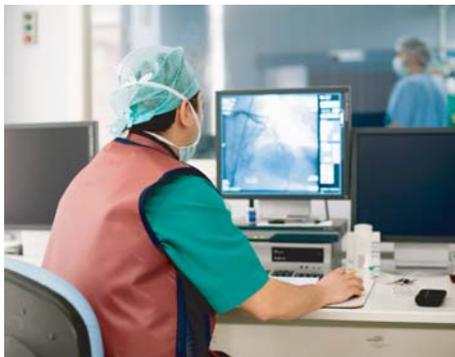


# Developing Broadband in Maine: Strategic Plan--**DRAFT** v.4.3

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The ConnectME Authority Broadband Planning Project

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<sup>1</sup> 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: [\[post comments on Authority web site and link\]](#)

## 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. Acknowledging the increasingly critical economic and social role broadband plays in Maine, the plan is designed to assist the ConnectME Authority in achieving its goal of increasing broadband availability, reducing barriers to adoption, and increasing broadband uptake.

Six strategic recommendations follow. The first and second are general to residential and business consumers and the third through sixth focus on particular consumer or stakeholder groups.<sup>2</sup>

1. *For the general public:* Increase broadband adoption in homes by launching sustained public awareness campaigns on the benefits of broadband to the general public, addressing the cost of equipment ownership and service subscription, and by leveraging the Authority's various planning and implementation projects now under way. The Technical Assistance program through the Maine Department of Education and its adult education services is particularly relevant to increasing adoption in homes.
2. *For businesses:* 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. The Capacity Building Task Force, which comprises business leaders from around the state, is focused on increasing adoption in businesses.
3. *For the healthcare industry:* Work with decision makers of the Health Information Technology (HIT) initiatives and the health care community to use broadband to improve the efficiency and quality of healthcare and health outcomes.

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<sup>2</sup> It is important to note that these 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.

4. *For the educational community:* Work with educational and library organizations in their efforts to expand higher-tiered broadband services.
5. *For government services:* Support e-government efforts to facilitate citizen engagement through increased broadband use.
6. *For the broadband industry:* Promote the expansion of higher-tiered broadband services to encourage use and investment, and foster competition in the marketplace to lower costs.

Progress will be measured annually through 2014 against a set of comparative indices.<sup>3</sup> These indices—the 27 baseline measures identified in the plan—are designed to measure the Authority’s overall success in achieving the Authority’s primary objective of increasing broadband availability, awareness, and uptake statewide.

A second level of assessment will measure the success of any particular tactical item implemented under one of the strategic recommendations. In this way, any particular tactical item will be assessed twice: first, against its own implementation plan and, second, against the general assessment indices.

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<sup>3</sup> The indices were developed as Task J in the ConnectME Authority Broadband Planning Project workflow.



## 2.0 Introduction

The purpose of this Strategic Broadband Plan is to identify strategies and to make recommendations to the ConnectME Authority Board for increasing Maine broadband availability and adoption,<sup>4</sup> in alignment with the goals of the Authority, which are to facilitate universal availability of broadband service and to increase the “take rate” or adoption to greater than the national average.

Increasing access and takes 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 broadband availability and adoption, nearly 50,000 households still do not have access to broadband.

This plan is organized into two main sections with an Appendix:

***Needs Assessment:***

The first section identifies key categories and data to serve as a baseline for measuring broadband availability and adoption. It also reviews the data sources that will be used to assess progress against these baselines.

***Strategic Recommendations:***

The second section presents strategic recommendations to increase availability and adoption, some general to the consumer population and some specific to targeted stakeholder groups. This section uses three levels of approach:

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<sup>4</sup> This Broadband Strategic Plan is the second deliverable (Task M) in the Authority’s Broadband Planning Project. It has been developed 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.

*Level One—Strategic Recommendations*, identifies six general areas on which the Authority will focus in addressing its objectives and which we expect to be stable over the life of this plan.<sup>5</sup>

*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 and will be amended as needed to meet contingencies and opportunities. Each tactic requires an implementation plan including an internal return on investment (ROI) or other relevant assessment indices before it is acted on.

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

***Public Awareness Campaign:***

The Appendix summarizes a proposed workplan for the public awareness campaign, which is the centerpiece of a general outreach from the Authority to the consumer population.

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<sup>5</sup> The Authority, as an entity of the State, 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 State's and Authority's priorities.

