Board of Selectmen
Steven C. Lewis, Chairman
Dale C. Harmon, Vice Chairman
Kristina Ford
Mike Tomacelli
Desiree Scorcia

Town Manager
Daniel Bryer

Town of Boothbay
Board of Selectmen Workshop
Wednesday, July 10th, 2019
7:00 PM
Agenda

1. **Pledge of Allegiance**

2. **Public Hearing**

3. **Public Comment**

4. **Approve Minutes-**

5. **Reports-** Town Office Reports

    BOS Action Items

    1. The landscaping around rte. 27 - Dormant

    2. The Common project- Current

    3. The Umaine Aqua Ventus project - Dormant

    4. MDOT Park and Ride Facility- Dormant

    5. Potential grant for electric vehicle charging station- Ongoing

    Pending BOS Action Items

    1. Broadband- Ongoing

    2. The housing group is continuing to discuss availability of land or subdivisions near municipal water and sewer for the analysis of affordable, workforce, and elder housing options.- Ongoing

6. **Old Business-** 1. Broadband Discussion

7. **New Business-** 1. Landscape Committee re: The Common project

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8.   **Public Comment**

9.   **Review Warrants**

10.   **Adjourn Meeting**

BRIEF SUMMARY: Milestones in Efforts to Improve Broadband

1. Summer, 2018: Selectmen in Boothbay and Boothbay harbor agreed that expanding Broadband capacity was 1 of the 3 most important goals the Camoin Report suggested for improving the towns' economy.

2. August, 2018: Boothbay learned of the Maine Community Foundation's (MCF) new grant opportunity, entitled "Community Broadband Grant Program." Applications for this grant were due October 15, 2018. August 20, 2018, Kristina Ford participated in a teleconference call conducted by MCF for potential applicants to learn more details and to ask questions about the Grant Program.

3. September 4, 2018: Boothbay Selectmen hosted a meeting for anyone interested in learning about the MCF Grant, and specifically invited Selectmen from Boothbay Harbor to attend. At this meeting, Larry Sterrs (Unity Foundation) and Mike Ouellette (Axiom) presented important thoughts about Broadband expansion, and answered questions. As background for the meeting, all who attended were given copies of MCF's Community Broadband Grant Application, as well as copies of "Commentary: Market forces can't be allowed to further widen Maine's digital divide," written by Larry Sterrs, Susan Corbett, and Nick Batista. (Published in pressherald.com.) This commentary has constituted good guidance to us for expanding broadband. (All Select were given copies of these, but for the meeting on July 10, 2019, extra copies will be available.)

    Important sections of the Description of the Community Broadband Grant Program fall under the heading "Priorities" – page 2 of the description – have to do with both with what MCF would give priority to, and also gives some examples of Eligible Projects and Expenses. It's interesting to look back to what we read last August, and see that what we've done is consistent with the Description.

4. October 15, 2018: With help from several people, including Mary Ellen Barnes (Lincoln County Planning Office) Kristina Ford completed the Grant Application for Boothbay and Boothbay Harbor (joint partners) and learned it had been received. Boothbay is responsible for overseeing the grant. All Selectmen were sent copies of this, but we'll have extra copies on July 10, 2019, to review.

5. December 6, 2018: Dan Bryer, Jr., Town Manager of Boothbay, receives notice that we'd been awarded the grant, in the amount of $7,500, to be used in 2019. (A progress report is due on December 1, 2019.)

6. January and February, 2019: Various activities regarding the efficacy of business and citizen surveys. Mike Tomacelli, Kristina Ford, Wendy Wolf, and Dan Bryer worked on trying to find a more useful method of surveys, and were given help by the Island Institute. "Community Surveys" is a two-page document prepared by the Island Institute, which we found very helpful in trying to figure out a new strategy for broadband surveys. Copies of this document were given to selectmen, but we'll have more copies available on July 10.

7. March, 2019: Eventually, this work culminated in our learning that ConnectMe would look favorably upon a more targeted survey, and that actually how we approached the matter of surveys would be useful in specific terms of the MCF grant, which states (on page 2 of the grant description): "Explore creative solutions, pilot projects or new strategies which can be replicated or used as a model by other communities and regions."

8. March 13, 2019: Selectmen were given a small document by Kristina Ford, entitled "Implementation of Economic Development Master Plan," and after some discussion agreed with Ford's suggestion that we pay a knowledgeable consultant to help us determine how to improve Broadband infrastructure and its use by citizens and businessmen, and agreed to hire Mr. Tom Myette to do this work.

