

Eastern Maine Development Corporation/Axiom Project Narrative

1. Project Plan

1.1. Provide documentation of project management plan.

See attached Eastern Maine Development Corporation (EMDC) Broadband Planning Grant Project Management Plan.

EMDC recently completed a strategic planning process, “Reengineering the Region” that identifies better broadband connectivity and adoption as essential to our service area’s growth. EMDC proposes to assist 4 towns within its Economic Development District as a pilot program. This is a first step that will model a larger regional effort that will create a comprehensive technology plan across our entire service area. The plan addresses two critical elements as defined in the “Reengineering the Region” report; broadband infrastructure and bridging the digital divide.

This plan will provide the necessary data to inform a collaborative process involving the community, broadband project stakeholders including EMDC and Axiom, and current broadband providers to develop short and longer-range plans to increase the supply and demand for high speed internet access and adoption as a strategy to accelerate economic growth and enhance the quality of life of residents.

Planning for this pilot project has transpired over the last six months, with the Broadband Executive Team making the following observations related to project development:

- An approach that promotes regional collaboration among communities may be a more attractive package to incent investment and expansion of broadband services by existing providers
- New rule allowing hook up to utility poles may help
- Work needs to be performed in stages, with Stage I consisting of community planning, and Stage II an implementation stage looking at a hybrid approach to connectivity and increase user capacity
- Government investment needs to be investigated to support a public/private partnership for expansion
- Conversations need to continue with ConnectME particularly for investment strategies
- A discussion with Fairpoint is warranted to hear more about Connect America Fund (CAFII) monies
- To have adequate speeds for all connectivity uses, it is estimated that a residential family would need 10Mbps/10Mbps; according to ConnectME, only 12% of Mainers have those connectivity speeds
- A pilot effort in initial communities early in the project will build the necessary “template” to take to other communities
- Communities need to understand their needs and best solutions before moving forward on broadband expansion
- A meeting should be called bringing communities, legislators, Tim Schneider from the Office of Public Advocate, existing network providers, representative from Maine Energy, Utilities

and Technology Commission, and local/regional experts to the table. The meeting will serve as a venue to discuss possible packages for services and elements necessary to perform the assessment project.

- Digital Literacy is an important feature that needs to be included in the pilot study. Often, lack of access is due more to the need for training and increased comfort with technology. Discussions with Axiom, the Unity Foundation, and like organizations need to be performed to prepare strategies that may include on-site training for businesses, tying computer and digital literacy to adult education opportunities. Build customized training packages.
- We need to support the “learning economy model” connecting broadband education to workforce development
- The project should look at the development of downtown “hot spots”

These initial questions triggered two Expansion of Digital Capacity meetings, one on December 1, 2015 followed by a second meeting on February 25, 2016. The discussions at these meetings have been specific to current capacity, how do we determine the needs of our region community by community, how can a partnership between providers, communities and other stakeholders enhance efforts for expansion of capacity, what is needed to fill the gap between current and preferred, and can we build “community technical plans” that provides incentive to attract providers and increased take rate.

As a result of these activities, it was determined that a pilot project be proposed to ConnectME to begin building the template for community-specific technical plans. A partnership between EMDC and Axiom has resulted, with a contract with Axiom Technologies to provide consulting services for the Planning Grant project executed.

To identify the four communities to participate in the pilot phase of the larger effort, EMDC will announce a Request for Proposals within the four-county region of Hancock, Penobscot, Piscataquis, and Waldo counties. Communities interested in applying will be required to submit a brief outline describing the community’s geography and socio-economic landscape, perceived need, and commitment to participate as a full cooperative partner in this process. The submitted applications will be reviewed by the Broadband Executive Team, with the selection of no more than four communities made. Each selected community will be required to sign a memorandum of understanding (cooperation) to assure their full engagement and cooperation throughout the project.

As we move this regional/community project plan forward, the resulting community technical plans will provide the “best practice” and model to apply for other communities. There are communities that have plans underway to perform this type of investigation independently; our project is not proposed to be the sole solution for broadband expansion in Eastern Maine. Rather, this project will provide technical assistance and support to those communities who are not equipped to launch a broadband effort on their own.

To leverage an investment by ConnectME, EMDC will provide approximately \$5,000 in in-kind match to this project, primarily through the contribution of time and effort of the EMDC President & CEO, Michael Aube. Mr. Aube has been committed to the Re-Engineering the Region effort and has been instrumental in developing the broadband pilot project. The in-kind represents approximately 40 hours of his time and effort. Beyond, the ConnectME investment, EMDC is aggressively pursuing other funding opportunities that will expand the results of the pilot to additional communities within our service area. Conversations are underway with representatives from the Department of Commerce, Economic Development Administration, Northern Border Regional Commission, and USDA Rural Development to name a few. In addition, we have continued to share our work with private foundations, most notably the Maine Community Foundation who has been an active participation in the planning phase for this pilot.

1.2. Provide the timeline to complete the proposed community plan deliverable.

EMDC Planning Grant Timeline Technology Kit Phase I	
June-16 to Aug-16	Inventory, Needs Assessment and Mapping of existing infrastructure
June-16 to Aug-16	Meetings with municipal officials to discuss public infrastructure needs
Jun-16 to Aug-16	Identify 10-15 key businesses and community anchor institutions for interviews in the targeted communities
Jun-16 to Aug-16	Community meetings for input
Sep-16 to Oct-16	Work with EMDC on a series of small business meetings throughout the region Create Facebook page and survey for input from communities in EMDC region
Oct-16 to Nov-16	Mapping of key public and private infrastructure (as available) Includes Gap Analysis defining additional broadband infrastructure needed, included unserved and underserved homes and businesses Define local broadband needs and goals
Oct-16 to Nov-16	Create Digital Literacy and Inclusion roadmap that can be included in EMDC's Comprehensive Technology Plan
Ongoing	Assist with identification of key federal and state resources for potential funding
Nov-16 to Dec-16	Produce final Community Technology report with key findings and recommendations, including broadband infrastructure recommendations with separate sections for each town. Includes one or more potential network designs (including a FTTH option) with cost estimates, operating models and potential business models based on input from broadband providers operating within EMDC's region

Technology Kit Phase II
Digital Inclusion

Jun-16 to
Oct-16

Affordable Internet - Axiom will inventory digital inclusion and adoption efforts currently in place in the EMDC region. Axiom will inventory the low-cost broadband plans offered by current broadband providers serving the community. Axiom is working with state and federal officials to implement the FCC Lifeline program, subsidized low-cost broadband, for low-income residents in Maine.

Jun-16 to
Nov-16

Affordable Equipment - Axiom will inventory the low-cost computers/laptops offered by local and regional companies that are located across EMDC's region. Axiom will collaborate with its industry partner, PC's for Maine www.pcsformaine.org and the local companies, to set up a program for low-income residents and non-profit organizations to purchase equipment at a free to reduced cost.

Jun-16 to
Nov-16

Digital Literacy Training - Axiom will meet with businesses, community and municipal leaders, as well as residents in the region to discuss Computer Skills/Digital Literacy Training. Meetings will be as follows:

- Business** - For the business community, this often takes a grass-roots approach by working with a business owner to understand the company's plan for sustainable growth and development. Once the business owner understands the technology tools available, and Axiom understands the skill level of the employee, a learning plan can be created for a specific business.

- Community & Municipal Leaders** – A series of meetings will be held to gauge the interest, as well as the skill level of the participants. During these meetings, discussions are facilitated to ensure that the participant is aware of what is technologically possible to do when you have a broadband connection. Demonstrating distance learning education, telehealth, telecommuting, cloud-based services and software available begins the process of developing Digital Literacy plans for a community.

- Residential** – As with Business, Community & Municipal leaders, a series of meetings for the residential community will be scheduled. It is the goal of the meetings that residents become engaged and excited about learning new skills, a pathway to lifelong learning.

- The outcome** using the planning phase is a Digital Literacy Plan and recommended schedule, as well as suggested locations that classes will be held. In rural communities, times, distance, travel is a barrier to educational attainment; holding classes that are geographically spread out the designated service footprint will ensure participation.

Jun-16 to Nov-16	<p>Public Computer Access - During the planning phase, Axiom will inventory the available Public Computer Access locations throughout the region, including the number of available computers for public use. If a business or resident cannot afford equipment or an Internet subscription, and if broadband is not available at their location, Public Computer Access is essential.</p> <ul style="list-style-type: none"> ▪ Axiom will meet with Community and Municipal leaders across the county to discuss “Community HotSpots”. Community HotSpots are open access networks that allow citizens in a downtown or other public spaces access to the Internet. This is a simple, straightforward way to help a town or region get more connected. It is an affordable, convenient way to help visitors and residents easy, seamless connectivity.
Nov-16 to Dec-16	<p>Preparation of Digital Literacy Program includes administration/coordination of 2 Facebook for Business courses (total 4 classes. Includes surveys to provide feed-back from students.</p>

2. Plan Deliverables

2.1. Provide narrative addressing how the items A. – F. below will be addressed in the final plan delivered to the community.

A. Define local broadband needs and goals.

- **Community Input**

- Facilitate a series of community meetings to determine what the community wants and needs
- Municipal meetings for officials to talk about public infrastructure connectivity needs
- Leverage social media and EMDC’s and the targeted communities online presence to help inform goals
- Utilize mail, social media, the municipal and EMDC’s website and outreach meetings to obtain deep understanding of community, in areas where surveys were not completed or are incomplete

- **Business Input**

- Facilitate business visitations to have strong business input into plan
- Axiom has developed a best practices solution for business engagement around education and technology and will meet with business owners/managers/employees
- Axiom will meet with community leaders throughout the planning grant process
- Local key businesses help drive the economy and are often overlooked.
 - We believe they are a crucial voice in articulating their needs for Broadband connectivity. Axiom has had extensive experience with business visits that unlock action plans for the businesses to leverage resources available to them and ensure their voices are heard.

B. Inventory existing broadband infrastructure assets within the municipality, municipalities or regions.

- Inventory of existing fiber and other assets in region
- Work with providers to help provide non-confidential asset locations
- Inventory current providers in community
 - What providers deliver for service, cost and bandwidth

- Map communication infrastructure, if available
- Determine EMDC's and the 4 targeted communities' interests and goals

C. Include a gap analysis defining the additional broadband infrastructure necessary to meet identified needs and goals.

Gap analysis involves the comparison of actual performance with potential or desired performance. Axiom's approach will be to begin by soliciting input through a series of meetings with local officials and stakeholders coupled with an electronic survey to help define what the community is specifically looking to achieve.