## 3.0 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 in the [Maine Broadband Needs Assessment](#). Assessment methodology, definitions and key baseline findings are reviewed in this section.

### 3.1 SURVEY 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.

### 3.2 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 3-1: FCC's Seven-Tier Broadband Classification

FCC Speed Tier	Upload/Download Speeds	Broadband (Y/N)
• 1 <sup>st</sup> 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 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 3.2, 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 3-2: 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 mobile or cellular service is beginning to achieve broadband speeds, especially in urban areas, implementation in Maine is not yet widespread.

**3.3 SURVEY FINDINGS AND BASELINE NUMBERS**

Baseline data for assessing progress 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 43<sup>rd</sup>.
- 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.<sup>6</sup>
- B-13. Maine ranks 35<sup>th</sup> 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**

***Health Care 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 health care 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.

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<sup>6</sup> [http://www.itif.org/files/2007\\_State\\_New\\_Economy\\_Index\\_Small.pdf](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.<sup>7</sup>

Table 3.3 shows institutions confirmed to have broadband service, those confirmed not to have broadband service, and those for which broadband service is unknown.

*Table 3-3: 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
<b>Total</b>	<b>2,460</b>	<b>147</b>	<b>1,889</b>	<b>4,496***</b>

*\*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.

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<sup>7</sup> 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:

*Table 3-4: Tribal Broadband Availability*

<b>Name of Tribe</b>	<b>Avail*</b>	<b>Speed Tiers</b>
B-23. Aroostook Band of Micmac Indians	98%	1 <sup>st</sup> Generation, Tier 1
B-24. Houlton Band of Maliseet Indians	65%	Tier 1
B-25. Penobscot Nation – Indian Island	100%	1 <sup>st</sup> 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%	

*\*Defined based on lands with addressed street segments per E911. Not intended to be an absolute measure of last mile service.*

Barriers to Adoption

B-27. Cost of computer ownership and internet services.

**3.4 BASELINE EVALUATION MEASURES**

The sources to be used in measuring updates for each of the baseline categories are provided in Table 3-5 on the next page. The mapping from the Authority’s Inventory and Mapping Project will be a key evaluative tool, used not only to support the implementation of the recommendations provided in this Plan, but to measure the effectiveness of their implementation. Annual updates and assessments through 2014 are currently scheduled.

Table 3-5: Measuring the Baseline

MEASUREMENT CRITERIA	UPDATE SOURCE
<b>General Statewide Broadband Availability and Use</b>	
<b>Maine Locations</b>	
B-1. Percent of street locations having access to some form of internet connection from at least 1 SP	CTME Inventory and Mapping six-month updates
B-2. Average number of broadband SPs per Maine community	CTME Inventory and Mapping six-month updates
<b>Maine Households</b>	
B-3. Percent of surveyed Maine households having some form of internet connection.	CTME Planning annual surveys
B-4. Percent of surveyed Maine households subscribing at broadband levels	CTME Planning annual surveys
<b>Maine Businesses</b>	
B-5. Percent of surveyed Maine businesses having some form of internet connection	CTME Planning annual surveys
B-6. Percent of surveyed Maine businesses subscribing at broadband levels	CTME Planning annual surveys
<b>Consumer Identified Barriers to Broadband Use</b>	
B-7. Barriers for surveyed households	CTME Planning annual surveys
B-8. Barriers for surveyed businesses	CTME Planning annual surveys
<b>Maine's Broadband Infrastructure</b>	
B-9. Average broadband download capacity	FCC Internet Access Service reports updated as available
B-10. Maine's ranking in internet speeds >10Mbps	FCC Internet Access Service reports updated as available
B-11. Deployment of broadband telecommunications	FCC Internet Access Service reports updated as available
B-12. Number of IT professionals in non-IT industries	FCC Internet Access Service reports updated as available
B-13. High tech jobs as a percentage of all jobs	FCC Internet Access Service reports updated as available
B-14. Number of Maine end user SP deploying NGA	CTME Inventory and Mapping six-month updates
<b>Focused Stakeholder Groups</b>	
<b>The Health Care Community</b>	
B-15. Availability and Use	Health Information Technology (HIT) Survey updates as available
B-16. Barriers to Adoption	Health Information Technology (HIT) Survey updates as available
<b>The Education Community (K-12)</b>	
B-17. Availability and Use	Networkmaine's annual survey
B-18. Barriers to Adoption	Networkmaine's annual survey
<b>Community Anchor Institutions</b>	
B-19. Availability and Use	CTME Inventory and Mapping six-month updates/ CTME Planning annual surveys
B-20. Barriers to Adoption	CTME Planning annual surveys