9. March 14, 2019: Mr. Myette gave the Town Manager (Dan Bryer, Jr.) a Statement of Work, and was told to proceed, pursuant to the Selectmen's decision on March 13.

10. March 15 – May 23: Work by Mr. Myette proceeded, and his progress was shared and guided by Dan Bryer (who attended many of the interviews with business-owners that Mr. Myette set up), and by Kristina Ford (who read emails and offered suggestions. All the emails are available – and can be reproduced if you like. The final report was delivered to the Selectmen, and is entitled "Increasing Broadband Access in Boothbay: Business analysis and Recommendations."

There are many other emails that can be shared with anyone interested, including background about copper v. fiber; and back-and-forths about existing providers. These documents, too, will be available at the meeting for review.

11. July 10, 2019: Action Item on Agenda for Board of Selectmen. The action being requested at the suggestion of Selectman Kristina Ford, is that the Board approve a second contract with Mr. Myette, so that the recommendations found in his report can be framed as an RFP to any interested providers, so that Access to Broadband in Boothbay and Boothbay Harbor can be improved. Simultaneously, Boothbay has learned that the TIF funds we have can be spent on Broadband Infrastructure, and we have also learned

that the Franchise Agreements with current providers must be rewritten and renegotiated, according to current action by Maine State Legislature. Based on his analysis as well as the latter two findings about TIF money and Franchise Agreements, we are in a position to negotiate a much improved Broadband Access in Boothbay and Boothbay Harbor. Choosing Mr. Myette, who discovered this important position and who can completely articulate it, we are in a position to Get Something Important Done.

This final statement is consistent with what Selectman Ford learned in the teleconference with MCF in August 2018: the representative from MCF said they were looking for communities that could 1) Move Something Important and 2) provide creative solutions and new strategies to leverage or match broadband service. Boothbay can do both of these, and can benefit the Harbor as well.

Boothbay/Boothbay Harbor Broadband
Business Analysis: The Problem
OmniHelios, LLC

Presentation to Board of Selectmen, March 27, 2019.

Problem, three constituent classes:

1. Residences
    a. Some streets have no broadband connections.
        i. No definitive list of this outage is in public domain (private companies know).
    b. Some residents experience "slower" connections than contracted
        i. No data to support this claim
        ii. Service perception and reality may be based on lack of education.
            1. Internal routers & wifi.
            2. Bandwidth limits with new demands (e.g. multiple streaming, HD streaming, gaming, backups).
2. Existing Commercial Users
    a. No recent polling of broadband performance.
    b. No recent polling of existing business requirements.
    c. No recent polling of future business requirements.
3. Potential Users
    a. New business approaching us.
    b. New businesses we wish to attract
        i. E.g. Software developers, call center.
        ii. E-Commerce hot spots (e.g. Town Common).
    c. Public hot spots (to promote town attractions & hospitality, direct to chamber of commerce).

Other considerations

4. Work should consider grant process requirements (e.g. Polling/surveys & public meetings).
5. "Soft" considerations including pricing models in updated 'Franchise Agreement(s)."
    a. E.g. fixed, equitable pricing per Mbps.
6. Managing multiple broadband suppliers.
7. Managing moving targets for increasing demand.
    a. New Technologies (demand/supply – e.g. virtual development/5G)
    b. Winter load vs. Summer load.
8. Education, outreach & marketing.

OmniHelios, LLC, 2019

Increasing Broadband Access in Boothbay
Business analysis and Recommendations
May 2019

Objective

Boothbay wishes to position the town for economic growth and year round jobs, and it understands that broadband performance is critical to that objective. A strategy is required to:

1. Provide adequate service to existing residential and traditional commercial customers as well as completing the grid to include competitive options that include unserved/underserved residential customers.
   a. Adequate residential service is currently defined as 25 Mbps (down) and 4Mbps up (as reported by Island Institute and based on federal standards). There are no separate standards for commercial users.
2. Support residential customers that have no service through current provider (Spectrum or Consolidated) with competitively priced options. In 2019 that standard requires a "wired" connection. Support includes development of competition through leveraging town (and willing commercial) collective bargaining strengths.
3. Develop a model of leveraging the town's assets to attract competition in service to the objectives of all consumers of Broadband in the town.

