Status of the Broadband Project in WiredWest Member Towns as of March 21, 2016

We are pleased to share significant new information about our mutual goal of bringing Western Massachusetts towns fully into the 21st century with modern and affordable internet connectivity for all. The future of our region's education, healthcare, economic development, cultural enrichment and social prospects are dependent on building this critical infrastructure in our communities.

The political landscape around broadband in Massachusetts has changed in recent months, and we have much to report. We have a very deep bench of talent in our WiredWest towns, and we have been able to modify our plans as needed to the changes in last mile policy and direction from the state. We are committed to working productively with the state while serving the interests of our towns.

We have been listening carefully to town leaders and the Massachusetts Broadband Institute (MBI) and have taken steps to address concerns raised without compromising the key benefits of the WiredWest regional network model. We remain confident in the important advantages afforded to our towns and residents from our long standing business plan and the exhaustive due diligence undertaken to develop it. Several alternative models have been developed as a result of extensive feedback and new information that has been received. It is important to note that there are numerous links to key documents throughout this update. They are an integral part of the discussion and should be reviewed in tandem with the material being presented in these pages.

Background and Context

During the winter of 2014 and the spring of 2015 the WiredWest business plan and benefits of regionalization were presented to the voters in each of the 31 towns. The key concepts of this presentation were:

1. Product Pricing
2. Product Mix
3. WiredWest Ownership of Assets
4. WiredWest oversight of design and construction

5. Potential repayment of town debt
6. WiredWest as the network operator and provider of services

Since that time, twenty four towns have already voted for the debt authorization with several more towns planning to vote during this year's annual town meeting season.

Last December, foward momentum was brought to a halt when MBI's former Director Eric Nakajima announced that MBI was withholding funding from WiredWest due to concerns about its governance and business models.

Over the past three months, a WiredWest negotiating team has engaged with the MBI to remove roadblocks in order to move forward as soon as possible with a mutually-agreeable plan. The express purpose of this exchange was to reverse the impasse between our two organizations and return to our planned collaborative implementation of a last mile broadband solution supported by WiredWest's un- and underserved member towns in Western Massachusetts. We continue to be keenly interested and committed to a genuine, two-way, good-faith, and collaborative discussion.

Our negotiating team members are:

Bob Handsaker (Charlemont)
David Kulp (Ashfield)
Holleran Greenburger (Colrain)
Jim Drawe (Cummington)
Kimberly Longey (Plainfield)
Monica Webb (Monterey)
Tom Wyatt (Warwick)

Our team was established by the WiredWest board of directors on December 19, 2015 with the charge to negotiate differences with MBI in the areas of governance, finance and technology.

To date, the following 7 meetings have been held with MBI:

1. December 22, 2015 - Westborough - focus: operating agreement
2. December 23, 2015 - Westborough - focus: business plan, capex/opex financial assumptions
3. January 6, 2016 - Westborough - focus: operating agreement, MBI consortium concept
4. January 6, 2016 - Westborough - focus: business plan, revenue model assumptions
5. January 15, 2016 - Northampton - focus: business plan, product mix and take rate assumptions, participating towns, MBI/town funds drawdown schedule
6. January 25, 2016 - Westborough - focus: business plan, Quantrix modelling tool, detailed model assumptions

7. March 11, 2016 - Florence - led by Interim MBI Director Elizabeth Copeland; focus: briefing on Baker-Polito Administration policies

The February 12th appointment of Elizabeth Copeland as MBI's Interim Director and her engagement with our negotiators on March 11th provided an opportunity for WiredWest to forge a new working relationship with the organization. It is worth noting, however, that WiredWest has worked with 5 regular or interim directors since MBI's inaugural director Sharon Gillette took the helm in April 2009. During that time, WiredWest has worked with numerous different MBI consultants, several last-mile financial models and estimates, and changes in policy. While we are eager for this opportunity, we are also cautious about the potential for a "moving target" of concerns or a backtrack on prior policy decisions or plan implementation agreements that were the basis of our business planning and modelling.