MEASUREMENT CRITERIA	UPDATE SOURCE
<b>State Agencies</b>	
B-21. Availability and Use	Office of Information Technology (OIT)
B-22. Barriers to Adoption	Office of Information Technology (OIT)
<b>Native American Communities</b>	
B-23. Aroostook Band of Micmac - availability	CTME Inventory and Mapping six-month updates
B-24. Houlton Band of Maliseet Indians - availability	CTME Inventory and Mapping six-month updates
B-25. Penobscot Nation - availability	CTME Inventory and Mapping six-month updates
B-26. Passamaquoddy Tribe - availability	CTME Inventory and Mapping six-month updates
B-27. All Tribes – barriers to adoption	CTME Planning annual surveys

## 4.0 Strategic Recommendations

This section presents six strategic recommendations directed to key stakeholders statewide. With each strategic recommendation there is a list of 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 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 scheduled for implementation.

### 4.1 HOUSEHOLDS

**STRATEGIC RECOMMENDATION 1: 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.* Surveys conducted during 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).
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 unserved 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.

A number of successful Authority-funded projects have had local champions or coordinators also.

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.*

- Make the identification and support of residential broadband opinion leaders be part of all outreach activities. Section 4.6 (tactic #6: training/educational programs) and the Appendix (public awareness

campaign) discuss ways in which residential opinion leaders can be identified and supported as broadband champions. These individuals and groups should 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 and has begun to implement [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. This service is promoted in adult education course catalogs, on related websites, and through ongoing presentations. The Technical Assistance Project 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 4.3 on health care, 4.4 on education and 4.5 on e-government services).

*Action item.*

- Support the Department of Education with the MARTI initiative.

4. Address the second most cited barrier to adoption—cost. 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 address the cost to own computer equipment and to subscribe to effective 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.
- Develop a high-installation cost support program funded by the Authority, as discussed more fully in Section 4.6.4 below.

**4.2 BUSINESS**

**STRATEGIC RECOMMENDATION 2: 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).

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 specifically can exert positive influence on consumer broadband adoption behavior. Interaction between 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.*

- Make the identification and support of business broadband opinion leaders and the targeting of broadband leader groups be part of all

outreach activities. Section 4.2 (tactic #3: the Broadband Capacity Building Project), Section 4.6 (tactic #6: training/educational programs; tactic #7: service provider/ community leader partnerships) and the Appendix (public awareness campaign) discuss ways in which business opinion leaders can be identified and supported as broadband champions. These individuals and groups should 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 their fraternal organizations, 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 change State laws and regulations that impede the growth of broadband (Section 4.5).
- Involve suppliers of IT services to bring technical knowledge to the project (Section 4.6).
- Identify ways Maine can increase its broadband speed to attract and grow companies that need to send more data faster (Section 4.6).
- Help economic developers understand business broadband needs.
- Help businesses understand the potential users of broadband to grow their companies (Appendix).
- Create a central web-based clearinghouse for one-stop shopping for data, grant information, and broadband resources (Section 4.5).
- Work with the decision makers of Health Information Technology (HIT) initiatives to increase the quality and efficiency of health care service delivery (Section 4.3).

The task force will also use the statistics and demographics collected through 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 MARTI program (Section 4.1, tactic #3) and the State’s 107-adult education program Community Connection. Through this partnership, adult educators will promote broadband education through community presentations, workshops and coursework making 21<sup>st</sup>-century skills available to all.

*Action items.*

- Integrate the broadband capacity building activities into existing State initiatives, including the State’s existing Quality of Place, Mobilize Maine and Health Information Technology (HIT) projects.
- Direct the Broadband Capacity Building Task Force in their effort to manage and implement this strategic plan to increase quality of service.

**4.3 HEALTHCARE**

**STRATEGIC RECOMMENDATION 3: Work with decision makers of the Health Information Technology (HIT) initiatives and health care community to use broadband to improve the efficiency and quality of health care 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 health care 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.<sup>8</sup>

As a rural state, Maine has a large number of older residents, a significant number of residents who are full or part-time shut-ins, and medical facilities that may be a long way from home. Thus obtaining health care can be a particular challenge for Maine citizens, and they have much to gain by the adoption of HIT that improves health care efficiency and health outcomes through EHRs and the exchange of health data.