Engagement

The town of Boothbay, Maine, engaged myself, Tom Myette, and my firm Omnihelios to perform 40 hours of work toward the effort of understanding its current broadband performance levels and future broadband requirements. The recommended approach was summarized and presented in April 2019. (Exhibit DOC-1).

Summary

Boothbay broadband performance is not, on the whole, underserved. Commercial users are satisfied with response from 3 vendors (Spectrum, Consolidated, LCI/Tidewater) and there is active bidding for their accounts and experienced support for negotiating the best contracts and services. Residential users, however, and particularly those outside of negotiated "residential" standards (for example 2 pole/250 private drives), are unable to get the same service levels at the same prices.

1. Speeds up to **1Gbps** are supplied to commercial users, while some outlying residences perform below 25Mbps <u>for the same monthly fees</u>. Direct dedicated lines have been run to single use commercial customers – often passing through residential neighborhoods. Accessibility to residences is a design and provider business option.
2. Business models for commercial customers are proactive and logical, while some of the challenges facing consumers with the same exact technical requirements are draconian, obtuse and truly bizarre. There is no apparent technical, profitability, or other reason to make a business case for this disparity except a **lack of competition.**
3. Residential "exception" users outside of service standards (250'/2 poles) are apparently the most unserved/underserved based on anecdotal data. This information is considered proprietary by the current providers Spectrum and Consolidated, who provide the bulk of the broadband trunk lines to these neighborhoods.
4. Residential users are not skilled, nor have the leverage to negotiate competitive options because individually they cannot provide an incentive for legacy providers to provide competitive pricing (for buildouts) and cannot influence new entry into the market on their own
5. While the town may not have an interest in paying for Residential "exception" longer connections, the town can, and should offer assistance either contractually or strategically in broadband coverage in the area.
6. State Level funding requires expensive survey's ($150k in the case of one local town) to determine **what the providers know already: the specific locations underserved market.**
7. While Boothbay would have difficulty on the whole qualifying for state grants as "unserved" or even "underserved" given these competitors and what is locally possible for most customers, the exceptions are meaningful, and the service standards for the retail clients *impact the very local home offices most likely to need it (longer driveways on expensive properties with customers who wish to telecommute or operate home businesses part, or full time).*

The problem then, is managing resources and expectations and leveraging local strengths to address exceptions. That is - Boothbay's problem is not a general condition of underservice.

Work Strategy

Residential service levels and commercial service levels are not the same, in Boothbay and elsewhere on the peninsula but often commercial demand drives retail service levels. In order to understand the problem of the underserved, we begin with the significant businesses and their provider relationships – including the Coastal Maine Botanical Garden (CMBG) by Consolidated, the Bigelow Lab lines along Back Narrow's by Tidewater, the Boothbay Country Club/Ocean Front Resort by Spectrum, and the Washburn and Doughty line in East Boothbay also by Spectrum. Each of them has been able to get high speed fiber connections, usually dedicated to them (but not always) and are the reason why Boothbay has attracted the attention of three providers to our area (Consolidated, Tidewater, and Spectrum) and a 4th (Axiom) that is eager to enter our marketplace.

1. Interview Commercial Clients:

a. To understand current service levels and satisfaction levels of major businesses (See list 1.c). This will define the nature and scope of what is currently possible in the town as well as how we might leverage the infrastructure they are driving to better serve residential customers.

b. To determine from those same businesses (1.c) future plans and future requirements that might impact broadband demand – and to see if those businesses anticipated any difficulty in getting those services.

c. Understand, coordinate, introduce and leverage local IT experience in town wide negotiations.

2. Understand Exceptions:
a. Perform Public forums and develop simple survey.
b. Identity patterns in service gaps in "unserved" (no hard wired cable) or "underserved" residents (Note: does not include a complete residential survey).

3. Identify Strategic Opportunities to improve broadband service levels
a. Review current agreements ("Franchise Agreement).
b. Consider business models of new providers to foster competition through partnership and directed competition including leveraging financing.

4. Comply with ConnectME and other grant opportunity steps within scope of Boothbay.
a. Share information with Boothbay Harbor (and access to work, invite to meetings).