Questions will include:

- Are there businesses that need a level of connectivity that current providers are not able to provide?
- Are there high-impact growth areas that could benefit from increased service?
- Are there households or parts of the community that are underserved or unserved?
- Are home-based telecommuters able to work efficiently?

In addition to defining what the goals are, it is important that we understand what the baseline is for achieving those goals and the assets in the community that can be leveraged. That begins with a thorough survey of what providers are in the community, what level of service they are currently offering, do they have current service level plans that are unknown and ultimately, are they willing to participate in achieving the goals that community defines.

In addition, we will look at other assets that have potential to be leveraged:

- Towers that could provide wireless coverage in parts or all of town
- Municipal buildings or assets that could host a Point of Presence for service
- County and Municipal owned assets
- Libraries or other key locations for downtown Community HotSpots

D. Include one or more potential network designs, cost estimates, operating models and potential business models based on input from broadband providers operating within the municipality, municipalities or region and any other parties that submit a network design solution in the course of developing the plan to address any broadband gaps identified in paragraph C. and

From a network design standpoint, many of the towns within EMDC's region have a few challenges. Location and distance from the Three Ring Binder varies and where available, should be leveraged to bring fiber connections to financially feasible parts of the region. A network design might contemplate a significant lateral off of the 3 Ring Binder that potentially could bring high speed, high capacity Internet service to other parts of the region. Given the expense of fiber buildout, we recommend that the asset inventory of incumbent providers could be a critical component of any build out plan. By engaging the regional providers in the area early in the process, we suspect they could get excited about assisting EMDC reach its goals. It is very likely that it will be much less

expensive to increase capacity with existing equipment and infrastructure than to build new. However, several network designs will need to be contemplated:

- The willingness of incumbent providers to work with communities to assist with increased capacity
- A good understanding of potential CAF II spending in the region by FairPoint Communications
- Build out of existing fiber in the region
- Wireless solutions that can help serve the unserved/underserved in remote areas

An initial look at the EMDC's service area should include blended solutions to meet connectivity goals. Fiber, DSL and wireless solutions will all be needed to change the status of connectivity in the region. A series of options will be developed to help EMDC and the targeted communities understand cost tradeoffs for different technologies.

Our planning partner, Axiom Technologies, is well versed in low density; geographically disperse regions and how to tackle network issues in the environment that EMDC's service area presents.

E. Include an assessment of all municipal procedures, policies, rules and ordinances that have the effect of delaying or increasing the cost of broadband infrastructure deployment.

EMDC does not have any procedures, policies, rules, or ordinances that delay or increase the cost of broadband infrastructure deployment.

F. Digital Inclusion

- **Affordable Internet**

During the planning phase, Axiom will inventory the low-cost broadband plans offered by current broadband providers serving the community. Axiom is working with state and federal officials to implement the FCC Lifeline program, subsidized low-cost broadband, for low-income residents in Maine. www.cnet.com/news/fcc-broadband-high-speed-internet-lifeline-subsidy

- **Affordable Equipment**

During the planning phase, Axiom will inventory the low-cost computers/laptops offered by local and regional companies that are located within the community. Axiom will collaborate with its industry partner, PC's for Maine www.pcsformaine.org and the local companies, to set up a program for low-income residents and non-profit organizations to purchase equipment at a free to reduced cost.

- **Digital Literacy Training**

During the planning phase, Axiom will meet with businesses, community and municipal leaders, as well as residents to discuss Computer Skills/Digital Literacy Training.

- **Business** - For the business community, this often takes a grass-roots approach by working with a business owner to understand the company's plan for sustainable growth

and development. Once the business owner understands the technology tools available, and Axiom understands the skill level of the employee, a learning plan can be created for a specific business.

- Community & Municipal Leaders – A series of meetings will be held to gauge the interest, as well as the skill level of the participants. During these meetings, discussions are facilitated to ensure that the participant is aware of what is technologically possible to do when you have a broadband connection. Demonstrating distance learning education, telehealth, telecommuting, cloud-based services and software available begins the process of developing Digital Literacy plans for a community.
- Residential – As with Business, Community & Municipal leaders, a series of meetings for the residential community will be scheduled. It is the goal of the meetings that residents become engaged and excited about learning new skills, a pathway to lifelong learning.
- The outcome during the planning phase is a Digital Literacy Plan and recommended schedule, as well as suggested locations that classes will be held. In rural communities, time, distance, travel is a barrier to educational attainment; holding classes that are geographically spread out throughout the designated service footprint will ensure participation.

- **Public Computer Access**

- During the planning phase, Axiom will inventory the available Public Computer Access locations throughout the community, including the number of available computers for public use. If a business or resident cannot afford equipment or an Internet subscription, and if broadband is not available at their location, Public Computer Access is essential.

Axiom will meet with Community and Municipal leaders to discuss “Community HotSpots”. Community HotSpots are open access networks that allow citizens in a downtown or other public spaces access to the Internet. This is a simple, straightforward way to help a town or region get more connected. It is an affordable, convenient way to help visitors and residents easy, seamless connectivity.

- Axiom is a national leader in Community Technology Plans that drive digital literacy and broadband adoption for citizens and businesses. This work has been funded and recognized as a national model for improving the skills of a regional workforce using on-line technology and hands-on instruction. We also believe, and antidotal evidence supports the idea, that Digital Literacy drives take rate for Broadband services.

3. Value Added Collaborations

3.1. Describe how the broadband community planning grant may generate improvements to community strength through collaborating in such areas as economic development, education, employment, governmental services, health care, public safety or other regional community oriented activities.

EMDC has successfully convened a broad range of stakeholders on numerous projects over the years including the FTA-funded TIGER 2 transportation feasibility/planning project, and the recently completed EDA-supported short-term strategic planning project. Both required the engagement of a diverse range of partners including healthcare, bioscience/biotech, agriculture, entrepreneurship, transportation infrastructure, local/county/state government representatives, business owners, tourism/hospitality, education, workforce development, economic development, and private citizens.

The value of engaging such a diverse audience can mean the difference between a successful project and a failed project. It is critical to engage these partners early in the planning process to assure endorsement and engagement of the project. As such, EMDC will continue in our role as convener and educator to assure that a variety of regional and community partners are invited to participate in this proposed project. This engagement will be accomplished through a variety of venues including public meetings, publication of reports and data sets on www.emdc.org, Constant Contact communications and other mailings.

The benefit of this level of engagement should be reflected in the broad acceptance of the planned activities of this project including digital literacy opportunities, cooperation in the inventory assessment, and ultimately rolling out the project to all partners in each community.

4. Budget

4.1. Submit budget aligned to significant Project Plan milestones, costs and tasks.

Total Budget - \$60,000

Director of Re-Engineering		
Salary	15% Time & Effort	\$8,620
Fringe Benefits (40.63%)		\$3,502
	Total Salary/Fringe	\$12,122
Consultant		
Axiom		\$40,000
Travel	EMDC and Axiom travel to pilot communities & Broadband Executive Team meetings	\$1,430
Supplies	Miscellaneous general supplies including photocopying	\$500
Indirect (49.06%)	Applied to salary/fringe benefits only	\$5,948
Total Request		\$60,000

It is anticipated that the full budget will be allocated equally between each participating community, i.e., approximately \$15,000 per community.

EMDC: The Director of Re-Engineering & Planning (V. Rusbult) will work closely with the Broadband Executive Team to prepare and release the Request for Proposals from communities, and to foster the review and selection of the pilot communities. She will collaborate closely with Axiom Technologies to perform the community assessments, and will create reports to share project activities and outcomes.

Axiom contracted expenses include:

- Inventory, Assessment and Mapping of existing infrastructure
- Meetings with municipal officials to discuss public infrastructure needs
- Community meetings for input
- Identify 10-15 key businesses for interviews in the targeted communities
- Work with EMDC on a series of small business meetings throughout the region

- Create Facebook page and survey for input from community
- Mapping of key public and private infrastructure (as available)
- Includes Gap Analysis defining additional broadband infrastructure needed
- Define local broadband needs and goals
- Create Digital Literacy and Inclusion roadmap for each of the targeted communities
- Assist with identification of key federal and state resources for potential funding
- Produce final Community Technology report with key findings and recommendations, including broadband infrastructure recommendations.
- Includes one or more network designs with cost estimates, operating models and potential business models based on input from broadband providers operating within each of the targeted communities

5. Overall Financial Feasibility

5.1. Describe the applicant's experience relevant to proposed project.

Eastern Maine Development Corporation (EMDC) has directly convened and managed several major regional collaborative efforts that have had a major influence on the strategies and approaches the region is taking to economic and workforce development. Foremost of these has been the recent Re-Engineering the Region short-term strategic planning project that was completed in December of 2015. Through this project, our focus was on the recovery from significant manufacturing closures (most notably paper mills) that have resulted in over 2,000 lost jobs over the last 2-3 years. EMDC successfully brought together a wide array of stakeholders including included business owners, municipal/state/county government representatives, economic development professionals, and senior leaders in the region. Effectively engaging these diverse representatives resulted in a data-based strategy that includes broadband as a key cross-cutting strategy to promote economic revitalization in our region.

EMDC has been involved in all aspects of the region's strategic development in the areas of industry sector/clusters, transportation planning, recreation and cultural development, downtown redevelopment, business development, port development, pollution and abatement projects, secondary and higher education planning, and infrastructure planning such as broadband expansion, water systems, renewable energy development, resource analysis, commercial fisheries and other similar activities that have direct impact on the region's economic revitalization. EMDC professionals are trained, experienced and highly networked in critical areas of economic, community and workforce development and are widely recognized as experts in their respective fields.

Axiom is a telecommunications company headquartered in Machias, Maine that has been creating and developing solutions for rural broadband deployment since 2005. The recipient of twelve State of Maine ConnectME grant awards, Axiom has installed over 90 Wireless Access Points in Washington County, delivers DSL service and has built over 50 miles of fiber, including 30 miles of fiber capable of delivering up to 10 GB.

Axiom's goal is "To provide broadband to the unserved homes and businesses in Washington County and throughout Maine. We will not stop until this is accomplished." Axiom is also an Information Technology company working with businesses in Washington County and throughout the State, offering a variety of services; network design and implementation, managed service agreements, equipment upgrades and repair, web hosting and design, email and technology consultation.

