Maine West Regional Technology Plan

Section VI
Regional Recommendations

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VI. Regional Recommendations – Maine West

The following recommendations represent opportunities for organizations and communities across the Maine West region to work together to address common issues, leverage shared interests and capacities, and demonstrate tangible progress:

- Build momentum through a Regional Public Awareness Campaign
- Create a series of HotSpots throughout the region to support connectivity for visitors and the unconnected
- Fund a Digital Inclusion program that invests in your citizens
- Develop a Last Mile Fund
- Leverage the Willing
- **Aspirational**: Begin to address inequity by building a regional, open access fiber loop

Regional Recommendation #1- Public Awareness Campaign

One of the concerns we have in any planning project is the uneven understanding of internet technology and the varied opinions of communities, citizens and thought leaders about their connectivity needs. Many come to these issues with a healthy skepticism about the need at all for better connectivity. Through our engagement with Maine West communities there was quite a range of understanding about internet services and how to craft achievable connectivity goals. This is not uncommon.

We are convinced, though, that additional federal and state resources are going to be available over the next year and beyond. Making sure the region is ready to move quickly on these opportunities with public support for implementation plans, will go a long way toward successfully securing funding and implementing projects.

Axiom's Recommendations are to:

- Enhance the Maine West website as critical resource of information, dialog and handouts
- Create a "Community Kit" of tools that can be used by Maine West communities to hold community meetings and begin to discuss why better connectivity is so important to the region
- Celebrate every win, and make sure local media is invited and covers these events
- Write op-ed pieces and ask to go and visit the local papers to help them understand and write about the Maine West collaborative and the connectivity issues in the region

This is a start, but with sustained effort results will follow as demonstrated through other efforts like the Island Institute or Our Katahdin, both of which have made Broadband a centerpiece of their economic and social development strategy. Build on the success and increasing recognition of the Maine West collaborative.

Regional Recommendation #2- Regional HotSpot Plan

Community HotSpots are open access networks in a downtown or other public space. This is a simple, straightforward way to help the region get better connected.

Creating a comprehensive regional series of free or low-cost Wi-Fi HotSpot locations would meet two strategic regional objectives. First, HotSpots help support local citizens who cannot receive an internet connection because of the location of their home or cannot afford a connection, giving them

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locations to access the internet, without using expensive and unreliable cellular data plans. Second, HotSpots provide an important service to visitors and tourists to the area – enabling them to connect to home networks and enabling critical online access to information about local assets and amenities.

HotSpots offer several advantages to traditional cellular networks. A HotSpot provides faster downloads, which make surfing the web much easier and allow users to both work and play on the internet more efficiently. HotSpots also offer the flexibility to connect to a variety of devices, including tablets and laptops. Last, HotSpots allow cellular data use, without eating up costly data plans.

Maine West communities that have a goal to install one or more HotSpots include:

> ➢ Bethel- Downtown coverage (3)
> ➢ Andover- Serve hikers, day visitors (2)
> ➢ Dixfield- Downtown park (1)
> ➢ Hartford- Town Office (1)
> ➢ Norway- Downtown/town commons (3)
> ➢ Paris- Park/downtown (3)
> ➢ Roxbury- Boat launch/cellular substitute (6)
> ➢ West Paris- Town Office (1)

Rather than have communities compete with each other for resources to install HotSpots, a regional plan would have the communities working together to install the proposed HotSpots as a collaborative project.

Estimated Regional HotSpot Project Costs:

Year 1

$3000 per install x 20 HotSpots = $60,000
Included:
- Installation at each site (must have power and a place to mount hardware)
- Phone Tech support (Monday- Saturday, normal business hours)
- On site break/fix support, including any replacement of units
- Monthly usage reports for each site that includes the number of unique and recurring users, where traffic is being directed and how much bandwidth is being used and when

Not Included:
- Cost of electricity at each site (nominal)—typically the cost of a 60-Watt light bulb at each site
- Monthly cost of the internet- typically between $49.99—$119.99, depending on the carrier and amount purchased
  - Consider contracting with one company at all sites to perhaps receive a wholesale price
- Cost of signage ($50—$75 per sign) advertising the HotSpots