Note on Surveys: Understand of a town's "unserved" and "underserved" status is required by ConnectME and other grants to help establish funding priorities. While some towns have attempted surveys (paper, online) response for a number of reasons has not been anything more than anecdotal information (See Edgecomb). Other towns, including Tophsam/Pownal have engaged expensive audits ($150k) to perform this work – for information that already exists but is "proprietary." Since this was out of scope, Boothbay may have better options outside of ConnectME, and ConnectME is reconsidering survey requirements in light of their ineffectiveness, we have recommended the Public Forum option alone.

The Work

Principals at the 4 major commercial broadband users in Boothbay were engaged for interviews performed by Mr. Myette. In attendance was Dan Bryer, Town Manager. They included Coastal Maine Botanical Gardens, Bigelow Labs, Boothbay Country Club, and Washburn and Doughty. Summary of findings attached (DOC:) Each of these users had successfully negotiated better contracts with one of three providers: Consolidated, Spectrum, and Tidewater.

After that work, interviews with Jeff Letourneau, UMaine (MaineREN) were conducted via video conference. In attendance were Dan Bryer, Kristina Ford. Tom Woodin from Boothbay Harbor was invited, acknowledged, and chose not to attend.

Mr. Myette reviewed the Franchise Agreement with Mr. Bryer (Last negotiated 1992). Mr. Myette solicited the input of the Local Access Channel regarding budgets and the related Franchise agreement

on their operation but after repeated requests the Local Access Channel declined to agree to an interview.

Mr. Myette and Mr. Bryer engaged a local provider who competed with the current providers on the peninsula, LCI/Tidewater. There we learned of their business model (and their technical standards) and their interest in expansion. We also engaged them on some potential new services envisioned as an outcome of this Broadband initiative.

A Public hearing was held on May 9th, attended by two unserved users who run businesses on Back River Road. They took a survey to their neighbors who they said would submit information to the town Manager, Mr. Bryer for our records. We discussed their frustration with current service providers and attempts to negotiate a solution.

Mr. Myette drove Back River Road for a visual inspection of driveways and current lines.

Notes and emails summarized in this document.

Findings/**Recommendations (in bold print).**

1. Local Providers: Boothbay has at least 4 broadband options competing for clients in the region (Spectrum, Consolidated, LCI/Tidewater, Axiom). High speed fiber optic cable runs down Route 27 (multiple vendors including Consolidated & Spectrum) and Back Narrows road (Tidewater) and Back River Road.   There may be more (not in scope to audit all lines).   As a result of bidding to Coastal Maine Botanical Gardens (CMBG), Washburn and Doughty, Bigelow high speed fiber exists to three points of service that otherwise may have been underserved – and these lines are upgraded constantly as service demands increase. While some lines are dedicated (and not "looped" for connections to residences en-route) the commercial and educational services have attracted active bidding and competition in our area.
   a. *Organize, consolidate, and leverage local strengths including TIF's, large non-profit users interested in giving back to community, large users interested in attracting local employees to develop new partnerships for underserved and unserved users (See RFP below).*
   b. *Local competitors offer more attention and reasonable pricing because they do business in our back yard. They do not compare profitability models with New York, Boston or even Portland (like the big companies) where resources are directed first.*
2. Impact of Commercial Clients on local broadband service.
   a. Boothbay hosts 4 major broadband users: Coastal Maine Botanical Gardens (CMBG), Bigelow Labs, Washburn and Doughty, Boothbay Harbor Country Club.
   b. None of these commercial establishments compete with each other, all are interested in attracting employees of their own to the region (and thus interested in residential broadband service levels).

     c. All 4 commercial users interviewed were "satisfied" or "happy" with service levels and attention and all had major upgrades within the past year and were serviced by Spectrum, Consolidated, or Tidewater.

     d. All 4 commercial users interviewed have sophisticated negotiation experience that they are willing to share.

        i. MaineREN connection through Bigelow (available for limited classes of commercial users like schools, libraries and public institutions).

        ii. Support/consulting firms employed for internal design and specifications.

        iii. Professional IT staff with on the ground experience of pitfalls, negotiations, and other information.

     e. In all cases except the Bigelow/Tidewater relationship – dedicated fiber run to these businesses was apparently not reusable ("looped") for residential connections along the same line.

     f. Draw from these organizations IT experience to help negotiate future partnerships and RFP's. Include these IT professionals in a town/peninsula wide Broadband consortium.

     g. Consolidate community businesses negotiating power to include improved residential service levels and access.

     h. Ask these organizations as part of their own RFP's to require "looped" fiber as a trunk standard along public ways to their property.