As a result of MBI's December 1st communication to towns, MBI's December 10th board meeting discussion, MBI's December 14th community forum presentations, and our 7 negotiating meetings, we understand MBI's core concerns about WiredWest business plans are the following:

1) The proposed corporate structure and its provision for shared ownership of the physical last mile network assets built in participating towns, and the potential for alienation of those assets from an individual town's debt;
2) The proposed terms and conditions for a town's withdrawal from the WiredWest cooperative (at any phase of the project);
3) The proposed source of capitalization of the WiredWest Internet Service Provider (ISP) business;
4) The sustainability of the proposed business plan, including assumptions related to product mix, take rate, and the effect of same on the proposed WiredWest ISP business profitability.

In the most recent development—a letter to town leaders, dated March 14th - the Baker-Polito Administration outlined their objectives for the Western Massachusetts broadband project as follows:

> *"Our goal is to develop and execute a strategy that will provide broadband access to the greatest number of residents possible, access available sources of financing, offer the best value for the public investment, leverage outside sources of funding and expertise where possible, and operate sustainably over time. In order to provide effective return on public investment, the Administration wants to ensure affordability and operating sustainability for projects receiving Commonwealth funds."*

The letter set forth three steps MBI is tasked to carry out to move the project forward:

1. *The MBI is analyzing and developing criteria for approving sustainable operating and governance models;*
2. *The MBI is reviewing available technologies and best practices from the Commonwealth, other states and internationally for broadband access solutions; and*
3. *The MBI is reviewing the plans and options for municipal borrowing and broadband project financing, including the exploration of potential federal loan programs.*

This letter suggests the Baker-Polito Administration's concerns about sustainability will result in MBI and MTC's revisiting of policies related to technology, coverage, pricing, outsourcing, debt service and Municipal Lighting Plant (MLP) costs, though the details have yet to be revealed. **(See [Appendix A: Key Broadband Policy Concerns](#))**

What This Mean for WiredWest Towns

It is important to note that the conditions in which we are operating are substantially changed since late 2014, when MBI and WiredWest presented a joint solution for deployment of "last mile broadband".

Indeed, in mid-2015, as 24 towns voted to appropriate funds necessary for build out of the network, private sector network operators and ISP's began soliciting town business. More recently, with the stall in progress on actual network build-out, seemingly a result of the impasse between WiredWest and MBI, several towns have begun exploring the creation of mini-regional networks together with their neighboring towns. Even very pro-WiredWest towns are understandably concerned with the delays in the project timeline and the related impacts on their residents and businesses.

Of course, towns always had and continue to have an array of options. Yet, despite some informal ideas from MBI about a "consortium model" and notwithstanding new fledgling efforts within the region to galvanize support for mini-muni networks, no organization — other than WiredWest — has an actionable plan for a regional network. Much thinking, countless pro-bono hours of time from town volunteers, and tens of thousands of dollars in consultant costs have gone into the development and third-party scrutiny of our plan (most costs of which have been paid for by MBI).

In all of these efforts, the finding is clear: no matter how you slice it, the primary objective of ***regionalization*** is the core strength of our plan. Without regionalization, the goals of access, affordability and sustainability are significantly diminished.

WiredWest In Action

Based on feedback from WiredWest delegates, town Select Boards and finance committees, and MBI, the negotiating team undertook an in depth review of our entire plan. Everything was on the table. This work broke down into three areas: governance, finance and technology.
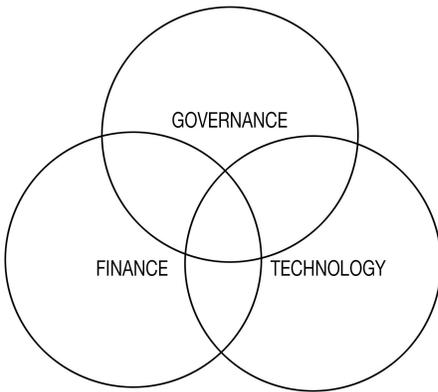
Chosen for their expertise in at least one of these areas, members of the negotiating team split into three groups and set to work. They started with an intensive review of our long standing last mile network financial model and draft operating agreement with an aim to strengthen the business plan and incorporate feedback we had received. An in depth exploration of the impact that regionalization has on sustainability was launched. A question of particular interest is what savings are available to subscribers when towns are part of a regional network. There are three kinds of savings: non-economic or intangible benefits, cost sharing, and economies of scale. This study resulted in some significant insights that are best understood by a review of several of the supporting documents provided. The effort also led to the development of alternative business models under which towns would retain ownership of the physical assets within their borders.

On the technology side, the team looked at network design issues from an engineering perspective. What would be involved in creating a regional network that accommodates towns entering and exiting with relative ease? How does this differ from a purpose-built regional network not focused on ease of exiting?