Year 2 - 5

Annual fee of $1000/per HotSpot = $20,000, reduced to $5000 a year
Included:
- Phone Tech support
- On site break/fix support, including any replacement of units
- Monthly usage reports for each site that includes the number of unique and recurring users,

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where traffic is being directed and how much bandwidth is being used and when

Not Included:
- Cost of electricity at each site (nominal)—typically the cost of a 60-Watt light bulb at each site
- Monthly cost of the internet- typically between $49.99—$99.99, depending on the carrier and amount purchased

Sponsorships:

Contained in the individual plans for each of the communities interested in installing HotSpots are ideas for how these HotSpots have been funded in other areas by local businesses, regional entities and local donors. For a regional approach like this, Axiom recommends focusing on the recurring costs of the project in Years 2—5, assuming that a grant can be identified to cover the initial cost of installation and Year 1 costs.

Each of the HotSpots can advertise a sponsor by directing users to the sponsor's homepage, giving the sponsor potentially many 1,000s of eyeballs on its products or services. Maine West could also create a landing page that has all of the sponsors on it and advertises regional amenities, such as pharmacy, restaurant or gas/convenience store locations, recreational amenities and more. A home page can be customized in any way.

Regional Recommendation #3- Digital Literacy Training

This report includes a Digital Inclusion and Regional Workforce Plan. The 4-part Digital Inclusion Plan includes a Digital Literacy section that focuses on helping local residents become digitally literate by utilizing your internet connection. The non-profit National Digital Equity Center is part of the Axiom Education & Training Center and is focused exclusively on a national model for training through a program focused entirely on Digital Training and Digital Inclusion.

As more people's livelihoods are based on their proficiency with digital tools and processes, investing in local citizen's skill levels in the digital economy can help change the economic status of the Maine West region.

Axiom recommends development of a coordinated Regional Digital Literacy initiative that can be customized to fit the needs of the Maine West region based on the survey results and the needs of local employers and individual educational needs.

Estimated Regional Digital Literacy Budget: $104,000/year

Includes:

- Instructor/Teacher
- All Travel costs
- All supplies needed for each class
- Curriculum
- Administrative oversight of program

Budget is based on:

- One Year program
- 6 classes per week

- 10 students per class

For more details on this recommendation please see the accompanying Digital Inclusion and Workforce Investment Plan.

Recommendation #4- Last Mile Fund

Axiom recommends raising a $100,000 fund to seed small connectivity projects across the region. This is an idea that builds on the Our Katahdin Kickstarter campaign (www.ourkatahdin.com) where small project funds are raised through an online portal right on the Our Katahdin website. In the Maine West case, Axiom suggests using this method to raise money for connectivity projects that help businesses and residents gain connectivity while building momentum of a public awareness campaign about connectivity issues and why 21st Century communications is a critical asset to helping Oxford County stay vibrant. Following are recommended guidelines for development and implementation of a Last Mile Fund.

- Projects are limited to $5000 or less, with a required match from the project recipient
- Must be related to meet a specific connectivity goal of the region, such as closing the Homework Gap
- Could be used to connect unserved homes that fit a particular profile, such as qualifies for reduced school lunch program
- Pay for HotSpots, a computer/tablet lending library, or other connectivity devices such as Mobile Mi-Fi Hotspots for home use

Axiom is confident that this approach will attract other local and regional funding and encourages Maine West to develop goals and criteria for such a fund and begin to look for funders. Small wins, and celebrating those wins is a wonderful way for regional citizens to become aware of the importance and the lack of connectivity around the Maine West region.

Recommendation #5- Leverage the willing

Axiom strongly recommends that the Maine West area prioritize projects that are most likely to succeed and help build momentum for those projects that might take a bit more time, effort and consensus building. Projects that are ready have several key ingredients that place them at the top for consideration.

- They have a funding source available to them
- Project has strong local or regional support that includes a willingness to self-fund or match a funding source
- The project meets a specific objective or goal

There are several community-level recommendations in this report that have the ingredients to move ahead in the near-term. We urge the region to aggressively move forward with these local projects and begin to demonstrate momentum with concrete and visible actions. The following section of Community Plans (Section VII) includes three examples of ambitious projects that are already underway or achievable, meet specific goals, and can help other communities learn and build momentum for a project.