3. Wifi Hot spot exists in town on the town Common. And although inside users (Point of Sale for Farmers and other markets) are aware of this it was unknown to many when this consultation began.

     a. Develop (or buy or borrow) hot spot applications that channel users through updated options to drive business to local businesses (NOTE: LCI DEMO SCHEDULED FOR JUNE 2019).

     b. Post physical signs directing users in hot spot sites.

     c. Advertise hot spot access in marketing materials, and when promoting trade shows on hot spot sites.

     d. Money from advertisers could make up in part for some lost funds to Local Community Access Channel. .

4. ConnectME. The ConnectME Authority is a public instrumentality of Maine state government whose mission is to facilitate the universal availability of broadband to all Maine households and businesses and help them understand the valuable role it can play in enriching their lives and helping their communities thrive. https://www.maine.gov/connectme/about

     a. Determining precise exceptions (e.g. long drives on Back Narrows) has cost other community's ~$150k and months to provide in order to establish "need" and there is a low likelihood that we would qualify for attention...

     b. ...Focused on "unserved" and "underserved" – which with limited exception does not apply to Boothbay community.

     c. Boothbay has other access to capital, supporting commercial users and other leverage to move faster with little financial impact.

      d. Consider grants for Hot Spot development hardware/software and managed services.

      e. Consider grants for vocational training of workforce to build out new local networks with local providers.

      f. Consider asking for state wide user educational video's (testing broadband performance or setting up wifi network as examples).

5. Public Utility Option. Some unserved and even some underserved towns have elected this option because they have felt they could not attract competition for better services from existing providers (mostly Consolidated and Spectrum).

    a. Such an approach requires (but is not limited to):

        i. Developing or hiring new town skills and resources

        ii. Upfront "build out" capital ((+2mm)

        iii. Ongoing maintenance (including disaster recovery)

        iv. Acceptance of risk of changing technologies.

    b. Boothbay is not unserved, and there is at least 1 local provider who has modern standards and resources. A public utility seems unnecessary.

    c. Boothbay has active interest to provide services.

    d. Rapid changes in industry make a Public Utility option risky – e.g. 5G impact

    e. Increasing winds/weather challenges increase maintenance risk.

    f. Boothbay's need for a Public Utility is low, the cost high, the risk higher, the service redundant, and is not worth further consideration at this time.

6. Local service performance and access. Commercial users, and MaineREN clients (Schools, Libraries and other public institutions) set potential – although some of these services are not accessible by residential users for technical (not looped) or business model (non-profits only) limitations. Residential information is considered "proprietary" to Spectrum and Consolidated providers and therefore is only anecdotal.

    a. Currently the fastest known internet speeds in Boothbay is 1Gbps down/up via Consolidated, negotiated by MaineREN, for Bigelow Labs.

    b. Jeff Letourneau at UMaine related a 50Gbps connection to the Boothbay Region High School.

    c. All 4 large broadband users are spread through town and have varying service levels, expandable to meet their needs (see **Attached DOC-2**).

    d. Unserved residential locations have only been found in areas like Back Narrow Road, where long driveways in Spectrum service areas have been quoted $10k-$16k to run lines/connections for wired (not Fiber) service levels.

        i. Adopt community vendor standards to require access to any drive less than 250 feet (or 2 poles)

7. Fiber Optic Cable. It is a misconception to believe that Fiber connections are simply about exponentially faster speeds. Other benefits include:

    a. Up time improvements (dramatic as reported by all 4 large commercial users).

        i. Particularly in wet weather.

        ii. Less static interference than wired solutions.

b. Fixed speeds – less effect/or no effect on summer traffic because of dedicated nature of Fiber broadband delivery (according to LCI/Tidewater).

c. Aesthetics (compare poles for fiber vs. coaxial and other forms of coppers)

d. ***All new builds should require Looped Fiber standard, and, the town should look at current wired connections as a liability to their broadband needs. Current service providers should be persuaded through whatever methods possible to upgrade their services to looped, fiber-to-house connections and should have a plan to do so or they should not benefit from any town business, TIF (money or zone) consideration.***

8. Local vendor vs. large vendor. Boothbay is currently served by three providers. Two are USA wide and Spectrum and Consolidated own most of the residential services.

   a. Large current providers have a working legacy system now in which they are capitalized and, presumably is making money. These large firms measure Return on Investment (ROI) against other markets as well as Boothbay where customer saturation per mile is lower.