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<sup>8</sup> [National Broadband Plan, Section 10.1.](#)

HIT involves the use of EHRs completed by health care professionals and stored digitally. Although having EHRs in a provider's practice improves efficiency and health care outcomes, the submission of claims and clinical data to a central exchange warehouse produces efficiencies and better health outcomes at a state-wide and even national level. Yet, sending medical tests, such as EKGs, to have them read by specialists miles away takes high-speed broadband technology.

A 2010 survey conducted of health care professionals who participate in Medicaid, revealed that only 47 percent use EHRs.<sup>9</sup> (For hospitals, the percentage was higher.) Medical practices that did not have EHR technology identified that the primary barrier was the cost to acquire EHR technology; the second was the cost to maintain EHR technology; and the third was a mix of return on investment concerns and internal knowledge and technical resources barriers.

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.

The success of EHRs and the exchange of clinical and claims data depends, in part, on the technology and speed by which data is recorded and exchanged.

Under the Federal HITECH Act, health care professionals and hospitals may apply for incentive payments for EHRs. Maine's incentive payment program for Medicaid professionals and hospitals began in October 2011. By January 2012, it has provided more than \$15 million in federal payments. The program, which currently runs through 2021, permits eligible professionals to receive payments over a six-year period and eligible hospitals to receive payments over a three-year period. While the payments do not eliminate the cost barrier issues, the payments do provide meaningful amounts for the technology and systems.

On a parallel track, the Office of the State Coordinator for HIT and the federal Office of the National Coordinator, lead efforts to develop and implement data exchanges in states. In Maine, a private company, HealthInfoNet has a contract for funding 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 the number and the use by participants of the HIE data. Another entity, Maine Health Data Organization (MHDO), houses claims data. It is

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<sup>9</sup> Maine's State Medicaid Health Plan, Survey Results, Maine EHR adoption, May, 2011.

expected that clinical and claims data will be exchanged and available in a seamless system. This effort takes high-speed internet access.

To achieve efficiencies and improve health outcomes, EHR systems and exchange of data need high speed internet access. If the effective extension of HIT services is to occur, it is critical to determine unknown or unaddressed factors that impede the access to and adoption of broadband technologies, including price barriers.

*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.
  - Partner 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.
  - Based on these collaborative findings, develop policies and initiatives designed to increase network capacity to support HIT applications and reduce barriers to adoption inherent in the broadband network. Use the National Broadband Plan as a source for collaborative ideas.
2. Support efforts to reform rates in the health care systems that promote HIT, including telemedicine and the exchange of clinical and claims data, which will result in higher broadband take rates and more efficient health care.

*Background.* Hospitals and health care professionals cite funding and unclear investment returns as major barriers to electronic health record 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 veterans’ hospital admissions and expensive home-based care.<sup>10</sup> 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. To avoid this disincentive, new ways to reimburse health care providers should be developed that will provide the return on investment necessary to drive the adoption of broadband, telehealth, and HIT systems.

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<sup>10</sup> [National Broadband Plan, Section 10.3.](#)

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. At the national level, CMS has implemented an incentive payment program for Medicare providers. However, according to the National Broadband Plan, CMS lags behind in promoting telemedicine and health IT reimbursement with only \$2 million in reimbursement for telehealth services out of an approximate \$300 billion annual budget.<sup>11</sup>

*Action items.*

- Establish or participate in a working group with the key stakeholder agencies CMS, MaineCare, DHHS and major healthcare systems to support efforts to establish incentives in the payer system that promote broadband adoption as part of the increased use of telehealth services.
  - Support allocation of DHHS-HIT funding to physician offices.
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.

*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 establish incentives for deployment and adoption of these systems tailored to Maine's needs.
4. Work with broadband service providers to establish cost points for capacity and speed of service to healthcare providers that create incentives for increased broadband adoption.

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<sup>11</sup> [National Broadband Plan, Section 10.3](#), p. 204.

*Background.* In the Maine Broadband Needs Assessment, a repeated theme among the barriers to adoption for non-broadband users of all types was cost of service in comparison to the perceived value of that service. As with many other sectors, health care 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 health care providers.

