Massachusetts Technology Collaborative
Massachusetts Broadband Institute

Western Massachusetts

Call for Solutions

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1.1. Executive Summary

On August 4th, 2008, Governor Deval Patrick signed HB4864, "An Act Establishing and Funding the Massachusetts Broadband Institute." This legislation created the Massachusetts Broadband Institute at the Massachusetts Technology Collaborative and authorized up to $40 million of bond funding for the associated Massachusetts Broadband Incentive Fund. The purpose of the Institute and the Fund is to achieve the deployment of ubiquitous, affordable broadband access across the Commonwealth. Specifically, the objectives of the Institute are to:

- Assess and improve broadband access conditions in communities that have no access or have limited or insufficient access to broadband;
- Promote robust broadband access for essential state and local governmental services including, without limitation, public safety, health and education;
- Promote increased availability of, and competition for, broadband access and related services; and
- Create conditions that will encourage economic competitiveness and growth.

The legislation states: "That the first priority of the institute shall be to assess and improve conditions in the commonwealth's communities that have no broadband access." Nearly all of the Commonwealth's communities with no broadband access, including Goshen, where the bill was signed, are located in the four western Massachusetts counties (Berkshire, Franklin, Hampshire, and Hampden). Accordingly, the first focus of the Institute is on closing broadband gaps in western Massachusetts.

The first step towards closing those gaps is the Institute's issuance of this Call for Solutions – a process that enables broadband service providers and other interested parties to understand the MBI's financing and operational structure and, within it, to articulate practical, sustainable solutions that will result in affordable, robust broadband access throughout the western Massachusetts region. The intent of the Call for Solutions is for the Institute to initiate a dialog with the private sector and thus to inform the creation of a public and transparent solicitation process for the deployment and management of broadband networks serving un-served citizens and businesses of western Massachusetts. The Call for Solutions is intended to identify organizations that are capable of implementing proposed solutions targeting the lack of broadband in western Massachusetts. This Call for Solutions and the subsequent steps in the solicitation must identify organizations that are adept at leveraging additional private and public investment. Ultimately, the Call for Solutions will garner specific and informed recommendations as to an optimal role for the Institute in a public-private partnership which addresses the immediate challenge while establishing sustainable solutions capable of meeting the needs of future generations. Additionally, this entire solicitation process will place a premium on those organizations that are capable of building and operating sustainable business models.

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1.2. Introduction and Background

Today, significant portions of western Massachusetts lack access to broadband Internet services. This lack of access impedes government operations, economic development, education, healthcare and public safety. According to an assessment conducted in 2007[1], 32 towns in Massachusetts had no access to broadband and 63 towns had only partial service. While broadband access is common throughout other areas of Massachusetts, thousands of citizens and businesses have been by-passed as

[1] MTC's John Adams Innovation Institute. "Broadband Availability in Massachusetts Municipalities, June 2007." Massachusetts Technology Collaborative. June 7, 2007.

unattractive market opportunities to broadband providers. Despite a decade of technological advances in other regions of the Commonwealth, these communities lack the necessary infrastructure that would enable them to experience the benefits of always-on, high-speed Internet connectivity.

On August 4, 2008, in Goshen, Massachusetts, Governor Patrick signed into law HB4864, "An Act Establishing and Funding the Massachusetts Broadband Institute." This legislation establishes the Massachusetts Broadband Institute to manage a newly created Massachusetts Broadband Incentive Fund, capitalized through the issuance of general obligation bonds. The Institute operates as a new division under the Massachusetts Technology Collaborative.

At their first board meeting on October 3, 2008, the Board of Directors of the Massachusetts Broadband Institute endorsed the issuance of a Call for Solutions, allowing the Institute to engage in a dialog with the marketplace in order to inform the subsequent public and transparent solicitation processes for the deployment and management of broadband networks serving un-served citizens and businesses of western Massachusetts. The intent of the Call for Solutions process is to enable interested parties to understand the MBI's financing and operational structure and, within it, to articulate practical, sustainable solutions that would result in affordable, robust broadband access throughout the western Massachusetts region. The MBI requests that all interested parties - including current or potential future providers of broadband services in Massachusetts, consumer or civic organizations, and commercial business or non-profit entities or groups - submit concept papers which outline a technical model and corresponding business model that can (1) meet the needs of un-served western Massachusetts citizens and businesses today; and, (2) establish the foundation for meeting the needs of future generations of western Massachusetts citizens. Respondents should assume that significant state resources will be invested by MBI in one or more public-private partnerships with the goal of eliminating the current broadband access disparity.