In July 2014, Axiom established the Axiom Education & Training Center (AETC), non-profit a 501 (c)(3) corporation. Since its establishment in 2014, AETC has trained over 3,500 residents and over 350 businesses and has established itself as a nationally recognized Digital Literacy and Digital Inclusion expert, as well as expanding Adult Education throughout all of Washington County. AETC advises numerous groups and regions in Maine on establishing a Digital Inclusion program in their Broadband and Community Technology Plans. Axiom’s CEO, Susan Corbett speaks at several national conferences around the county on the importance of Digital Inclusion to help close the “homework gap” and create low-cost products to serve the disadvantaged and helping them participate in the economy through digital connectivity.

Through technology and digital literary education, the economic status of the EMDC region will improve. Axiom Technologies is committed to this mission.

5.2. Provide a description of financial viability by submitting pro-forma financial statements for the project and applicant financial statements. Confidential financial information may be submitted and should be so marked and submitted in a separate file.

EMDC undergoes annual audits including a federal A-133 audit by an independent accounting firm. This audit includes an assessment and determination of our financial viability and likelihood of sustainability. A copy of the most recent completed financials (January 2016) are attached for review.

Financial documents will be sent to the ConnectME Authority directly from Axiom Technologies.

5.3. Provide a description of team member’s background and roles.

5.3.1. Principal point of contact.

Vicki Rusbult, MPA
Director of Reengineering & Planning
Eastern Maine Development Corporation
VRusbult@emdc.org
207- 942-6389

5.3.2. Team member bios and role in planning project.

Vicki Rusbult, MPA, Eastern Maine Development Corporation

Ms. Rusbult will be the Point of Contact and Project Manager for Eastern Maine Development Corporation for the Planning Grant project.

Ms. Rusbult is the Director of Re-Engineering the Region & Planning at Eastern Maine Development Corporation (EMDC), a private, non-profit organization designated as the economic development department serving Hancock, Penobscot, Piscataquis and Waldo counties. Ms. Rusbult has more than 35 years’ experience in project and grants development and management in the fields of transportation, economic development, cancer research, primary care research, and healthcare. Her current work has focused on the management of a regional strategic planning initiative as well as community and transportation planning. She is a graduate of the University of Maine with a masters’ degree in public administration, and will be

completing her doctorate in education and transformative leadership at the University of New England in May 2016.

Michael Aube, President & CEO, Eastern Maine Development Corporation

Mr. Aube with work with Ms. Rusbult and Axiom Technologies to administer this project.

Mr. Aube has been president at EMDC for 2 terms of service over the last 30 years, and is well-versed in the federal requirements for EDA and programmatic management. He is responsible for the day-to-day operations and fiscal management of the organization. Prior to joining EMDC, Mr. Aube was the State Director for USDA's Rural Development services in Maine for 8 years. He served as the Economic Development Representative for the US Dept of Commerce for Maine, Rhode Island and Connecticut, the Maine Commissioner of Economic and Community Development, and the Director of the Maine Quality Centers program.

Susan Corbett, CEO, Axiom Technologies and Axiom Education & Training Center

Ms. Corbett will oversee the Digital Inclusion component of the Planning Grant.

Ms. Corbett is the Chief Executive Officer of Axiom Technologies. She is responsible for the fiscal management of Axiom, has written numerous grants for broadband development, and works closely with economic development organizations and rural organizations. Ms. Corbett has over 30 years' experience in business and financial management, managed \$5 million dollars in grant funding and oversaw the fiduciary and reporting responsibilities for Axiom's Dept. of Commerce \$1.4 million NTIA grant award for the "Washington County Employment & Education through Sustainable Broadband Adoption" project.

Under Ms. Corbett's direction, Axiom Technologies has received the 2010 Maine Development Foundation "Champion of Economic Development Award"; in 2010 was the Recipient of a Senate Congressional Record and in 2011 received Coastal Enterprises, Inc. "Founders Award" and the 2011 and 2014 Machias Bay Area Chamber of Commerce's "Business of the Year" award. Axiom's CEO Susan Corbett received the 2010 MaineBiz "Woman to Watch Award and was recognized by Bangor Daily News in 2011 as "1 of 11 People to Watch in 2011" and in 2011 was awarded Women Impacting Public Policy's "Technology Innovator of the Year" for the State of Maine.

In 2014, Ms. Corbett formed a non-profit, the Axiom Education & Training Center answering the call for more digital literacy, adult education, work force development, and STEM education for our youth in Washington County and throughout Maine.

Mark Ouellette, President & COO, Axiom Technologies

Mr. Ouellette will oversee the broadband assessment, needs, goals and infrastructure component.

Mr. Ouellette is the President and Chief Operating Officer of Axiom Technologies. Mark was hired to increase the capability at the senior management level. The vision was to put Axiom on a growth path to a statewide presence and to handle the day-to-day operations. This has allowed Susan to take a true CEO role, setting the overall agenda and becoming a true ambassador for Axiom both in Maine and nationally. Both Susan and Mark have the same vision and passion for the company.

Prior to joining Axiom, Mr. Ouellette was the Executive Director of Mobilize Maine; a statewide asset based economic development initiative. In this role he facilitated regional activities to create economic strategies and opportunities to grow Maine's economy. Previously, he also served as Director of the Office of Business Development for the Maine Department of Economic and Community

Development where he oversaw the state's business attraction and retention activities. Mark also has an extensive federal background, having worked for over 12 years as a Congressional Aide and Chief of Staff to 1st District Congressman Tom Allen.

Kim Emerson, MTCRE, MTCWE, MTCTCE, Senior Network Engineer, Axiom Technologies

Mr. Emerson will be assessing, analyzing and designing broadband infrastructure.

Mr. Emerson is a Network Systems Engineer, has over 18 years of IT experience, and is experienced in a multitude of operating systems. He attended University of Maine at Machias, and continued his education and training to best serve Axiom's network. Mr. Emerson oversees advanced projects involving Axiom's current wireless technologies, DSL and fiberoptic build-outs. He also has extensive experience in designing, implementing and managing business networks. He is experienced in Microsoft Office products, Microsoft Adobe Photoshop, Adobe Professional, Microsoft FrontPage, Dreamweaver CS3, Windows 95 –Windows 7 Professional, Windows Server OS from NT -2008 Unix/Linux, Active Directory, Microsoft Exchange, Ubiquiti OS and Mikrotik RouterOS. Mr. Emerson is also proficient in the following programming Languages: Perl/CGI, HTML, JavaScript, SQL, CSS and ASP. Mr. Emerson has completed training and received certification to administer and deploy the Mikrotik RouterOS platform.

Ian Sawyer, MTCRE, MTCWE, MTCTCE, Senior Network Engineer, Axiom Technologies

Mr. Sawyer will be assessing, analyzing and designing broadband infrastructure.

Mr. Sawyer has 15 years of experience in Customer Support and the IT industry. He is a “jack of all trades” and is utilized throughout Axiom's entire operation. He has a strong Customer Support background, Network Management, Wireless, DSL and Fiberoptic Installations and Computer Repair. He is a graduate of Washington County Community College and is a CompTIA A+ Certified Technician. He is experienced in all Windows Operating Systems, Networking, including routers, hubs, switches and cabling, and Firewalls, Malware, and Anti-Virus Software.

Jane Blackwood, M.Ed., Director Educational Services, Axiom Education & Training Center

Ms. Blackwood will be overseeing the digital educational plan for the community.

Ms. Blackwood is the Director Educational Services and the Adult Education Director at the Axiom Education & Training Center (AETC). Prior to the creation of AETC, Ms. Blackwood provided educational services for Axiom Technologies,

Ms. Blackwood earned her Master's Degree in Education from University of New England and holds a Teaching Certificate in the State of Maine and is currently working on a Master's Degree in Education Leadership. She oversees AETC's Adult & Community Education program, which includes Adult Basic Education, College Transitions and High School Completion (HiSET). AETC also provides WorkReady and Workforce Development training, CompTIA for high school and college students, Credit Recovery, Alternative High School classes, as well as Enrichment classes for adult learners. AETC recently became a STEM Hub for students 10-18 in Washington County.

Ms. Blackwood created AETC's flagship program, Digital Literacy. The program is nationally recognized and is included in the U.S. Dept. of Commerce's National Broadband Adoption Kit. To date, over 3,500 adult learners and over 350 businesses have participated in digital literacy classes under Ms. Blackwood's direction.

5.3.3. Provide proof of support and endorsement from the participating local municipalities.

This proposed project represents a continuation of the strategies identified through the EDA-funded Re-Engineering the Region planning effort. As noted earlier in this project, EMDC has engaged a broad

representation of communities including municipal and county government representation in particular those communities hardest hit by the recent closure of manufacturing companies. In addition to the community leadership, the planning effort actively engaged industry representatives, business owners, financial organizations, economic development leaders, and state/federal representatives in the planning process. At the completion of this nearly 2 years effort, a series of recommendations were identified and endorsed by our diverse partnership including local municipalities. At the top of the list for efforts recommended for implementation was digital/broadband expansion and literacy. In addition, communities have been involved in discussion specific to broadband expansion including the 2 meetings identified in December 2015 and February of 2016. Their endorsement of this work has been the driving force behind our continued efforts to meet the needs of our service areas communities.

5.3.4. Provide the names of local officials and community representatives that will be directly involved as members of the team.