The combined efforts of the team were designed to address key concerns raised about WiredWest's solution to our regional broadband need.

- Is there any flexibility in the implementation of the WiredWest Plan (a.k.a. Plan A) that would mitigate the major concerns expressed by towns? *The short answer: yes.*
- Can WiredWest imagine any other scenarios that are consistent with our mission and core values that leave ownership of the network assets with the towns? *Also yes (but with caveats).*
- WiredWest has long asserted that when compared to a single town network like the Leverett model, a regional network is the most financially efficient and sustainable model for supplying broadband services. Tools and models created by analysts on the team offer a data driven answer. *The answer: yes, a regional model is cost effective and beneficial to all participants.*

Here is a review of work in process:

Changes to Plan A, WiredWest's Original Plan

1.   Changes to Operating Agreement

At the January 9th WiredWest board meeting, member towns were informed that the deadline to execute the proposed operating agreement was suspended until the negotiation process with MBI was complete. We see the operating agreement as iterative and expect additional changes as a result of further discussion with Select Boards and negotiations with MBI.

Four major changes to the operating agreement were made between November and January in consultation with town leaders, town counsel and MBI, These are summarized in timeline format along with a link to the most recent version of the Operating Agreement, dated February 10. (**See Appendix B-1: Operating Agreement - HIstory and Timeline**)

Additional modifications to the Operating Agreement have been contemplated, but not formally proposed, by the board and recommended by the negotiating team. These include:

- Language to prohibit the use of network assets as collateral
- Language to allow towns to withdraw with network assets
- Language to clarify dissolution of WiredWest and transfer of assets
  (**See Appendix B-2 - Operating Agreement - Outstanding Issues**)

2.   Changes to Financial Model

In 2012, WiredWest created a financial model to evaluate the viability of a municipally owned regional broadband cooperative. What has come to be known as "Plan A" has been continually refined and updated as new information became available. Input from consultants, peer reviewers and MBI was incorporated into the model over the years.

On December 1st, MBI released a report, prepared by Wipro Technologies, that raised specific issues relating to WiredWest's financial assumptions and financial model. (Note that the Wipro report was based on an incomplete and not then current version of the WiredWest business plan.) These issues were reviewed during joint meetings held between WiredWest and MBI on December 23 2015, and January 6, 15, and 25 2016

Two major outstanding issues are worth specific attention: Start Up Costs and Take Rates & Product Mix.

Start Up Costs
With respect to startup costs, MBI expressed concern about WiredWest's plan for startup funding for the ISP and network operations that would be part of the initial borrowing

authorization approved by each town and that would be contributed by towns concurrent with construction schedules. The town meeting articles for borrowing authorizations included language providing for startup costs and, in our projections, sufficient funds are available for startup costs based on the not-to-exceed construction cost estimates. This is primarily based on the assumption that construction cost savings will be reduced because drops will only be made to those premises that subscribe to internet service. Furthermore, WiredWest recognizes that startup costs can be separated into those necessary expenses realized by any owner of a fiber-to-the-home (FTTH) network (pole licenses, insurance, etc.) and those costs that are specific to starting an ISP service business. We are currently revising the detailed projections for these startup costs by category and type. Ultimately, how startup costs will be funded remains a point to be resolved.

Take Rates and Product Mix

With respect to product mix take rates, there are some differences of opinion regarding reasonable "take rate" projections (percentage of residents taking service) and the mix of products WiredWest projects these customers will take. WiredWest drew heavily on third party market research and product preference information derived from its more than 7,000 pre-paid customers to form its projected take rate scenarios. MBI has, in general, suggested more conservative take rate assumptions and an analysis of what adjustments WiredWest would need to make to product pricing if the actual take rates fall below our projections.(**See Appendix C: Product Take Rate Scenarios**)

It is worth noting that Wipro's most conservative product and data tier mix assumptions indicate a 49% minimum take rate is required to cover all operating costs and that the minimum take rate required to cover all operating costs and repay all town debt service is 79%.

Our conversations with MBI and the Wipro consultant have also provided access to additional industry data and have suggested additional places where we feel we should review and possibly adjust our proposed operating plans:

Pricing Strategy. WiredWest may want to consider offering fewer service tiers and adjust the price point and performance level of the tiers. The goal of the pricing strategy is to maximize WiredWest's ability to cover the town's debt service obligations while making the service affordable to as many of our residents as possible.