   b. Large current providers' legacy technology is both a strategic advantage, and a consumer disadvantage since without options they are reluctant to upgrade residential connections to Fiber.

   c. Large current providers price out exception (+250 feet driveways and private roads) without competition and with legacy technology compliant with their older systems.

   d. New vendors have no legacy infrastructure and reflect technical designs that are as new, including fiber.

   e. New vendors have adopted standards (looped fiber) to attract not only the target operation (say a large commercial user) but also the customers along the way. While apparently more expensive, this business model is more transformative to new technologies for all.

   f. Local vendors are owned and operated by companies that do business locally, whose leadership lives locally, and whose business models are designed locally without comparison to large urban centers. As a result, and in comparison, they have been receptive to creative thinking, have adopted transparent pricing models, and since their buildouts are new, are dedicated to "best practices" and "long term return" business models including "Fiber to house" and "Looped Fiber" runs.

   g. A competitive marketplace between more than one providers benefits the community and all the providers.

   h. **Develop incentives to build infrastructure to promote new providers who present new technologies, transparent pricing, community interaction on jobs and giving, fair pricing of exceptions, and new competition generally.**

9. Industrial Park – currently served by fiber to Route 27 (unknown what is within park), has been unable to attract any businesses built on data use (mostly storage, dock manufacturers and metal fabricators). It currently has access to Fiber running down Route 27 (Spectrum and Consolidated).

    a. Broadband access is as much about marketing as it is access – we recommend whatever new partner commits to a built service level of 100Mgbs (up/down) to attract attention and support town promotion.

10. Education – While commercial users are trained and have the support to troubleshoot issues, identify needs, and negotiate solutions, residential users often do not.
    a. Request educational videos and other tools from providers and ConnectME to help consumers troubleshoot problems.
    b. Request educational information from ConnectME on resources for how to negotiate for new services with with providers. .

11. Jobs - should towns like Boothbay partner with new service providers, or launch initiatives to transform their broadband networks, they should consider training their own students for these good jobs.
    a. Request vocational training costs for local employees via scholarships and negotiation with all providers.
    b. Request large commercial users to include job creation and vocational opportunities in their RFP's.
    c. Request ConnectME to develop incentives for providers for job creation and vocational training as part of their grant and community support model.

12. Franchise Agreements. Boothbay's was last negotiated in 1992, and focused on Cable TV. This agreement pays for $30k per year to local access TV. Due to the loss of many cable clients, this support has eroded and local access is related to an obscure cable channel, and has increasingly relied on broadband internet models (including Facebook) to "transmit" to users. New sources of revenue will be required.
    a. Already Local access channel is being pushed to back of cable lineup – and they too have used social media/internet to reach audience.
    b. At risk is Funding (Annual $30k) which will probably dry up as the business for cable diminishes.
    c. Consider alternative channels of funding through WIFI hot spot advertising, and agreements from towns in return for access to capital and town business.

13. "Out of standard" long driveways. Current service providers have required expensive ($10-16k) buildouts of connections to longer driveways. While these driveways are often on high value properties (presuming the funds to pay these fees) they are also properties where there is a greater likelihood of a home office, or, a non-resident from an urban center who would like to spend more of their time in our community telecommuting. While it may not be in the town's best interest to assume all the costs of these exception locations – there is no reason why the town cannot help structure and negotiate fair fees from providers for the extensions. One provider in our group quotes $1/ft above ground and $2/ft in conduit – about 1/10 of the costs of the current provider.
    a. Include the cost of "exception" private driveways (over 250 feet/2 poles) in all RFP negotiations as a factor.

14. While the Peninsula has been encouraged to coordinate their efforts among the towns, nothing in this Report would diminish or overlap envisioned pieces of a Boothbay Harbor or Southport

initiative. In fact the capital improvements in Boothbay's RFP would serve to accelerate any initiatives in these towns because Boothbay serves as the broadband gateway. Coordination then would be just as effective in a modular approach as they would be if a single, peninsula RFP were envisioned – in fact the town by town RFP approach would likely be a faster solution because of unique financing options (TIFF) in Boothbay.

15. LCI's participation with attendance at meetings and their current business models (Looped fiber, fixed pricing, low "exception" costs) exist as examples of a hungry, nimble, local competitor.