The Broadband Executive Team is populated by the following members:

- Larry Sterrs, Chairman and CEO of Unity Foundation and Unitel
- Andy Hamilton, Shareholder, Eaton Peabody Attorneys at Law
- Jim Geary, Chief Financial Officer, Maine Community Foundation
- Susan Corbett, CEO, Axiom Technologies
- Mark Ouellette, President and COO, Axiom Technologies
- Michael Aube, President & CEO, Eastern Maine Development Corporation
- Vicki Rusbult, Director of Re-Engineering the Region & Planning

6. Past Performance

6.1. Provide documentation demonstrating past performance in executing grant funded programs.

EMDC manages several multi-year projects funded by a wide range of federal and state agencies. An EDA-funded Short-Term Strategic Planning grant through the Economic Adjustment Assistance program for \$223,384 was successfully completed on December 10, 2015. Additional examples of EMDC’s experience with grants management for the current fiscal year (FY 2015/16) are provided:

Department of Labor (workforce investment act programs)	\$1,629,844
Department of Defense (government contracting and business consultation)	\$538,683
Department of Commerce (economic development technical assistance/planning)	\$70,000
EPA Brownfields Assessment grant	\$400,000
USDA Rural Development (technical assistance for revolving loan funds)	\$37,862
Department of Transportation (Disadvantaged Business Enterprise)	\$100,000
Department of Labor Farm Jobs Program	\$284,214
Department of Labor/ETA National Emergency Grants	\$2,226,436
Corporation of National and Community Service, AmeriCorps	\$210,306

6.2. Provide three client references.

EMDC:

- Debra Beavin
Department of Commerce

Economic Development Administration
DBeavin@eda.gov

- Sherry Savage
PTAC
Defense Logistics Agency
Sherry.Savage@dla.mil
- Trevor Capon
National Farmworkers Job Program
U.S. Department of Labor
Capon.Trevor@dol.gov

Axiom:

- Betsy Fitzgerald, County Manager, Washington County
manager@washingtoncountymaine.com
207-255-3127
- Larry Sterrs, Chairman & COO, Unity Foundation
lsterrs@uninets.net
207-948-9988
Laurie Osgood, CEO, Unitel Telephone
losgood@uninets.net
207-948-3900
- Charles Rudelitch, Executive Director, Sunrise County Economic Council
crudelitch@sunrisecounty.org
207-255-0983

ConnectME

Community Broadband Planning Grant

Precertification Checklist

Eastern Maine Development Corporation & Re-Engineering the Region Partnership

1. Create a Community Broadband Team

- Eastern Maine Development Corporation (EMDC) and the Re-Engineering the Region effort have held two strategic planning/focus meetings to discuss the expansion of broadband services in Eastern Maine. These sessions served as a forum to discuss approaches to expansion of infrastructure and literacy, building community business plans for expansion of services, and potential for partnerships. Participation has been diversified and has included:
 - Current service providers (i.e., Fairpoint, Time Warner Cable, OTT Communications, Oxford Networks, Axiom Technologies, TDS Telecom, Unitel, Pioneer Broadband, Wireless Partners, Premium Choice Broadband, Cornerstone Communications)
 - Education Institutions (University of Maine)
 - Private business/stakeholders (Eaton Peabody, Bangor Savings Bank)
 - Local/county/state government (Town of Orono, Town of Old Town, Piscataquis County, Maine Office of the Public Advocate)
 - Federal legislative staff (representatives from Sen. Collins, Sen. King, and Rep. Poliquin)
 - Private foundations (Maine Community Foundation, Unity Foundation)
 - EMDC leadership
- Single Point Person for Communications:

Vicki L. Rusbult, MPA

Director of Re-Engineering the Region & Planning

Eastern Maine Development Corporation

vrusbult@emdc.org

2. Hold at least one Community Broadband Meeting

- As noted in #1, two regional (community) broadband meetings have been held – the first on December 1, 2015 at the Brewer Machias Savings Bank, and the second on February 25, 2016 at EMDC. A mapping of the Eastern Maine region of Hancock,

Penobscot, Piscataquis, and Waldo counties was obtained last May, with the results shared in a variety of public meetings including the December 1 meeting.

- Since this is a regional planning effort, questions for attendees were not specific to one community. Rather, the dialogs have been specific to current capacity, how do we determine the needs of our region community by community, how can a partnership between providers, communities and other stakeholders enhance efforts for expansion of capacity, what is needed to fill the gap between current and preferred, and can we build “community technical plans” that provides incentive to attract providers and increased take rate.
- Agendas from the two meetings are attached to this Precertification form. A total of 31 individuals attended the meeting on 12/1/15, and 27 attended the 2/25/16 session. Minutes were prepared following the 12/1/15 meeting and are attached; the minutes of the second meeting have not been finalized as yet.

3. Identify Key Documents/Existing Efforts

Since this project is regional rather than community-based, we are not attaching cable franchise agreements, or information specific to delivery of municipal services. EMDC has led an EDA-commissioned strategic planning effort that was performed in 2014 and 2015 to identify opportunities and barriers to economic recovery in the four county region adversely impacted by the closure of manufacturing businesses, most notably in the paper industry. The project included a supply chain analysis performed by a consultant, Camoin Associates, that was data-driven, more than 100 business interviews, a services of community/industry-based advisory committee meetings, a two-day roundtable series focusing on 7 sectors identified as having potential for growth, a workforce analysis, and numerous public forums. Through this effort, three cross-cutting strategies were identified as critical to supporting the growth – workforce development, education, and infrastructure including broadband capacity and literacy. A copy of the final report and supply chain analysis are attached. As a result of this effort, we are now moving to the implementation phase.

A second key effort is the proposed partnership between Axiom Technologies and EMDC. Drafts of the Memorandum of Understanding and Non-Disclosure Agreement are attached which describe the relationship of our partnership to address broadband capacity in the EMDC service area.

4. Identify potential Community Anchor Institutions

This regional effort will include multiple anchor institutions specific to each community, including hospital systems, educational institutions, large industries, libraries, municipal entities and others as identified in the individualized community assessments. Many of

these anchor institutions have been active participants in the Re-Engineering the Region effort.

5. Create a Vision Statement

The vision statement will be consistent to the vision and mission of the Re-Engineering the Region effort. In order to move the strategic planning to implementation, a reset of systems is needed that will require a framework to effectively guide and align future efforts. There are key components that cut across emerging opportunities and are critical to the success of transforming the regional economy. To effectively address needs for broadband capacity and expansion, our goal and vision is to:

Strengthen infrastructure and culture to create “A Digital Region of the Emerging Economy”



Eastern Maine Development Corporation

Broadband Planning Grant
Project Management Plan

April 2016

Axiom Technologies
3 Water Street
Machias, Maine 04654

(207) 255-0679

Project Scope

Axiom Technologies has developed a multi-step, multi-tiered approach to helping municipalities and regions understand their Broadband assets. Most communities are exploring how to leverage those assets more fully to the benefit of their citizens. There are an increasing number of communities and regions across the country that has taken Broadband/Internet connectivity into their own hands. In Maine, Rockport, South Portland, Islesboro and Sanford - all have taken different approaches to how to either own or control high-speed fiber networks in their communities.

As a provider of Fixed Wireless, DSL and Fiber to the home and business and a not for profit Education and Training Center, Axiom is well versed in all technologies and has provided multiple layered solutions at a number of price points to customers and communities. Axiom will help a community understand what they have, what they need, and where they want to go, by creating a "Community Technology Plan". It will be customized specifically for four communities within Eastern Maine Development Corporation's service region and will create a pathway forward to reach each of the communities' goals for technology and connectivity.

Project Purpose, Objectives and Goals:

Axiom will assist Eastern Maine Development Corporation (EMDC) in creating Comprehensive Technology Plans for each of the four targeted communities that can be incorporated into EMDC's comprehensive technology plan across their entire service area. The plan will lay out a multi-year, multi-tier approach that can be staged over time and built as funds are available. The plan will specifically address the goals that are developed over the planning process.

During the Planning Grant process, Axiom will craft a strategy on how to create more robust Internet and telecommunications service offerings for the families and businesses in the targeted communities and to create a template of options for rural broadband development.

Problem/Opportunity Statement:

EMDC serves the four Eastern Counties of Maine: Hancock, Penobscot, Piscataquis Counties as well as portions of Waldo County. With the geographic size of their service area, EMDC has an ambitious plan to create branded communities that are technology connected. EMDC would like to model this plan in four carefully chosen communities with the plan to roll the process out across the entire four-county region. EMDC has assembled strong support through its efforts to reimagine the region through a Camoin planning report that highlighted the need for 21st Century connectivity. In short, EMDC has built momentum for this work.

The efforts of the region have been spurred by several recent and long-term concerns. The region is home to the largest concentration of higher education institutions in Maine, yet its demographics still remain a challenge, as does educational attainment goals. In addition, recent mill closures have forced communities and the region to look at opportunities to help their displaced workers remain and the communities affected to recover.

For this region, a multi-tiered approach is recognized as the best approach and all are willing to look at creative connectivity solutions that fit best into the diversity of communities it serves. In addition to the actual work that its planning partner will perform, EMDC is committed to the hard work of educating the whole region on Broadband connectivity issues as the process unfolds. There is great potential to expand the work very quickly to other communities and continue to build on the goal of branding the region and strengthen infrastructure and culture to create “A Digital Region of the Emerging Economy”

Project Constraints:

- **Inclusions:**

What is especially exciting is that the plan, as envisioned, will be actionable immediately. Axiom Technologies will help EMDC create a planning process that will deliver Community Technology Plans to four communities that include:

- Steps to address Internet to underserved and unserved areas of the community
- A concrete plan to address Digital Inclusion / Digital Literacy
- Out of the box thinking that includes downtown Community HotSpots and other key locations
- Clear cost and pricing for all parts of the recommended plan

- **Exclusions:**

What will not be included will be a build out plan with exact costs. The plan will be formed enough to go out to RFP, and will typically be within 10% of our estimated cost for each project. Axiom does its work this way, in order to allow for unexpected costs and for potential vendors to have some creativity around the build.

- **Key Assumptions:**

- Because of cost restraints, a full broadband solution will likely require a step by step approach that allows for progress, as and when funds become available
- EMDC's service region's remoteness and relative lack of density will require a significant amount of high-capacity wireless to be used
- Digital Inclusion will be an important part of the plan in year 1 and 2

Project Approach:

The approach will be to not just create a Community Technology Plan for each targeted community, but to create a community movement around Broadband connectivity in the EMDC service region. By engaging the citizens of each of the targeted communities throughout the process, we expect to build momentum for investments over the next few years, while creating yearly milestones that the city council and town officials can benchmark their progress against.

In addition, we believe that engaging the businesses and key stakeholders can bring a sense of urgency to the process and help drive early strategy and deliverables, which is why we have proposed business/stakeholder meetings, community meetings, and a series of small business meetings throughout the region. These meetings will undoubtedly help with a deeper understanding of the needs in the community.