Television Service Revenue. WiredWest should perhaps reduce or eliminate any assumed television service revenue required to achieve break even. This is with respect to a "bundled" television offering, using a traditional set-top box, not "over the top" streaming video which would be available to any internet subscriber.

The market conditions for small cable TV companies and other small television providers are extremely challenging at present and the market is shifting rapidly. MBI has suggested more conservative financial projections around television revenue. In addition, due to the changing

market conditions, it may be prudent for WiredWest to take a "wait and see" posture towards offering a television service and consider whether this still makes sense closer to when the network is operational.

Evaluation of Current Plans

1.   Simplified Modelling Tools

The Quantrix licensed subscription software tool initially recommended by MBI in 2014 for WiredWest's use has proven to be highly complex, expensive to use and therefore difficult for town officials to evaluate. To address this issue, we have created an excel spreadsheet that captures a high level view of the cost side of the WiredWest business model. The spreadsheet is interactive, allowing multiple scenarios to be evaluated as well as the cause and effect of changing financial assumptions (e.g. number of towns, take rates, seasonality, debt coverage, op-x cost drivers, etc.).

The business is modeled at full operation; the model does not include startup cash flow. Assumptions about pricing tiers and product mix are not currently modeled, but the revenue-per-subscriber to break even can be used to compare different models and scenarios. The excel spreadsheet model uses current dollars, as recommended by MBI. Note that we have supplied a brief "how-to" explanation of how to use the spreadsheet. (**See [Appendix D-1 Explanation of Model Comparison Spreadsheet](#)**; and **See [Appendix D-2: WW Model Comparison Spreadsheet](#).**)

The key difference of the simplified model compared to the Quantrix model is that the spreadsheet does not include the startup expenses represented primarily in the first 60 months. This allows for a simpler comparison of outsourcing scenarios.

We think that a non-profit regional ISP business, at sufficient scale, could save up to $10 per subscriber per month. With approximately 10,000 subscribers, an equivalent of $1.2M per year —or $24M over 20 years — would make a significant dent in the participating town debt.

2.   Risk Analysis

WiredWest formed a Risk Analysis committee in December, 2015. The committee members are:

Bob Labrie (Goshen)
Larry Klein (Monterey)
Lark Thwing (Hawley)
Jeremy Dunn (Becket)
Jim Drawe (Cummington)

The Risk Analysis committee has met five times since December to identify and analyze the risks of our proposed business plan and to determine risk mitigation strategies. First, each risk is evaluated as real or perceived. Real risks were then ranked as high, medium, or low probability of occurring. Each risk was then evaluated to determine if it could be mitigated or prevented from occurring. Any unmitigated risks would need to have a plan developed to react to the situation, should it occur. Risk analysis work is ongoing, but the most recent report can be found in the committee's minutes on the WiredWest website.

Introducing Plans M and B, Alternatives to Plan A

Plan A calls for towns to sign over all network asset to the cooperative. Under its MLP governance structure, WiredWest considers itself an instrument of the towns and therefore ownership of the assets by the cooperative is tantamount to town ownership. Some towns have fully embraced this concept. Others are not comfortable with this plan for a variety of reasons. Some issues could be resolved by changes in the Operating Agreement. But for some towns the objection is philosophical.

To address these concerns, the negotiating team convened several in-depth presentation and feedback sessions at WiredWest board meetings held on January 9, February 6 and February 27 2016 in order to review potential modifications to WiredWest's long standing business plan and shared those ideas with MBI. We urge town officials to study our thinking on alternative models. This could be a very fruitful topic for face to face meetings. (**See Appendix E: WiredWest Plans Pro Con + Comparisons**)

The Benefits of Scale: A Data-driven Analysis of Regionalization

From it's earliest days, WiredWest has advocated for a municipal regional broadband network.

> *Our mission is to – as expeditiously and prudently as possible – plan, build and operate a community-owned, fiber-optic network that enables the provision of comprehensive, affordable, reliable and high-quality internet, phone, video and ancillary services to all residents, businesses and institutions who are interested, in participating WiredWest towns.*

Our advocacy for this approach is based on the conviction that a regional network, owned by our towns, with no profit extracted, will deliver the most efficient, cost effective broadband service to our residents. While it is generally accepted that regionalization has economic benefits, until now we have not been able to quantitatively support this assertion as it applies specifically to WiredWest member towns. We now have the tools to do so.