Additional recommended actions:

1. Leverage town access to capital seed competition with new providers:
   a. Consider other financing options (Bonding, general fund).
      i. Identify direct investment limit
      ii. Identify "loan" limit.
   b. Consider use of existing TIF funding and other access to capital to drive town priorities (See RFP).
      i. Limits to area in design and creative planning of options.
      ii. Identify direct investment limit.
      iii. Identify "loan" limit
2. Leverage town business for negotiations of best practices and other requirements:
   a. Coordinate town offices and other municipal (E.g. Chamber, water district) Customers as one customer.
3. Leverage town knowledge and common vested interests with big users and form consortium that meets to negotiate and plan broadband initiatives on peninsula:
   a. Invite IT professionals from Big 4 users (and other growing businesses) with voting seats.
   b. Invite a representative from each town to cover interests of residents as the "5th business."
   c. Encourage Private Commercial and Public (MaineREN) contracts to adopt standards like "looped" fiber to allow for benefits to adjoining residential users.
4. Market and promote assets:
   a. Consider development of high speed access, ready to Industrial park:
      i. Industrial Park lit fiber to make market statement of Boothbay's interest in attracting data businesses. Recommend 100Gbps up/down this year.

b. Develop, buy, or acquire access through partnerships (LCI for example) access to applications that manage free hot spots to direct consumers to local attractions and businesses.
  i. Demonstration of one application from LCI planned for June 2019. Ask for other DEMO's from other potential providers.
  ii. Generate advertising sales through chamber or direct sell to businesses. Consider using sales generated to support nonprofits like Local Access Channel given anticipated declining revenue from cable suppliers (Franchise agreement).
  iii. Advertise and promote town hot spots in trade, on line, and with signs.
5. Protect Local Access Channel
  a. Redirect local hot spot application revenue in part to channel.
  b. Consider asking for financial and technical support in all negotiations.
6. Advocate "exception" property (+250Ft/2pole private drive) solutions in all negotiations – even while not paying for the exceptions themselves.
7. Jobs: prioritize local training and local hiring for build out and maintenance.
  a. Expanded needs will require an expanded workforce.
  b. Coordinate apprenticeships and training with local resources.
  c. Develop and support scholarships through local giving (private and commercial).
8. Create an RFP incorporating town priorities in return for town benefits (including capital plans via TIF) to providers (Spectrum, Consolidated, LCI at minimum) with a 60 day reply. Include (but do not limit to) priorities:
  a. Looped fiber standard.
  b. Fiber to House standard for all (no other line type from pole to house).
  c. Transparent, fixed rates over period of time (min one year) – with ACTIVE notice that the rate is going to change. New rates presented to town annually for review and approval.
  d. Transparent pricing of 2 pole/250 feet standards for buildouts and maintenance of private driveways and associations.
  e. Clear scheduled reporting through town offices for exception/unserved/underserved households (and businesses) with service standards for access including initial build out and storm/disaster recovery. Adopt "no house left behind" attitude in RFP's.
  f. 100Gbps up/down for Industrial Park into park to end of road
  g. Gifts and support (technical) to Local Access Channel and prominent placement on any controlled channel line-up.

    h. **Low cost or free access to Hot Spot software with ability to drive advertising dynamically.**

    i. **Consider finance options for TIF funds including grants as well as a low (Libor) or no interest loan repaid through a % of fees taken until loan is paid off.**

    j. **Jobs: Growth in new unserved customers, and a more rapid upgrade of technology will require new staffing. What do bidders offer in the way of local job opportunities and training including apprenticeships, financial vocational support?**

9. **Executive session negotiation strategy.**
10. **Execute negotiations with providers.**

Glossary of Terms

P.O.S. – Point of Sale system. Most local users who employ these devices over the internet keep some data locally and use a credit card company to perform the actual transaction (for security reasons). This puts traffic strain on broadband since there is much more back and forth data for a transaction.

MaineRen - was created by the University of Maine System to deliver the cyberinfrastructure necessary to participate in, and be considered for, high-technology research. As the National Science Foundation has made the ability to demonstrate appropriate levels of Cyberinfrastructure a requirement for funding, it is crucial in Maine's ability to attract and retain this high-technology research that our institutions have access to the national and international R&E community though a facilities-based RON. http://www.maineren.net/ MaineREN currently aids/negotiates-for Bigelow Labs and our local schools and Libraries (including Southport – which has exclusive access to Fiber on the island).