Historically, the MTC's John Adams Innovation Institute has been an active participant in regional broadband efforts. In May 2006, the Innovation Institute developed a broadband initiative to support the formation of innovative public-private partnerships designed to pursue the goal of fast, affordable and ubiquitous connectivity throughout Massachusetts. These recent efforts built upon more than a decade of work, begun in 1997 with Berkshire Connect, in collaboration with regional broadband coalitions and the private sector. These efforts have affirmed that there is no "one size fits all" approach.

Today, the legacy of the Innovation Institute's broadband initiative is being transitioned into the Broadband Institute. The strategic goal of the MBI will be to facilitate fast, affordable and ubiquitous broadband access to enable all of the Commonwealth's citizens to achieve and secure the educational, safety, healthcare, and economic outcomes that are commensurate with living in one of the most technologically and economically advanced regions in the world.

1.3. Purpose of this Call for Solutions

With this Call for Solutions, the Massachusetts Broadband Institute seeks to:

- Educate potential partners regarding the financial and operational structure within which the Massachusetts Broadband Incentive Fund will operate, pursuant to the legislation that created it.
- Identify ways the Broadband Institute can support practical, real-world solutions for eliminating the lack of access to broadband infrastructure for all un-served citizens and businesses in the western Massachusetts region.

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- Understand the views of existing companies and other organizations on the most appropriate and feasible technical and business models that can and should be used for the deployment and management of broadband networks serving un-served citizens and businesses of western Massachusetts.
- Collect relevant information on these models and how they have been implemented in other projects in the Commonwealth or in other similar areas of the United States.
- Identify organizations that are capable of implementing these proposed solutions and adept at operating sustainable business models which leverage public sector investment.
- Initiate and engage in a dialog, principally with firms and/or collaborative partnerships that may participate in any related public and transparent solicitation process for the deployment and management of a broadband network serving un-served citizens and businesses of western Massachusetts.
- Facilitate the formation of collaborative partnerships between companies with similar perspectives.
- Communicate the overall goals and objectives of a project to bring broadband access to un-served areas of western Massachusetts.
- Garner specific and informed recommendations as to the Broadband Institute's optimal role and timing in such an effort.
- Inform the development of a solicitation process that will select participants in the deployment and management of a broadband network capable of serving un-served citizens and businesses of western Massachusetts.

1.4. Proposed Financing and Investment Structure

An expenditure made by the Broadband Institute will be bound by unique financing structures that impose certain restrictions. As an initial matter, it is important to note that the Broadband Institute is a public entity and therefore its activities and investments are subject to many public entity legal requirements (as more fully articulated in its enabling legislation), such as requirements concerning public records, public procurement, public construction and conflicts of interest. Further, the Broadband Institute's investments will be funded by proceeds from the issuance of general obligation bonds. The use of these funds will be subject to the following requirements and parameters:

- All investments will be used to acquire durable, long-lived capital assets such as towers and fiber-optic cabling.
- The Commonwealth or another public entity will be required to hold title ownership of the asset or infrastructure that is constructed or procured with bond resources.
- The bond money will not be used for grant or loan assistance for municipal solutions, but rather will be expended on regional network infrastructure.
- While there is no presumption that the Institute requires a monetary return on the Commonwealth's investment, it will likely require that some portion of revenues derived from operation of a broadband network be reinvested to ensure the Commonwealth has achieved an enduring and sustainable solution.

In expending public money towards the expansion of broadband in Massachusetts, the Commonwealth and its departments, agencies, and quasi - public affiliates:

- Will not become or operate as a broadband service provider.
- Will follow the applicable laws governing the procurement, construction, and use of publicly-owned capital assets. The Institute will use open, transparent and competitive solicitation processes to select the best private sector participants to construct the assets and to operate the network in order to reach un-served citizens.

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- Expect that private sector participant(s) will be financially and operationally responsible for the end-to-end operation of network solutions. This may include managing, upgrading, and maintaining the assets that the Commonwealth or another public entity will own.
- Will put monitoring and evaluation programs in place to ensure that publicly financed assets are being utilized in a manner consistent with that outlined in the public solicitation process and remain consistent with the Broadband Institute's fiduciary responsibilities.
- Recognizes that there are significant, long-term economies of scale to be gained through a regional approach, as opposed to municipality-specific approaches.

1.5. Goals and Objectives

The MBI seeks to maximize the overall public impact from an expenditure in broadband infrastructure in western Massachusetts. The MBI believes the following objectives are important to achieving this level of impact:

- A robust, affordable broadband infrastructure that reaches all un-served citizens and businesses in western MA.
- Partnerships with one or more private sector service providers that make broadband available at bandwidth and pricing that is consistent with markets in eastern Massachusetts and capable of uniquely positioning the region for enhanced service and bandwidth offerings.
- A network that supports business, residential, and government services.
- A network which is in part or whole available to other commercial providers at wholesale market prices.
- A sustainable business model in which the service provider is able to continually reinvest without the need for additional capital from the Commonwealth.
- Leveraging the greatest amount of additional capital possible, whether private, federal, or other. The Broadband Institute seeks significant private and other public investment to participate alongside its own capital.
- A solution that applies public investment to those elements which align with the Broadband Institute's intent to own long lived, strategic, and enduring assets.