Interactive Application to Study Effects of Regionalization on Subscriber Costs

In an effort to help our member towns understand the differences between a fully insourced and an outsourced business model we also developed an interactive application to examine the impact of regionalization on subscriber costs, MLP fees, and debt coverage potential by comparing single town, multiple towns and large regional buildouts. The outsourcing exercise provides a high-level way of comparing the financial costs of insourcing versus outsourcing and highlights the advantages of a regional approach. (**See [Appendix F: WiredWest Evaluation of Outsourcing Impacts and Regionalization Benefits](#)**)

Even with an outsourced service scenario a regional approach provides a means to affordably bring FTTH to sparsely populated towns at an overall cost that is much lower than those towns could achieve independently. Additionally, the increased cost to a very few larger towns tends to be relatively small compared to the large savings for the smaller towns.

Edge Issues

For various reasons related to geography and historical utility installation, some premises in many of our towns receive their utility services from poles that connect to a neighboring town. This fact can create complications for bringing service to these households. We call these cases *Edge Issues.* WiredWest has inventoried these cases in all our member towns and compiled it in the attached draft spreadsheet. This information will be valuable when it comes time to create detailed network designs. It is also useful today to better understand the relative importance of regional (multi-town) design considerations and whether shared ownership or individual town ownership would affect edge issues. (**See [Appendix G: Edge Issues](#)**)

Where Towns Stand on WiredWest

In late January, the Outreach Committee conducted a survey of 31 member towns to verify their readiness to proceed with WiredWest's proposed last mile solution. Respondents were asked, among other things, to rate their towns level of support and identify the status of their debt authorization votes.

Survey results showed that eighteen towns are strongly in support of WiredWest's solution for shared ownership of a regional fiber network; 5 towns that are seriously considering WiredWest's solution but have not ruled out other options; 6 towns that are actively pursuing other options, but have not ruled out the WiredWest solution; and 2 towns (Montgomery and Tyringham) indicated the weakest support for WiredWest. (**See [Appendix H: Town Survey](#)**)

Status of Town Debt Authorization Votes
During the winter of 2014 and the spring of 2015, the WiredWest business plan and benefits of regionalization were presented to the voters in each of the 31 member towns. During the 2015

town voting season, 24 of these towns authorized bonding indebtedness to bring fiber to their towns.

There is a generally informal understanding in some towns that borrowing authorization was based exclusively on the facts of the WiredWest business plan at that time. While details of financial plans continued to naturally evolve with feedback over the last year (such as the refinement of operational costs and the adjustment in the necessary break-even take rates) and the governance structure (a limited liability corporation) was introduced to towns in the fall, there is nevertheless recognition that straying too far from information presented last spring may require a reconsideration of authorization by voters in some towns. Thus, there is a natural tension between the desire to minimize change and the importance of responding to changing conditions. How this may impact the decision making process in each town as the process continues to evolve is worth following closely.

Wired West Values and Benefits

The effort to address MBI's concerns has resulted in a re-evaluation and re-clarification of our core values along with a deepened awareness of the drivers of our member town interests and positions.

Values

Sustainability: At the basic level of any business operation, sustainability is defined as revenues sufficient to cover all costs, including costs of goods sold, operating expenses, depreciation, and debt service. Our project also factors in *town, community and regional* sustainability.

WiredWest's proposed vertically integrated municipal broadband network provides the highest and best chance for profits from network operations to be retained and distributed for the benefit of the network owners (the towns). Once the project has achieved scale and after the town debts are repaid, profits will continue to be generated and distributed to the network owners (the towns). The project will enable ongoing re-investment in the towns. In essence, this proposed plan is akin to a *regional enterprise fund*, with the potential for small, cash strapped, communities to retain revenue that would otherwise flow out of the community.

Ubiquitous (a.k.a. universal) coverage: Broadband will be available to anyone who wants it, no matter their location in a given town. Our plan, and the MBI "cost not to exceed" capex cost estimates assume that the last mile solution can reach every home and business that wants service in the target area towns. Anything less is not a reasonable use of public investment.

Affordability: Costs to subscribers must be affordable to the largest portion of residents as possible and the cost to towns must be low (including tax-impact & attempt to mitigate). Subscriber affordability is closely linked to sustainability, as the more residents that can afford to subscribe, the wider the revenue base supporting the network.