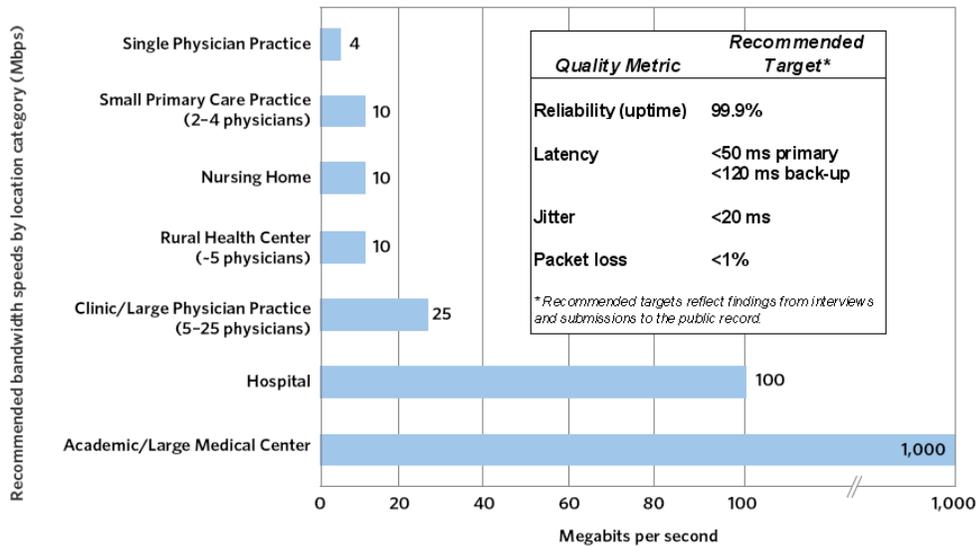


Figure 4-1: Required Broadband Connectivity and Quality Metrics

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.<sup>12</sup>

*Action item.*

- Work with service providers to create incentives 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 health care providers by 2015.

<sup>12</sup> [National Broadband Plan, Exhibit 10-C, p. 210.](#)

## 4.4 EDUCATION

**STRATEGIC RECOMMENDATION 4: Work with educational and library organizations in their efforts to expand 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.<sup>13</sup> 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.<sup>14</sup>

#### *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.
  - Coordinate 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.
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

<sup>13</sup> <http://www.gig-u.org/>

<sup>14</sup> [35-A MRSA 9204 \(3\) \(F\)](#). “Create and facilitate public awareness and educational programs to encourage the use of broadband services.”

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 107 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.<sup>15</sup> 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.

*Action items.*

- Coordinate with the leadership of both the University and community college systems to provide data in support of their workforce initiatives.

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<sup>15</sup> <http://bangordailynews.com/2011/03/30/education/university-system-chancellor-weve-cut-back-spending/>

- 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. Leverage the Authority’s Technical Assistance Project with the Adult and Community Education Program in the Maine Department of Education as detailed in Section 4.1 (tactic #3) to provide Maine citizens with broadband technical assistance.

**4.5 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.

One goal of InforME is to continue the transformation of Maine.gov into an ever more relevant and useful one-stop portal. To achieve that goal, InfoME is constantly looking for ways to facilitate cross-program and one-stop services.

*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.<sup>16</sup>

This communications system will 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 4.1, tactic #2; Section 4.2, tactic #2; and the Appendix).

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

#### 4.6 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 to lower costs.**

##### **Tactics**

1. Broaden focus from last-mile development to include high-level services.

*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

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<sup>16</sup> InforME has indicated an interest in partnering to promote this proposed system, using GovDelivery for outbound communications.

programs are needed to bring broadband services to hard-to-reach consumers and to encourage the provisioning of higher-quality broadband services.<sup>17</sup>

*Action items.*

- As stated in its rule, the Authority shall annually designate areas as underserved for broadband. In so designating an underserved area, the Authority will 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.<sup>18</sup> This may become particularly relevant depending on how the FCC implements its [Connect America Fund](#).
2. Advocate for and 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.<sup>19</sup> 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 4-2). It is projected that by 2018 less than 6 percent of the US population will subscribe to PSTN service.<sup>20</sup> In Maine there are already more cellular subscribers than there are 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.

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<sup>17</sup> [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.

<sup>13</sup> [ConnectME Authority Final Adopted Rule](#), Chapter 101, Subsection 5C1,a-b

<sup>19</sup> 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.