Project Organization:

Project Sponsor Eastern Maine Development Corporation	
Axiom Project Team	EMDC Broadband Team
Susan Corbett Digital Inclusion Consultant	Vicki Rusbult Eastern Maine Development Council
Mark Ouellette Broadband Consultant	Mike Aube Eastern Maine Development Council
Kim Emerson Network Engineer	Andy Hamilton Eaton Peabody
Ian Sawyer Network Engineer	Jim Geary Maine Community Foundation
Jane Blackwood Educational Consultant	Larry Sterrs Unity Foundation

Key Roles and Responsibilities:

Project Sponsor:

- Secures organizational support and funding for the project
- Defines strategic objective of the project
- Participates in project level governance
- Makes final, critical project decisions, when needed
- Represents EMDC's interest in the project
- Provides strategic advice to the Project Team
- Actively participates in regular assessment of overall project discussions and meetings to ensure:
 - Project vision is on track
 - Approval of Change Requests
 - On track with budget allocation

Axiom Project Team:

- Accountable for overall execution, management and delivery of the project (scope, budget and schedule)
- Provides leadership of the project team
- Plans and manages project activities
- Manages project schedule and costs

- Tracks and reports project progress
- Manages and resolves issues and risks
- Performs tasks as assigned in the Project Plan
- Actively participates in regular assessment of overall project discussions and meetings to ensure:
 - Project vision is on track
 - Approval of Change Requests
 - On track with budget allocation

Schedule of Deliverables:

EMDC Planning Grant Timeline Technology Kit Phase I	
June-16 to Aug-16	Inventory, Needs Assessment and Mapping of existing infrastructure
June-16 to Aug-16	Meetings with municipal officials to discuss public infrastructure needs
Jun-16 to Aug-16	Identify 10-15 key businesses and community anchor institutions for interviews in the targeted communities
Jun-16 to Aug-16	Community meetings for input
Sep-16 to Oct-16	Work with EMDC on a series of small business meetings throughout the region Create Facebook page and survey for input from communities in EMDC region
Oct-16 to Nov-16	Mapping of key public and private infrastructure (as available) Includes Gap Analysis defining additional broadband infrastructure needed, included unserved and underserved homes and businesses Define local broadband needs and goals
Oct-16 to Nov-16	Create Digital Literacy and Inclusion roadmap that can be included in EMDC's Comprehensive Technology Plan
Ongoing	Assist with identification of key federal and state resources for potential funding

Nov-16 to Dec-16	<p>Produce final Community Technology report with key findings and recommendations, including broadband infrastructure recommendations with separate sections for each town.</p> <p>Includes one or more potential network designs (including a FTTH option) with cost estimates, operating models and potential business models based on input from broadband providers operating within EMDC's region</p>
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**Technology Kit Phase II
Digital Inclusion**

Jun-16 to Oct-16	<p>Affordable Internet - Axiom will inventory digital inclusion and adoption efforts currently in place in the EMDC region. Axiom will inventory the low-cost broadband plans offered by current broadband providers serving the community. Axiom is working with state and federal officials to implement the FCC Lifeline program, subsidized low-cost broadband, for low-income residents in Maine.</p>
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Jun-16 to Nov-16	<p>Affordable Equipment - Axiom will inventory the low-cost computers/laptops offered by local and regional companies that are located across EMDC's region. Axiom will collaborate with its industry partner, PC's for Maine www.pcsformaine.org and the local companies, to set up a program for low-income residents and non-profit organizations to purchase equipment at a free to reduced cost.</p>
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Jun-16 to Nov-16	<p>Digital Literacy Training - Axiom will meet with businesses, community and municipal leaders, as well as residents in the region to discuss Computer Skills/Digital Literacy Training. Meetings will be as follows:</p> <ul style="list-style-type: none"> ▪ Business - For the business community, this often takes a grass-roots approach by working with a business owner to understand the company's plan for sustainable growth and development. Once the business owner understands the technology tools available, and Axiom understands the skill level of the employee, a learning plan can be created for a specific business. ▪ Community & Municipal Leaders – A series of meetings will be held to gauge the interest, as well as the skill level of the participants. During these meetings, discussions are facilitated to ensure that the participant is aware of what is technologically possible to do when you have a broadband connection. Demonstrating distance learning education, telehealth, telecommuting, cloud-based services and software available begins the process of developing Digital Literacy plans for a community.
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	<ul style="list-style-type: none"> ▪ Residential – As with Business, Community & Municipal leaders, a series of meetings for the residential community will be scheduled. It is the goal of the meetings that residents become engaged and excited about learning new skills, a pathway to lifelong learning. ▪ The outcome using the planning phase is a Digital Literacy Plan and recommended schedule, as well as suggested locations that classes will be held. In rural communities, times, distance, travel is a barrier to educational attainment; holding classes that are geographically spread out the designated service footprint will ensure participation.
<p>Jun-16 to Nov-16</p>	<p>Public Computer Access - During the planning phase, Axiom will inventory the available Public Computer Access locations throughout the region, including the number of available computers for public use. If a business or resident cannot afford equipment or an Internet subscription, and if broadband is not available at their location, Public Computer Access is essential.</p> <ul style="list-style-type: none"> ▪ Axiom will meet with Community and Municipal leaders across the county to discuss “Community HotSpots”. Community HotSpots are open access networks that allow citizens in a downtown or other public spaces access to the Internet. This is a simple, straightforward way to help a town or region get more connected. It is an affordable, convenient way to help visitors and residents easy, seamless connectivity.
<p>Nov-16 to Dec-16</p>	<p>Preparation of Digital Literacy Program includes administration/coordination of 2 Facebook for Business courses (total 4 classes. Includes surveys to provide feedback from students.</p>

Project Financials:

Project Financials:	
EMDC's Budget	\$ 20,000.00
Axiom's Technology Kit Phase I & II Budget	\$ 40,000.00
Total:	\$ 60,000.00
Axiom Payment Schedule:	
Upon Commencement of Agreement	\$ 10,000.00
Aug-16	\$ 10,000.00
Oct-16	\$ 10,000.00
Dec-16	\$ 10,000.00

Project Communication:

- **Project Document Storage:** All project documents will be stored on a shared Dropbox folder.
- **Project Events:** The Project Sponsor and the Axiom Project Team will coordinate the community events, including notifying the public.
- **Project Tracking:** Critical project milestones, resources, change requests, etc. will be tracked on a document in the shared Dropbox folder.

Meeting/Report	Audience	Timing/Frequency	Method/Channel	Responsible
Name and purpose of the meeting or report	Audience for this meeting or report	Day, time and occurrence of this meeting or report	Method being used for this communication (e.g. Conference Room or Conference Bridge)	Person Responsible for the Communication

Change Management:

Each positive change needs to be controlled, if the project is to meet its objectives on time and within budget. Change Management helps a project team ensure successful delivery of the business case.

Different aspects of the project will be subject to change control during different phases:

Type	Planning	Execution
Benefits	N/A	Expected benefits as baselined in the Planning Grant Agreement Approved Change Requests
Financials	N/A	Total cost of project as baselined in the Planning Grant Agreement Approved Change Requests
Scope	N/A	Scope and Features as baselined in the Planning Grant Agreement Approved Change Requests
Timeline	N/A	Timeline to complete Execution: As baselined in the Planning Grant Agreement Approved Change Requests

The following signatures are required for the following aspects of this project:

Scope Changes:

- Vicki Rusbult, MPA, Eastern Maine Development Corporation
- Mark Ouellette, COO, Axiom Technologies

Financial Changes:

- Vicki Rusbult, MPA, Eastern Maine Development Corporation
- Mark Ouellette, COO, Axiom Technologies

Timeline Changes:

- Vicki Rusbult, MPA, Eastern Maine Development Corporation
- Mark Ouellette, COO, Axiom Technologies

Risk and Issue Management:

The information below is static. How Risks are managed on the project is indicated in Risk Management document below. Issues are documented and reviewed on a regular basis by the Project Sponsor and Project Team, and others as appropriate.

Risk	A potential undesirable and unplanned event or circumstance, anticipated in advance, which could prevent the project from meeting one or more of its objectives.
Issue	An event or circumstance that has occurred with project impact that needs to be managed and resolved, with escalation if appropriate.

Re-Engineering the Region: Leveraging Emerging Opportunities

Summary & Recommendations

Prepared for:

Eastern Maine Development Corporation

July 14, 2015



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Summary and Recommendations

The Eastern Maine Region is diverse in terms of economic activity and types of communities ranging from the urban center of Bangor, to smaller cities and suburbs, to rural communities with economics grounded in natural resources, manufacturing and construction, agriculture, health care and life sciences, education, business and professional services, transportation and logistics, tourism, and retail. The forest economy has been and continues to be an important part of the economy in the Eastern Maine Region. And, while there has been a reduction of pulp and paper mills and their employment – there is still value in the forest and demand for wood, opportunities in industries related to the forest economy and within the forest economy supply chain. There are also emerging opportunities across sectors in which the region has assets that can be leveraged to grow the economy including: Forestry/Wood Products, Composites and Boat Building, Tourism/Hospitality, Bioscience/Healthcare, Construction/Skilled Trades, Agriculture/Food Production, Education, and Emerging Technology sectors.

However, as we have learned from our work on this project and from the ongoing regional efforts around “Re-Engineering the Region” leveraging the assets to grow the regional economy will require a reset of the economic, workforce, and community development system. What we have found echo what others have said: **Small changes, marginal improvements, and tinkering at the edges will not suffice. New vision to think big, coupled with new culture to build capacity for regional transformation into a new systems approach is needed to leverage emerging opportunities.** This needs to be characterized by:

- Diversity – of people, ideas, networks, initiatives, economic base
- Adaptability – continual learning, innovation, and re-engineering
- Sustainability – steady commitment continued over the long-term

The challenge is not only the result of economic trends and realities in the region but also structural changes in the global economy. This is well stated in a new book from the McKinsey Global Institute:

"Our intuition has been formed by a set of experiences and ideas about how things worked during a time when changes were incremental and somewhat predictable. Globalization benefited the well-established and well connected, opening up new markets with relative ease. Labor markets functioned quite reliably. Resource prices fell."

"But that's not how things are working now—and it's not how they are likely to work in the future. If we look at the world through a rearview mirror and make decisions on the basis of the intuition built on our experience, we could well be wrong. In the new world, executives, policy makers, and individuals all need to scrutinize their intuitions from first principles and boldly reset them if necessary. This is especially true for organizations that have enjoyed great success."