Future Proof: Fiber to the premise is by an order of magnitude the most future proof broadband technology available. The private sector is investing in this solution, we should too. We need a network that will last a long time and be capable of highly scalable, economic upgrades as demand for broadband increases.

Community Control: With towns putting up the majority of the cost and on the hook for backstopping cost overruns, community control during the design, engineering and construction phases of the project is paramount. Participating towns have a clear and direct role in governance and oversight of the WiredWest organization, to ensure policies represent the best interests of our communities and our region.

Public Good: Although not formally on the list of WiredWest's core values, in conversations with our towns there was a recurrent theme that the public investment should be made on a region-wide basis to maximize the public good. Anyone who has looked at the issues surrounding rural broadband will realize that private sector solutions inevitably suffer from cherry-picking: the most economically advantaged areas receive the best services at the lowest prices, while other citizens get left behind. Many of our towns believe a regional non-profit model is the best way to maximize the public benefit from the use of these public funds.

Our member towns recognize the intersectionality of these values (e.g. ubiquitous coverage affects size of subscriber base; product offerings and pricing affects take rates; and type of technology deployed affects both capex and opex costs; and all of these affect sustainability). As a result, it is difficult to rank order of importance.

Benefits

There are many intrinsic, tangible and intangible benefits to towns participating in a regional broadband network.

WiredWest is currently comprised of 44 towns, though 31 member towns (all unserved) are considered to be active members. Several towns (including the town of Leverett and the partially served cable towns) remain members of our Co-op despite their exploring or actually implementing other options. They do so in order to remain abreast of broadband developments within the region, across the nation, and with MBI.

As discussed, we anticipate re-formation of the WiredWest cooperative to include only those towns that will be participating in a regional network build out. Once we reach agreement with MBI and are back on track, we expect at least 18 to 24 towns to be involved at first, with potential for 29 towns to be on board before the project is completed.

Pooling Risk: The total potential subscriber base for the region is 16,655 premises. Most of the WiredWest member towns have 400 to 900 households, with projected subscriber bases

between 200 and 700 households. Operating with a small customer base inherently increases risk and can result in higher costs per subscriber. Aggregation of subscribers can decrease costs and increases the potential for sustainability. A regional approach provides a means to affordably bring FTTH (Fiber-to-the-Home) to sparsely populated towns at a cost that is much lower than such towns could achieve independently.

Pooling Expertise: Any municipal telecommunications operation, be it one town or a regional network, must make important decisions that require a breadth and depth of leadership expertise specific to telecommunications, including financial, legal, sales and marketing, organizational and technical knowledge. Most of WiredWest member town's capacity to project manage during design and engineering (D&E) and construction is limited. Indeed, the labor to effectively interface with MBI and its agents and contractors is nearly the same for one town as it is for dozens of towns acting together. Our member towns see clear tangible value in working through formal cooperation. They know they will have more input and influence when acting together. They also want to minimize reinventing the wheel and do not want to overburden limited town administrative capacity.

Summary

MBI's early December critiques of WiredWest's business plan have provided an opportunity for our organization to re-assess and re-evaluate our interests and positions. We believe the work presented here demonstrates that we have taken excellent advantage of this feedback and have used the time productively to strengthen the existing business model and to explore other options. However, we recognize WiredWest and MBI still have significant issues to resolve.

It is clear that significant loss of momentum has resulted in confusion and frustration at the local level of WiredWest member towns, as well as more generally within the Western Massachusetts populace. This lack of progress has negatively impacted our town residents' trust in and patience with both WiredWest and MBI. Each day that passes without broadband in our rural communities is another step on the downward spiral of population loss, elementary school closings, economic opportunity disparity, high cost of public administration, and all of the other negative consequences of a deep digital divide.

We will be making our best effort to reverse the understandable and widespread loss of confidence. Our objective: to use our newly gained insights and proposals, and the tools we've developed, to engage the leadership in our towns and strive for consensus on the best way forward to achieve our shared goals. We look forward to a productive round of discussions.

Appendices

Appendix A   **MBI - Key Broadband Policy Concerns**
Appendix B-1   **Operating Agreement - History & Timeline**
Appendix B-2   **Operating Agreement - Outstanding Issues**
Appendix C   **Product Take Rate Scenarios**