Fiber Optic Cable - is a high-speed data transmission medium. It contains tiny glass or plastic filaments that carry light beams. Digital data is transmitted through the **cable** via rapid pulses of light

Lit vs. Dark Fiber: Lit fiber is "managed" fiber with services running over it – "dark" fiber is just a physical line intended for competing companies to "light" with managed services. When one company owns the "dark" fiber they control the game – when a company "lights" its own fiber they are assured of control.

ConnectME - is a public instrumentality of Maine state government whose mission is to facilitate the universal availability of broadband to all Maine households and businesses and help them understand the valuable role it can play in enriching their lives and helping their communities thrive. Duties of the Authority include:

- Establish criteria defining unserved and underserved areas;
- Promote use of broadband service;
- Support broadband investment;
- Facilitate state support of deployment of broadband infrastructure;
- Collect and disseminate information; and
- Administer funds.

Mbps - **Mbps** stands for Megabits per second. **MBps** stands Megabytes per second. The two terms are similar, but**Mbps** is used to specify Internet connection speeds, whereas **MBps** is used to specify how much of a file is downloaded/uploaded per second.

Gbps - stands for billions of bits per second and is a measure of bandwidth on a digital data transmission medium such as optical fiber . With slower media and protocols, bandwidth may be in the Mbps (millions of bits or megabits per second) or the Kbps (thousands of bits or kilobits per second) range.

omni Helios

29 Mckown Street, Boothbay Harbor, ME 04538

Town Of Boothbay, Maine

Town Manager

June 19, 2019

Dear Dan:

OmniHelios proposes to write an RFP for Broadband Access in Boothbay. This work will lift the experience from our earlier analysis with the town and build other new information that has learned since that time. In addition, and because this work is undertaken under the MCF grant that intends Boothbay and Boothbay Harbor to work together, we will include a broader range of specific points some of which apply individually to each town as well as some overlapping points and objectives that should be relevant to negotiation between providers who respond to the RFP.

OmniHelios will also provide suggestions and a written strategy of how to engage potential providers. A broadband agreement does not have the same leverage as a Franchise Agreement and the two should not be confused. A Franchise agreement, mandated by the 1984 Federal Cable Act and which gives towns control over cable television access only. Broadband negotiation therefore must develop other leverage in negotiation with providers. This concept of leverage is supported by action at the State level which is promising money to towns that are unserved, and underserved – Boothbay must now compete for the attention of towns who may get this money and are in far worse circumstances. While we do not dismiss the possibility of State financial support Boothbay and Boothbay Harbor must be creative in order to kick-start competition and drive change.

This work will take an estimated 20 hours and the rate will be $100/hour. It will commence upon agreement with the town in writing, and, if this engagement begins by June 24th will be completed by July 5th.

Yours

Tom Myette
OmniHelios, LLC

FARLEY INC.

BID FOR TOWN OF BOOTHBAY

June 17, 2019

211 WEST STREET
ROCKPORT, MAINE 04856
PHONE: 236-4787
FAX: 236-8453
e-mail: bid@farleyandson.com

This is a bid. The total cost will not be exceeded unless additions are made. All prices are guaranteed for 30 days only . If you have any questions, please give us a call at 236- 4787. Farley & Son carries complete liability insurance and workman's compensation for your financial security.

Tasks

Description		#	Unit	Unit Price	Total Price
Common Area					
Installation of irrigation system for turf areas					
Notes:					
* Pricing based on assumption there is adequate water pressure of 49.2 gallons per minute @ 75psi.					
* All sprinkler products are Hunter brand.					
* Pricing does not incude backflow preventor or plumbing to Town connection.					
* Final location of water source and controller will need to be field verified and may cause additional unknown expenses.					
Stripping of all sod area, then loam and grade as necessary and install new sod					
Installation bark mulch around trees					
Notes:					
* Loam noted on proposal is a standard loam, however we recommend a sandy loam mix that is suitable for both turf growth and drainage.					
* Proposal is based on having a dump site, that will take turf scraps, within 1 hour of the Common.					
Selective pruning of estate trees along outer border of Common Area					
Installation of concrete slab 20' long x 6' wide for BBQ area					
Note: Assumes ledge will not be an issue during excavation.					
Installation of granite curbing					
Installation of drainage					
Topographic survey for grading, drainage and curbing design layout					
				Total:	$

NOTE:
* Costs based on onsite walk with Rob Wiley.
* 20% down payment due prior to project commencement, remainder to be billed monthly by percent complete.