From *No Ordinary Disruption*, April 2015, Richard Dobbs, James Manyika, and Jonathan Woetzel; www.mckinsey.com/insights/strategy/The_four_global_forces_breaking_all_the_trends?cid=other-emi-alt-mgi-mck-oth-1504

Framework for Action for Re-engineering the Region

In this region of Maine It is time to scrutinize and reset! Based on our work through the tools of economic sector and supply chain analysis regarding the forest-related economy in the Eastern Maine Region and through our integration with the efforts to Re-Engineer the Region we offer the following frameworks, key questions/decision point guidance for strategies and initiatives to reengineer and transform the region:

I. Capitalizing on Education Assets and Creating a Continuous Learning Region – Lifelong, Continuous Learning for an Adaptive Region

It has been expressed and confirmed loud and clear that education and workforce are the most significant ingredients for regional growth. This is true across all industries and all business sizes. There are plenty of public and private education assets within the region including the University of Maine, Husson University, Eastern Maine Community College, Maine Maritime Economy, College of the Atlantic, Beal College, Unity College, along with rigorous learning opportunities at the regions' technical and vocational tech schools, adult education programs, and high schools. According to research conducted by EMDC, "in total, the region is home to nearly 24,000 students preparing to serve the workforce needs of Maine and the world. The region is truly an educational hub, containing over 30 students per square mile within a 15 mile radius of Bangor. The educational assets and infrastructure in place provide Bangor the opportunity to become an educational hub and research center in the coming years."

Educational assets have long been integral to the region for workforce development, assisting businesses and entrepreneurs, and leading research and development. They are needed now more than ever as emerging economic opportunities in business, industry, and organizations require continuous learning and adapting by individuals, businesses, and institutions. This will require expanding the reach, intensity, and ultimately the impact of the learning assets into a learning system for the region supported by a culture that values and integrates education, learning, workforce, and entrepreneurial development. By doing so, the region can not only address existing and future workforce needs but also brand itself as a "learning region" to further support business, investment, and people retention, and attraction. In achieving this there will be challenges but a framework that includes asking and addressing the right questions can lead to progress. These include:

- The region is very large geographically with considerable population and business dispersion. In a word, it is rural. This makes traveling to and from brick and mortar learning institutions difficult for many workers and residents. Again, it is time to reset. How can an aggressive broadband initiative be structured, financed, and implemented to integrate continual on-line learning and training with the exiting assets in the region and open up access to new opportunities globally? **To address this question we recommend the region initiate a broadband/digital infrastructure plan and integrate it into its plans for re-engineering the region. This plan should address infrastructure, supply and demand, organizational and operation structures, financing, and adopting**

a digital culture throughout the region. Furthermore, it should not be done “instead of” or “separate from” but integrated with the existing in-person approaches and physical assets and resources in the region.

- Historically and by design our workforce development programs and services focus on past and recent trends, serving disadvantaged workers including those recently laid off, and the long-term unemployed, and disabled workers. These programs and services are essential for those populations as well as the economy but are not enough. In a dynamic economy that is constantly changing, we must extend continuous learning, education and workforce training to all of the labor force, all of the time, within a ‘system’ of workforce development that focuses on recent but also emerging trends and opportunities and is integrated with economic development.

The region served by EMDC is about to partake in a workforce development study that responds to the loss of employment within the forest economy. We recommend expanding this study and developing a comprehensive workforce strategy that is integrated with economic development and re-engineering the region and focuses on several key questions in addition to improving and making available programs and services to those that are unemployed, underemployed, and disadvantaged. These include:

- What are the skills needed to leverage emerging economic opportunities within the region and how can those best be integrated into the workforce and economic development system including advanced manufacturing; advanced materials; value added wood products; wood-based bio-mass energy, bio-fuels, and bio-chemicals; eco and nature based tourism and recreation; agriculture and food systems; and health care?
- What are the emerging career pathways that offer opportunities for entering and progressing in occupations that pay livable wages and beyond? What education and training is needed to support those career pathways and how best can this be integrated with the K-12 and higher education systems?
- With an ever increasing amount of jobs being created and maintained by small businesses, entrepreneurs, and individuals how can the concept of “create and sustain” your own job, innovation, and entrepreneurship best be integrated into the workforce development system?

II. A “Handshake’ Among the Forest-Based and Tourism/Recreation-Based Economy to Re-engineer the Region and Grow the Economy

The region has abundant opportunities in natural resource-based visitation and recreation driven by parks, trails, mountains, rivers, and lakes. Historically these have occurred in conjunction with and have even been leveraged by traditional forest economy activities including pulp, paper, logging, and other wood products manufacturing. At times and on certain issues these two important sectors of the regional economy experience tensions that can restrain growth within one, the other, or both. Recognizing and managing these tensions is

required for future economic growth. As long as there is land and forests people will want to use them both for the benefit of industry and recreation.

But they both have at their core a need and respect for managed resources, infrastructure, and public-private partnerships. Both represent considerable portions of the existing and future economic base. Re-engineering the region for growth will require “a handshake” between resource advocates, land owners, recreation and tourism, and economic development interests to leverage and accelerate commonalities and understand and minimize the impacts of differences around land-use and management, increased visitation, recreation, and eco-tourism. Towards this end we recommend the following:

- **Advance on-going discussions into a facilitated process among stakeholders, businesses, citizens, and landowners around the issues and the development of core parameters for moving forward based on having more in common and more to benefit from working together rather than opposed.** Such a process was used and proven to be effective in the Minnesota which utilized a “facilitated roundtable process”, *Minnesota Timber Harvesting Roundtable: A Case Of Negotiated Natural Resources Policy Development*, Paul V. Ellefson, Michael A. Kilgore and Donald G. MacKay, January 1997.
- **Assessing in detail – with both quantitative and qualitative information - the economic, fiscal, and social/cultural impacts of increased recreation/natural resources based visitation** including:
 - On what core issues are the forest-based economy and recreation/tourism most compatible?
 - How can these be further leveraged?
 - How can conflicting issues be reduced?
 - What further infrastructure and amenities are needed to increase supply and demand for visitation and recreation in the region? Transportation, support businesses and services, telecommunications, other?
 - What are the workforce education and training needs to support a growth in natural resource based visitation and recreation? How can these be met without jeopardizing the workforce supply for other existing and emerging sectors/opportunities?
 - Can experience in forest land and resource management and digital technologies be increasingly utilized to reduce conflict and identify opportunities and manage use such as spatial, GIS, applications, Apps, etc...? Can this further create emerging economic growth opportunities in these support services?
 - Within the possible future scenarios of increased natural resource-based visitation and recreation what additional possibilities and impacts does the creation of a national park present?

III. “Extreme Makeover” of the Regional Economic Development System

As indicated at the outset above: “Small changes, marginal improvements, and tinkering at the edges will not suffice. New vision to think big, coupled with new culture to build capacity for regional transformation is needed to leverage emerging opportunities.” This is not only true of new and emerging business and entrepreneurs but also of the economic development system and related programs, services, and entities themselves.

This current system was built to support and grow industries and opportunities in the industrial and recent post-industrial economies. And, it served the region well. However, a new framework and system of economic development is needed to build and leverage capacities for the future. **We recommend that the economic development organizations in the region continue to build on recent momentum from their Mobilize Eastern Maine and Re-Engineering the Region efforts and engage willing stakeholders, businesses, citizens, and entrepreneurs in a re-design of the economic development service delivery system.** This should involve all organizational leaders responsible for the delivery of economic, community, and workforce development in the region and should focus on:

- Continuing to service existing industries and businesses as needed while increasing resources and capacity to identify, assess, and service emerging industries and economic opportunities. Much work has been done in the region through the Re-Engineering the Region process and others including Mobilize Eastern Maine to assess the needs of existing businesses and industry sectors as well as identify emerging trends. Through these efforts stakeholders and businesses have been engaged in numerous forums and discussion sessions to provide clarity in understanding the challenges and opportunities ahead. This has led the region to the development of targeted industries to focus on which have been re-affirmed through this supply chain analysis. These include:
 - Forestry/Wood Products
 - Boat Building/Composites
 - Tourism/Hospitality
 - Bioscience/Healthcare
 - Construction/Skilled Trades
 - Agriculture/Food Production
 - Education
 - Emerging Tech Companies

These should continue to be the focus and priority of the regional economic development system including through continued engagement with businesses and stakeholders, an integrated and consistent business visitation program, and marketing and communication within and for the region. Furthermore, economic development initiatives and projects should be focused on advancing capacity for growth in these sectors and the economy overall through the core pillars of:

- Continuous Workforce Development in the Learning Economy
- Entrepreneurship Development and Economic Gardening—Celebrating that Small is the new Big with a Focus on Existing Regional Assets

- Broadband and Logistics Investment in the Region to Provide and Maintain the Infrastructure of the Future
- An economic gardening and asset-based development approach by engaging and leveraging existing assets, organizations, and individuals within the region to further build capacity to grow the economy and not dwell on those things you do not have.
- Regional collaboration to leverage local and global opportunities – this includes working with regional neighbors within and beyond Maine. Some examples include: the Aroostook Partnership for Progress on their work on the forest products cluster; the forest and natural resource based efforts of Somerset County, Franklin and Piscataquis County; the Northern Border Commission and related Counties that extend from Maine heading West through upstate New York; and US-Canadian border communities on both sides of the border.
- Integration of economic development with workforce and community development – these three components are part of the same system, not separate. Businesses need land, capital, infrastructure, and access to skilled and talent workers. Workers require housing, transportation, access to healthcare, and education. And, both require quality places (communities and regions) to sustain investment.
- Intelligence – latest data tools and information to support, identification of “weak signals, planning, implementing, evaluating, and adapting.” Data tools and information have become readily available and accessible to support effective economic development systems. Once requiring hours of on the ground research, information is now readily available via digital technologies on market research on industry sectors, employment and workforce, demographic and socioeconomic trends, land-use and mapping, communicating and marketing, and benchmarking and measuring progress and performance. Digital tools are also readily available that can assist with on-going engagement of the public and stakeholders as well as business visitation and marketing of development sites and buildings. The new regional economic system should pool the resources of participating stakeholders to leverage these digital tools and share applications and knowledge

IV. Securing and Maintaining the Capital Assets in Mill Properties and Communities for Reuse

The mills that have closed or will close contain infrastructure that may support emerging opportunities such as energy systems, roads, water treatment systems, etc..... These can benefit emerging efforts in the region around energy, pellets, bio-plastics, and other manufacturing. Issues surrounding re-use are complex and include land-use, legal, and organizational issues. These decisions and subsequent implications involve the owners, investors, and municipalities.