By leveraging the willing, you can build a public awareness campaign that helps explain why we believe better connectivity will lead to regional prosperity and is an essential ingredient in a 21st Century economy.
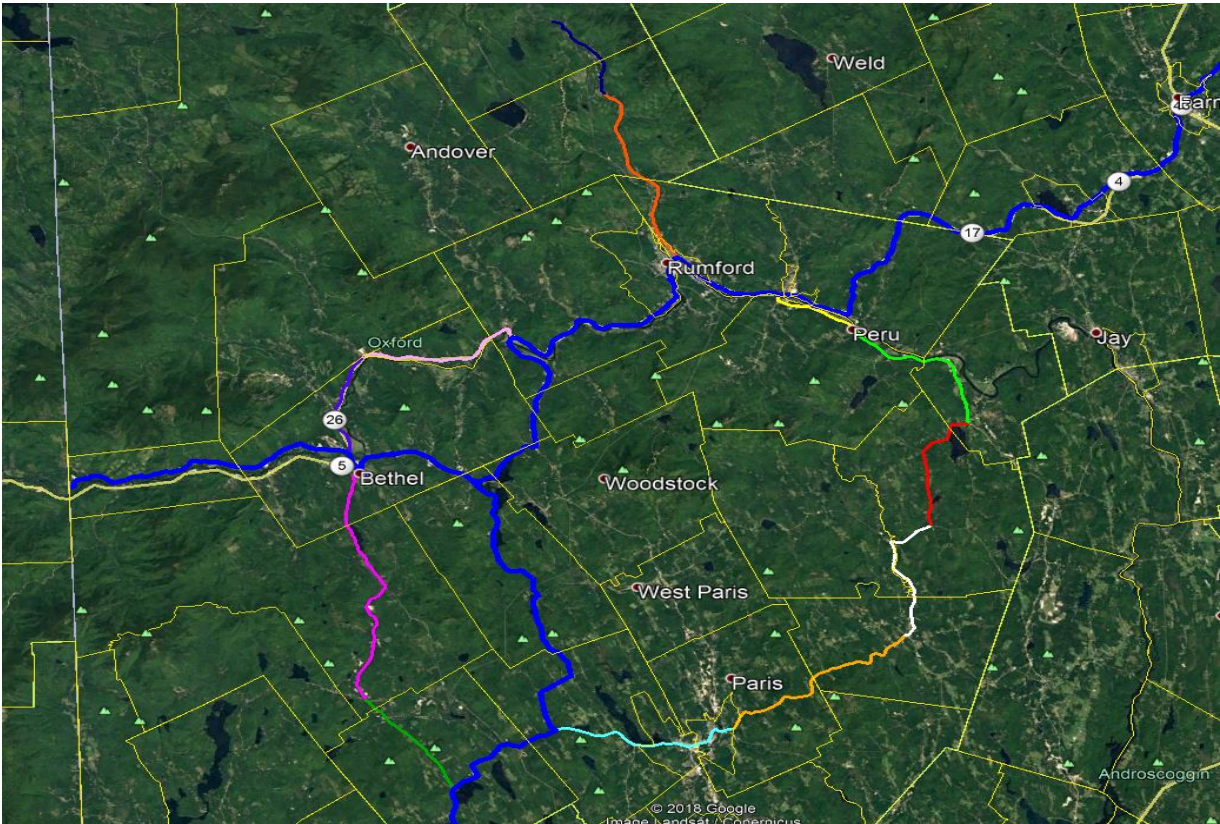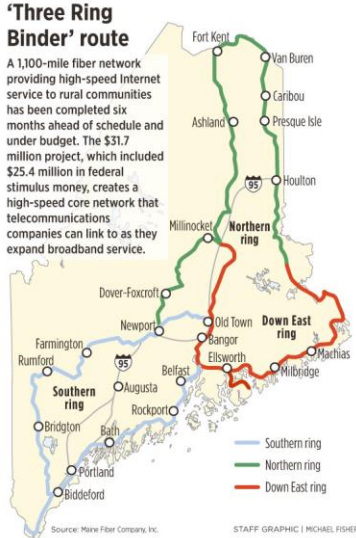
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Recommendation #6 - Open Access Regional Fiber Optic Loop

Oxford County has a significant amount of fiber optic cabling that Spectrum, FirstLight, Consolidated and GWI own or operate. However, these assets are not utilized to bring service to the home and act only as transport to service private operators' equipment and power their current technology. They do not establish fiber to the premise solutions, except in the case of individual businesses that can afford the cost of hooking up directly to the fiber.