<sup>20</sup> [http://transition.fcc.gov/presentations/06292011/2010\\_06\\_29-presentation.pdf](http://transition.fcc.gov/presentations/06292011/2010_06_29-presentation.pdf)

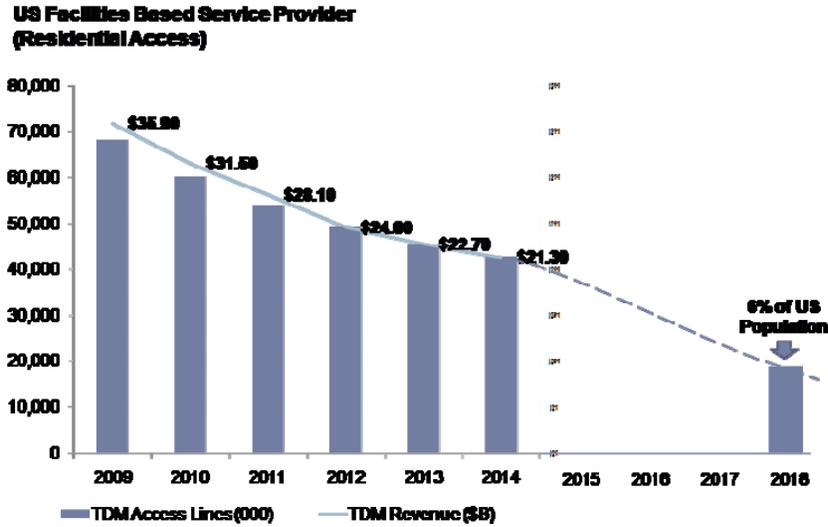


Figure 4-2: Residential Access

This transition creates a number of challenges:

- The State will need to understand and act on required regulatory impacts and changes driven by this change.
- An expanding set of applications for broadband networks requires new quality and reliability metrics that go beyond just bandwidth. Latency, jitter, packet loss, and availability will all become more important as the transition progresses.
- Regulators will need a comprehensive understanding of this transition’s economic impacts.
- Regulators will need to understand how to address carrier-stranded assets as well as 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.
- Support the transition. For example, the Authority should support:
  - The MPUC’s plan to reform telecommunications regulation while advocating for realigning the “provider-of-last-resort” regulatory requirements to emerging technologies. Such realignment must be done in conjunction with the FCC and its efforts to reform the federal Universal Service Fund (USF).<sup>21</sup>

<sup>21</sup> 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.

- 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.
- The continued guaranteed access to communications for persons with disabilities including additional means of communications beyond just voice.

3. Fund 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.*

- Either incorporate open-access requirements for passive infrastructure (e.g., towers, fiber optics or copper cables) in all grants or create a program specifically targeted for open access wholesale offerings.

4. Support 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:

- 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 item.*

- Establish 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.