We recommend that assistance and support as needed be provided to municipalities for:

- Inventory and evaluation of existing assets and the potential costs and benefits for re-use
- Dialogue with current owners and stakeholders
- Development when appropriate of public-private models for acquisition and re-use

The Brownfield assessment process provides a potential opportunity for accessing finds and completing some of this work and should be pursued with Millinocket, East Millinocket, Lincoln, and Bucksport.

V. Supporting Transportation and Logistics Infrastructure for Continued Support of the Forest Economy and Emerging Opportunities

Transportation and logistics infrastructure has been identified as critical to the region for economic growth across all industries. Rail for integrated commercial logistics; leveraging the unique strengths of each Maine port; passenger air for more connections and services; use of cargo shipping and the Free Trade Zone at Bangor International Airport; and passenger rail for increased tourism and recreation play all have potential value. **We recommend that the region dive deep into planning for transportation and logistics infrastructure specifically tied to supporting economic development around emerging opportunities and the targeted sectors. This includes assessing and developing implementation and capital finance plans for the top priorities.** Within the forest economy top priorities include road transportation, maintenance of rail capacity, and connection to and utilization of all Maine ports. TIGER Grants offer funding opportunities to carry-out this recommendation and should be pursued.

VI. A Digital Region for the Emerging Economy

Digital infrastructure and culture are needed to compete in the current and emerging economy. While fiber infrastructure exists in parts of the region through the Three Ring Binder, more supply and adoption to small businesses, entrepreneurs, and residents is needed. Subsidies and public/private partnerships will be needed for next mile connections/infrastructure and broader adoption. **We recommend that a comprehensive broadband/telecommunications/digital infrastructure plan be conducted for the region and integrated into the economic plans for re-engineering the region.** Local and regional funds can be combined with funding from the ConnectME Authority and should address:

- Infrastructure and service supply and demand – existing and future needs
- Organizational and operational models
- Financing
- How to build a digital culture to support the emerging economy?

VII. Small is the New Big – Supporting an Innovative and Entrepreneurial Region for Starting and Growing Businesses and an Entrepreneurial Workforce

There is a good base of infrastructure and support for entrepreneurship and innovation anchored by UMAINE, private education, research institutes and regional and state programs to support innovation and entrepreneurship including the Maine Technology Institute, Top Gun,

Center for Family Business, Target Technology Center, and Innovation Engineering. **We recommend building upon this capacity in the region and making it a top priority in terms of approach to economic development programs, services, initiatives and projects. This should include not only entrepreneurship for business startup and growth but also developing an entrepreneurial workforce throughout the system as well as entrepreneurial communities.** This fits well with the economic gardening and asset based approach to economic development along with building the “learning region” and will allow the region to brand itself as an entrepreneurial and learning region.

VIII. Leveraging Synergies with Food and Agriculture

Agriculture and food production and the food-related economy has gained recent attention and success in Maine with an increase in the number of farms and young farmers, farm-to-table efforts, and buy local initiatives. The region has a long history of success in these sectors and we recommend that food and agriculture remain targeted industries for economic development for the region. Key questions remain for further strategy development that include:

- What synergies exist between the forest and food economy?
- How might they be leveraged for economic growth?

IX. Leveraging a Healthy Region Supporting a Healthy Economy – Synergies Between Healthcare, Biomedicine/Bioscience and Wellness, and the Forest Economy in the Region

The region has a solid base in healthcare and wellness-related assets including industry and employment. There are also many recent and emerging developments within the region among entrepreneurs, education and research institutes and communities. We recommend that Healthcare, Biomedicine/Bioscience and Wellness remain targeted sectors for economic development for the region. Key questions remain for further strategy development that include:

- What synergies exist between the healthcare and wellness economy and the forest related economy?
- How might they be leveraged for economic growth?

X. Lessons from Forest Sector Supply Chain Analysis for Business Attraction, Retention and Expansion

The supply chain analysis of the forest economy provided important guidance beyond the framework for resetting the economic development system for the region described above. It also shed light on lessons and findings which can be used to guide day to day efforts in the region around business attraction, retention and expansion.

Industry Success Factors:

- Proximity to transport; prompt delivery to market; logistics
- Proximity to key markets

- Access to highly skilled/flexible workforce
- Access to the latest available technology/techniques
- Guaranteed supply of key inputs and flexible production processes
- Ability to raise capital

Summary of Key Challenges:

- Business within industries interviewed for this study indicate that the major challenges to their economic competitiveness are workforce, logistics, and energy.
- Closing and declining mills are large in terms of average establishment employment size. It will be difficult/unlikely that emerging opportunities will be large companies, particularly in the short term. They also pay higher than average wages therefore their loss has significant impacts throughout the region and jobs that pay as well will be tough to replace in the short-term.
- Fewer mills operated now for hard wood (compared to 10-15 years ago) but similar amount of output. Mills that remain are getting bigger, more automated and produce more material than they used to at a single location.
- Maine’s wood costs are relatively higher compared to other US regions and global suppliers.
- Wood remains in demand despite downsizes in specific subsectors within the region. This creates some constraints on emerging uses and industries.
- Paper manufacturing is forecast to slow over the next five years due to the continued trend toward electronic communication, which has reduced business and consumer usage and import competition from countries such as China.
- Wood Product Manufacturing and Forestry and Logging industries within the region are major suppliers to other industries within the region including pulp and paper and therefore overall are in need of market diversification and future regional growth.
- “Local wood products” is a difficult path to go down because so much of the material gets sold to the wholesale market so it’s difficult to know where the wood is ending up. Very small sales compared to larger wholesale sales.
- Relatively low levels of value added wood products being exported from Maine’s marine ports.
- Lack of widespread broadband and cell coverage within region to support emerging opportunities.

Summary of Key Opportunities:

- Overall, Maine’s forest-related industries are diverse with strong industry network support
- Growth in employment in the past ten years has occurred in:
 - Environmental Consulting Services
 - Office Furniture and Sign Manufacturing
 - Commercial and Institutional Building Construction
 - Prefabricated Wood Building Manufacturing
 - General Warehousing and Storage



- Freight Transportation Arrangement
- Nationally revenue growth is projected over the next ten years in the industries of:
 - Environmental Consulting Services
 - Surveying and Mapping
 - Timber Tract Operations
 - Logging
 - Residential Building Construction
 - Commercial and Institutional Building Construction:
 - Sawmills and Wood Preservation:
 - Miscellaneous wood Products and Manufacturing
 - Office Furniture and Sign Manufacturing
 - Furniture Stores
 - Home Centers, Hardware Stores, and Other Building Materials Dealers
 - General and Specialized Freight Trucking, Long Distance
 - General Freight Trucking, Local
 - Rail Transportation
 - Lumber, Plywood, Millwork, and Wood Panel Merchant Wholesalers

It is worth noting that growth will be mostly driven by economic recovery and an increase in the construction markets not by pulp and paper which is projected to decline and temper demand for related industries. Also, competition from imports will be high in several of the sectors particularly furniture manufacturing.

- Wood remains in demand despite downturns in specific subsectors within the region.
- Proximity to Maine’s three marine trade ports: Eastport, Portland and Searsport is a plus as both importing and exporting of forest related products occurs. Additionally, Bangor International Trade serves as an important inland cargo port for the region and also has a foreign trade zone.
- Significant improvements and expansion is occurring at the Port of Portland driven by the recent relationship with Eimskip providing new opportunities for expanded importing, exporting, and marine transporting throughout Maine with access by rail and truck to the port. A proposed Marine Highway offers the potential for alternatives to trucking and rail to access other east coast ports and markets.
- Internet Fiber through the Three-Ring Binder running through region.
- Cases where a substantial portion of inputs are supplied outside the region represent a potential opportunity for expansion by companies that supply the same inputs but are located within the region as well as a potential to attract to attract companies outside the region that supply these inputs. With a reduction of potential demand due to loss of pulp and paper mills and companies directly related within the region these suppliers are at risk of business loss and therefore have “skin in the game” for regional economic survival and growth. Based on the data and an understanding of the industries the best potentials for expansion and attraction are:
 - Chemical, Plastics, Rubber Products Manufacturing
 - Fabricated Metal, Machinery, and Transportation Equipment Manufacturing
 - Utilities

- Rail Transportation
- The data and related interviews conducted for this study indicates that exports at Maine's marine ports in the forest economy are highest in Eastport (\$119 million) followed by Portland (\$10 million) and are driven primarily by wood and related pulp (\$88 million statewide) with some, but not a lot, exporting of wood products (\$35 million statewide) occurring as well. For the region to grow the forest economy post mill closures and reductions, more opportunities for exporting value-added products from the region must occur spurring new wealth and investment. Recent expansions in infrastructure and capacity at the Port of Portland offer opportunities to reach new and expanding markets.
- There are a variety of companies and institutions along with the University of Maine in the region that are working on developing new processes and products to enter new markets forest, energy, and composites related industries through research, development, and commercialization.
- Emerging industry opportunities based on the market analysis and interviews and are consistent with assets in the region and Maine include:
 - Energy – biomass, pellets, biofuels and colocation of combined heat and power
 - Bioplastics – wood based
 - Nano-cellulose
 - Advanced wood materials and composites
 - Value-add manufacturing
 - Land management and sustainability and the digital economy
 - Recreation/tourism, and agriculture that is compatible with forest management

Summary Assessment of Emerging Industry Challenges and Opportunities

The emerging opportunities represent new processes, technologies and initiatives for which industry. Below is a summary overview of challenges and opportunities.

- Because they are “emerging opportunities” regional business development in the short-term will likely come in the form of entrepreneurs, start-ups, and small-businesses. This will not replace the level of jobs lost due to mill closures but will help transform the economy. Additionally, some of the emerging opportunities will not necessarily occur in the communities in which mills closed thus requiring targeted support for impacted communities.
- Five essential ingredients across all of these emerging opportunities are:
 - Educated, skilled, and innovative workforce
 - Research and development and integration with the entrepreneur community for commercialization
 - Cooperation and engagement among forest resource owners/land owners, business and industry, citizens and stakeholders
 - Digital infrastructure
 - Transportation and logistics infrastructure
- Continued leveraging and connecting the research and development, education, technical assistance and networking assets of the University of Maine is critical for growing these emerging economic opportunities and is an asset that sets this region apart from other regions in Maine.