The area is also served by the Three Ring Binder – a middle mile, high capacity fiber optic network designed to provide open access at consistent pricing as a way to level the playing field for smaller providers who do not have the capital to build their own fiber networks. The intent of the Three-Ring Binder is to create a more competitive environment where prices might come down for consumers.

'Three Ring Binder' route

A 1,100-mile fiber network providing high-speed Internet service to rural communities has been completed six months ahead of schedule and under budget. The $31.7 million project, which included $25.4 million in federal stimulus money, creates a high-speed core network that telecommunications companies can link to as they expand broadband service.

Source: Maine Fiber Company, Inc.   STAFF GRAPHIC | MICHAEL FISHER

While the Three Ring Binder (3RB) brings significant capacity to the area, it only serves part of the region, and is being underutilized to connect subscribers by other potential providers.

Axiom recommends a long-term plan to build a high capacity extension off the Three Ring Binder to expand this network to more communities and create the conditions for those communities to have open-access fiber. By connecting this new loop to the 3RB, the region can preserve open access, promote competition, dictate terms of use, and generally provide access to participating private ISPs.

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Proposed Regional Open Access Fiber Loop

In the graphic above, the 3RB is depicted in blue; the other colored lines represent the proposed segments that would need to be built to create the loop. There is one spur that would run from Mexico through Roxbury and Byron on Route 17.

While this recommendation does not deliver direct connections to homes or businesses, it provides the conditions and backbone of fiber necessary to support individual community build-outs to the premise. This is a big, multi-year project that should be viewed as an aspirational idea that might be considered if a significant federal program were established similar to the one that built the $32 million 3RB. The idea here is to extend the idea and concept of the 3RB as a regional approach that could help more communities consider fiber networks that can support near and long-term connectivity demands of the region.

Total Cost of Project:

Fiber Materials	$1,047,861.00
Fiber Labor	$1,679,195.00
Licensing and Make Ready	$598,815.00
Replacement Poles (10%)	$681,000.00
Total	**$4,006,871.00**

There are several options for ownership and management of this type of new open access fiber loop:

Public Ownership - Maine law allows a region or band of communities to come together a form a Broadband utility. This model is based on older regional cooperatives with a Board of Directors of local elected officials who would manage the system and contract out various aspects of the network operation. Recently, the communities of Calais and Baileyville have formed this type of Broadband utility to manage the construction and operation of a new FTTH project in each community that they hope to build. This is a model that is being utilized in Islesboro, where the town maintains ownership, and the cost of break/fix including equipment and has hired a network operator for a fixed yearly fee to operate the network.

Public-Private Partnership - This model can have several options, but in general public partners secure funding, an RFP would be issued for contractor services to build the network and/or operate it once it was built. In this scenario, a public-private partnership agreement (franchise) would be negotiated with a private operator who would take responsibility for the network maintenance and upkeep in exchange for operating and serving customers on the network exclusively.

Private -- This is essentially how the region is served now – a series of operators (ISPs) who deliver service based on market profitability and customer demand, with pricing and service levels entirely dictated by the ISP. In the case of the fiber loop proposal, there would be a substantial, if not entire public subsidy, for the system to be built, and an ISP would essentially take it over, either immediately or over time. This is the least risky to the towns or region, but it also offers little to no control once the system is in place and handed over to the ISP for operation.

Moving forward with a project of this scale will require a significant amount of thought and research on collaborative structures, how ownership would work, and many options within each of the three ownership scenarios listed above.

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While is an ambitious proposal, it also represents an opportunity for communities take charge of their connectivity future, to share infrastructure costs, and to provide truly high-speed, future-proof internet connective to towns and rural residents and businesses across the Maine West region.

 Axiom recommends the following steps to move this concept forward:

➢ Form a regional entity or task the regional Broadband Committee to explore all options and make a recommendation
➢ Apply for a grant to help fund such a study
➢ Begin to outreach to the communities to discuss options
➢ Look for federal funding to support the construction

For more explanation of this recommendation and a complete budget, see Appendix B Fiber Street-Level Budgets.