 2011 | UPDATE SOURCE |
|---|---------------------|--|
| B-25. Penobscot Nation – Availability <ul style="list-style-type: none"> • Indian Island • Remaining lands | 100% 21% | ConnectME Inventory and Mapping 6-month updates |
| B-26. Passamaquoddy Tribe – Availability <ul style="list-style-type: none"> • Pleasant Point • Indian Township • Remaining lands | 100% 100% 12% | ConnectME Inventory and Mapping 6-month updates |
| B-27. All Tribes – Barriers to adoption <ul style="list-style-type: none"> • Cost of computer ownership and internet services | -- | ConnectME Planning annual surveys |