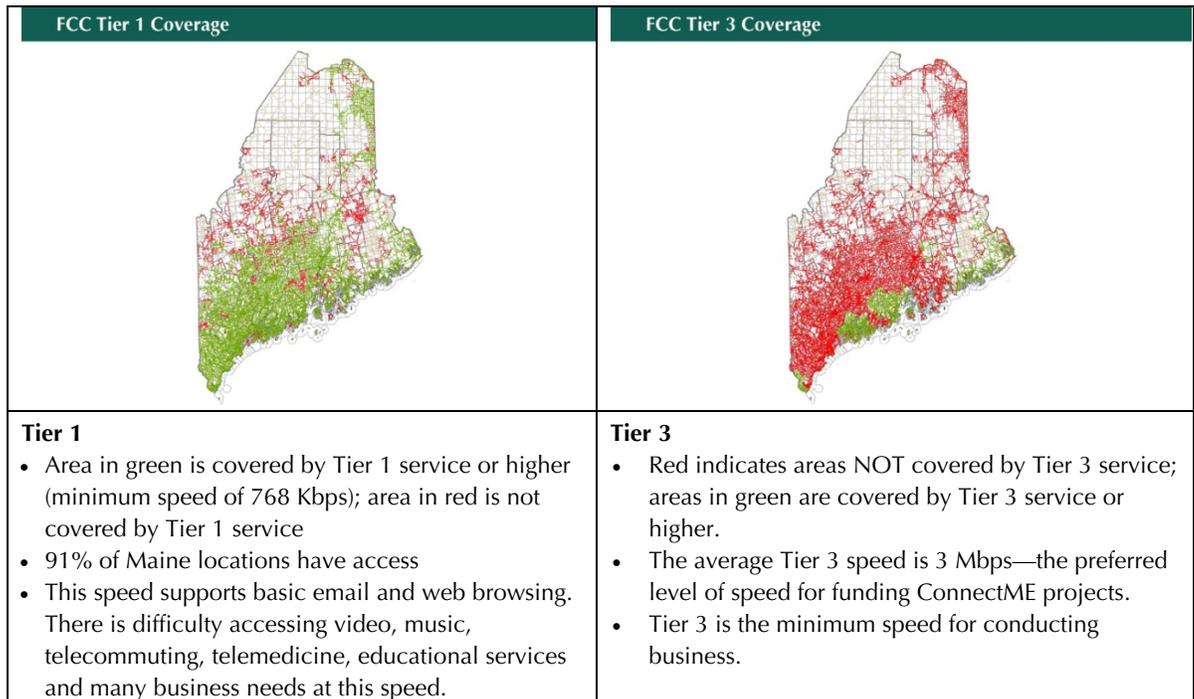


Figure 4-3: Tier 1 and Tier 3 Coverage in Maine

- *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 4-3).<sup>22</sup>

<sup>22</sup> [Maine Broadband Needs Assessment](#).

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.

- *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. Support creation 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.*

- Endorse 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 to be adopted at the Annual Conference of New England Governors and Eastern Canadian Premiers.

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, 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 provider training, 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.*

- Work directly with providers to facilitate and enhance their relationships with community leaders to increase local demand and adoption.
- Create educational programming (Section 4.6) 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.

**4.7 CONCLUSION**

Broadband removes the barriers of time and space. It has the power to provide all areas of Maine with enhanced access to telehealth services, to business and educational opportunities, and to government at all levels. It has the power to improve the health, welfare and levels of educational attainment of all Mainers, and to transform our state economy.

This Strategic Plan will enable the Authority to concentrate its efforts and modest funding on those areas that will best achieve the Authority’s goals of facilitating universal availability of broadband service and increasing the take rate or adoption to greater than national average.

**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. Public Awareness Campaign

An outline of the public awareness campaign (Sections 4.1-4.2) for the ConnectME Authority is provided here in this Appendix. If approved, a complete plan will be developed and implemented as part of a separate scope of work.

The campaign is pivotal to the Authority's mission to increase adoption rates, advancing the 12th point of the ConnectME Authority's charge as stated in the Authority Rule and Enabling Statute: "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 ([Section 9.9.3](#)).

The public awareness campaign will be a public-private partnership both in terms of participation and gain. It is designed to benefit Maine residents and 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 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 **ISSUE TO BE ADDRESSED**

As noted in the baseline, data confirm that lack of awareness is a critical 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.
- 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 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, increase the Authority’s profile as a critical broadband resource, and launch and promote the Authority’s communications system proposed in Section 4.5.

### Campaign Theme

The proposed awareness campaign theme is *Put Me on the Map*. This theme, which will be woven through all campaign tactics and the proposed communications system, 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

In accord with known successful marketing strategies, the campaign will create risk-free opportunities to observe or try out high-speed internet. Specific trial internet experiences will be tailored to each target market. The purpose of a trial experience will be to highlight benefits, compatibility, ease of use, low risk and immediacy of benefits, which are the key characteristics of the marketing strategy.<sup>23</sup>

Outreach, in this context, refers to bringing observation and trial opportunities to localities throughout Maine. Given the sense of marginalization often experienced

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<sup>23</sup>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.

by constituent groups in unserved areas, it is important to bring the campaign to the 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, and healthcare leaders and others for support and assistance.

*Table A-1: Target Market Matrix*

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

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

**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. 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.
- 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. Educational materials, promotional activities, and promotional items will be made available to these groups.
- 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.

**Awareness Campaign Budget**

A detailed set of activities, budget and timeline will be developed following approval, resource allocation, and priority setting by the Authority.

### A.3 OVERVIEW OF MARKETING TOOLS

#### **Collaborative Relationships**

Central to this 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 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 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 will 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 4.5, 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).

### **Marketing Materials and Promotional Items**

Almost all components of the awareness campaign will require well-branded, multi-use marketing materials and, in some cases, promotional items.