- Infrastructure and other assets that have supported the closed or closing mills including energy, water, and waste water infrastructure has potential value for several of these emerging industry opportunities particularly those related to energy and manufacturing.
- Government policies, regulations, and support could significantly impact the emerging industries in particular policies towards energy (fossil fuels vs renewables and the support for wood based energy and fuels); funds for workforce development and education; and tax credits/subsidies for energy production and redevelopment.
- Forest and wood has value both inside and outside the region and as indicated by those that manage and sell wood resources each piece of wood has multiple potential buyers. Furthermore, Maine wood is in general not as cheap as wood elsewhere in the US or the world. Therefore, to the extent that these emerging industries need to purchase wood and wood related resources and utilize forest land they must compete among multiple other potential uses. For those industries with potentially high-value markets such as advanced materials and some biochemical this should not be a major constraint. However for those industries with commodity or near-commodity markets such as commodity pellets, this can pose a significant constraint.



Eastern Maine Regional Planning Broadband /Digital Literacy Expansion

Machias Savings Bank
581 Wilson Street
Brewer, ME 04412

Tuesday, December 1, 2015
3:00 – 5:00 pm

AGENDA

Digital infrastructure and culture are needed to compete in the current and emerging economy. While fiber and other telecom technology infrastructure exists in parts of the region, more availability and adoption for small businesses, entrepreneurs, communities, and residents is needed. Investigation related to the current infrastructure and service options and demand needs (both existing and future) for each community is needed to begin identifying and closing any gaps. This meeting will be an important step to develop the roadmap to guide our efforts and begin building the infrastructure to support the communities in our region.

Welcome & Introductions

Michael Aube
Larry Sterrs

Overview of Re-Engineering the Region Effort

Michael Aube
Andy Hamilton

Broadband/Digital Literacy Planning/Creating the Regional Roadmap

Larry Sterrs
Peter Taylor

Next Steps

Michael Aube
Vicki Rusbult

It's Our Region!



Eastern Maine Regional Planning Broadband /Digital Literacy Expansion

Machias Savings Bank
Tuesday, December 1, 2015
3:00 – 5:00 pm

Meeting Minutes

Attendees:

Michael Aube, EMDC	Tom Buckley, Wireless Partners
Andy Hamilton, Eaton Peabody	Bob Parsloe, Wireless Partners
Vicki Rusbult, EMDC	Andy Breda, Premium Choice Broadband
Susan Corbett, Axiom Technologies	Jeff Nevins, FairPoint Communications
Mark Ouellette, Axiom Technologies	Mike Edgecomb, Time Warner Cable
Trevor Jones, OTT Communications	Laurie Osgood, Unitel
Ed Tisdale, OTT Communications	Chris Rector, U.S. Senator Angus King
Scott Brooks, TDS Telecom	Carol Woodcock, U.S. Senator Susan Collins
Craig Gunderson, Oxford Networks	Belle Ryder, OTO Fiber/Town of Orono
Michael Wardel, Wireless Partners	Jeff Whalen, EMDC
Larry Sterrs, Unity Foundation & Unitel	Mike Duggar, Time Warner Cable
Mark Kontio, Congressman Bruce Poliquin	Ron Harriman, Town of Old Town
Bruce Nickerson, Bangor Savings Bank	Evan Richert, Town of Orono
Joe Bourgault, OTT Communications	Peter Taylor, Maine Community Foundation
Don Flewelling, Pioneer Broadband	TimSchneider, Maine Office of the Public Advocate
Dick Thompson, University of Maine System & ConnectME Authority	

Michael Aube opened the meeting by thanking everyone for attending; this was followed by the introductions of participants. Larry Sterrs gave an overview of why the participants were invited to the meeting, and Michael A gave history of regional economic losses and opportunities. He noted that while wood products still a factor, we are a region with concentration in education. Through the work of the Re-Engineering the Region effort, one component of logistics named across all sectors was the need for increased digital access.

Andy Hamilton, chair of the Re-Engineering the Region steering committee, shared his enthusiastic about opportunities for this region, but noted that we just can't have collaboration - the challenge will be alignment. The region has suffered a paradigm shift, and recovery and revitalization will need the

alignment of people and assets. He stated that we need investment of both foundations and the private sector to support this alignment. Our question to the meeting participants is: What do you think is realistic and what is unrealistic when it comes to broadband expansion of both infrastructure and literacy. We need to be grounded as we move this effort forward.

The strength of our educational institution assets in our region (largest in state) was pointed out. As a continuous learning region, small businesses need prompt access to education including digital literacy to build the necessary workforce. As such, we need to support entrepreneurship and innovation in the region.

Peter Taylor shared that private foundations were brought together by Yellow Light Breen to address the question – What is the role of philanthropy in region? He noted that there is a “small narrow sliver of resources but it is flexible.” Foundations can provide resources for glue to bring planning and subsequent projects together. Initially, there was a discussion around municipal broadband. Then connected with Larry S about broader needed and start dialog early on.

Larry S: This has led to an interesting convergence. Shared early on that people at table are profit-driven and competitors.

Michael A: EMDC started planning around a pilot of 5 communities. When that concept was presented to EDA, they said no you have to do entire region. As a result, the current proposal expands the proposed work to the entire 4-county region.

Larry S: There is a clear demand-driven role for current providers.

Andy H: Is there a model in more rural parts of the state for providing service?

The base customer is primary driver. Customers pay the day bills. Verizon has the assets that work well. There are mechanisms/examples of re-education and training that are available for delivery, and they can look for ways to help really rural. The question is if there are incentive industries looking to come here to region, with state backing to make investment.

Craig G (Oxford): Oxford has lots have capability. He applauds that providers have been brought to the table as opposed to municipal providers. We need to find solutions in a real way and not band-aids. Providers are willing to be helpful and utilize resources in creative way, and appreciate that a providers have been brought together in a consolidated/collaborative way.

What are the needs and opportunities? There are a lot of creative opportunities, but the question is what the demand? Can we utilize assets that are there? For the Katahdin region - what are the opportunities? The Town of Lincoln knows where their opportunities are and they are just trying to get there as fast as possible. Again, what is the demand and how do you drive that demand?

It was pointed out that people want the opportunity to learn effectively and then expand. Non-industry “humans” aren't as discerning about what they need, but we need to talk about those needs to discover how to meet them efficiently and in a cost-effective way.

To support digital inclusion, there are 4 things that must be addressed – affordable broadband, affordable equipment, digital literacy, and public/computer access. How do you get people to understand the "value" component?

Tim S: To understand the value, would this be the result of training? He noted that the Katahdin region is comparable to Washington County. That county started with a smaller percent that didn't have any broadband, and by end of digital literacy training, a higher connectivity through Axiom was reported.

More than half of Maine businesses surveyed (around 55%) do not have web presence. There needs to be an incremental approach.

Jeff N (Fairport): Challenges are many and there are a lot of needs and wants. Fairpoint developed a mapping tool (beginning stages) to help understand what communities already have. Jeff indicated that he would be happy to share a powerpoint about the mapping tool at a future meeting.

Andy H: Hopes there is has been a learning experience for what happened to the paper mills and apply to other industries. As a region, we need to focus on capital investments. This includes a fund for Phase I capital venture for the expansion of digital capacity (extend last mile, creation of a hub, etc.).

Belle R (Orono): Orono has been working to expand capacity. Digital access is a factor in increased property values and business attraction for increased business activity. Orono is looking to build an open dark fiber network. The problem is getting last mile access. The plans include a deployment of fiber along the University of Maines' fiber.

Connect America is a project that is analyzing which spots need what for infrastructure. Fairpoint has offered to provide a presentation of what towns they will be serving and how can we collaborate. A baseline assessment is done to determine what we need through a planning study. For private providers – is there some pinpointed focus to help stimulate investment and focus on the demand side? Would that would be something we would want to invest in?

Wireless Partners discussed the link between broadband and tourism, noting that areas that have high quality services attract return business from tourists. If broadband capacity is weak or absent, the tourists don't come back. If these critical systems are not in place, investments in lodges and businesses just won't happen. An excellent powerpoint has been developed by David Vail to cover this relationship which needs to be shared with meeting attendees.

Andy H: Could providers work with us to accomplish some of the critical steps in this planning and implementation project? Is there a model that works? Is there an option we can provide? Western Mass is an example - demand aggregate that will work (and \$50 million investment). What can communities have to give to providers that will make them say, ok we will work with you now.?

Craig G: The providers can help with a business plan, and help determine the take rate? The plan needs to be from a business perspective and relatively easy to look at. What is the investment and potential revenue coming back? Are there anchored tenants? Again, what are the take rates?

By going door-to-door in New Hampshire, TC hit thresholds that they felt more comfortable rolling it out. Even taking fiber to homes, there will still be pockets where you can't make model work. Pockets are driven by density, i.e., not enough paying customers. To fully assess, you need to take the rate and

determine how many consumers there will be in the future (sometimes that isn't enough to make it financially sound).

Mark O: Realistically, this is the FDR equivalent of electrification. It is the federal government working with private providers to get connectivity. A lot of people don't like that. What we need to do is encourage the sticky factor (University of Maine needs to get people to stay). New graduates need to have to have a job in order to stay.

Dick T: What we need to do is start with known incumbent providers. He noted that there is a public hearing on Friday for ConnectME Authority which included a review of a pre-certification form and potential granting process for communities to start planning.

Larry S: Right now, the rub is the dynamic between current providers who need to collaborate and not compete.

Evan R: Someone needs to step in and provide infrastructure. For this to succeed, there has to be open access and not proprietary. If it is open, he is betting that there will be more that will be willing to compete. Orono is not looking to be internet provider; they are looking to provide infrastructure (dark fiber provider). There will be a lease rate (acting as a business). Orono is looking at home-based businesses and homes.

There needs to be an inventory. Price matters!

Andy: Whatever we end up with will need to be attractive for telemedicine, education, tourism, farmers, and more. What is attractive to providers? know what we need to know and try to predict future demand. What risk would they be willing to take – there will still be an investment to make? How much of that market can you take slices of and still have it be profitable? If you need anchor tenants from the get-go, it could be problematic.

The meeting closed with the consensus that we should get back together again in January to discuss the following:

- Investigate the idea of a regional fund for planning grants?
- Provide time for the Verizon presentation.
- Continue discussion to prevent an overlap with private providers.
- Discuss the opportunities for new models, the need to partner up, and consider having each town make an investment.

Minutes will be circulated and the next meeting will be schedule for mid-January.