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1.6. Key Questions for Respondents

The Institute wishes to understand different conceptual approaches to solving the broadband availability problems in western Massachusetts, keeping in mind the stated goals and objectives listed above. Specifically, the MBI is interested in an approach that weighs any potential tradeoffs that may need to be made in meeting the stated goals and objectives. The "Solutions" should describe the most appropriate technical and business models that can meet these goals as well as clearly demonstrate the economic feasibility and sustainability. Respondents should articulate the following:

TECHNICAL MODEL AND APPROACH

- What technical approach is most appropriate and why?
- What specific services and product offerings will be available beyond entry level, commercial Internet access (e.g. video, telephony)?
- What service and speed levels are achievable with your conceptual approach?

BUSINESS MODEL AND APPROACH

- What business models should be used or considered in the deployment of broadband?
- What conditions and services are necessary for a sustainable business model?

- What are the implications of mandating that the Broadband Institute's expenditures be used to fund a network that is in part or whole available to other commercial providers at wholesale market pricing? How should those wholesale market prices be set?

SERVICE AREA

- Can your conceptual approach reach all un-served citizens in western Massachusetts?
- If your conceptual approach can not reach all un-served citizens of western Massachusetts, in what towns and areas would you expect to deploy a broadband network, and what percentage of households would you anticipate serving?

PARTNERSHIPS

- Could your organization provide end-to-end services or would it partner with other organizations?
- How would you envision and arrange such partnerships?
- What role should the Broadband Institute play with regard to inducing or enabling the formation of partnerships?

FINANCING

- What long-lived assets would it be appropriate for the state to invest in, and which privately-owned assets will complement that state investment?
- What investment structure is appropriate and why?
- How and on what terms should the Broadband Institute structure the deployment of the publicly owned assets for use by participants?
- What is your perception of the Broadband Institute's financing structure for investing in and owning assets required to serve un-served areas of the Commonwealth?
- What other sources of capital are available to support your conceptual model? How much capital is required to implement the proposed conceptual approach?
- What experience do you have in raising capital from these alternative sources?

PUBLIC ROLE

- How should the performance of the Broadband Institute's investments be monitored?
- What reporting requirements are appropriate for service providers?
- What public sector demand evaluation and stimulation efforts are appropriate?

OTHER

- What provisions should be included in the agreements to build the necessary infrastructure?
- What provisions should be included in the agreements governing the use of the infrastructure?
- What are the essential questions that must be resolved for the respondent so as to better inform them on the applicability of various solutions?
- What are the non-financial constraints to network deployment?
- What information can you provide to give the Institute a better understanding of where specifically broadband is currently available and where it is soon-to-be available?
- Are there other deployments or models used in other areas of the country or globe that could be applicable to the situation and challenges in western MA?

1.7. "Solution" Requirements

A "Solution" will be read only if it includes a fully completed **Cover Page** (See attachment A).

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The **Solutions** should address as many of the above questions as possible. Responses should be formatted using the same headings as Section 1.6: Key Questions for Respondents. Respondents are welcome to address as many or as few of the questions to which they feel qualified to respond. Respondents are also encouraged to contribute additional ideas and thoughts on topics not included above, but which the respondents feel are important for policy makers to address or be aware of. There are no requirements with regard to length.

1.8. How Responses Will Be Used

Responses to this Call for Solutions will be used to develop and execute the processes needed to make investments in western Massachusetts. This process will also help identify potential partners and interested parties, and the insights will be incorporated into reports and planning documents which are provided to elected officials and policy-makers. Responding to this Call for Solutions is not a prerequisite for participation in any future solicitation process.

1.9. Submittal and Deadline

Respondents may submit their Solutions at any time prior to the deadline stated in section 1.10 below. Please submit your response as prescribed in attachment A.

All questions regarding this Call for Solutions should be submitted to broadband@masstech.org according to the schedule listed below. Responses to questions will be posted on the MTC website according to the scheduled listed below.

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1.10. Schedule

Listed below are important dates by which actions related to this Call for Solutions should be completed.

EVENT	DATE
Release of Call for Solutions	October 6, 2008
Deadline for Questions	October 30, 2008
Responses to Questions Posted by	November 5, 2008
Solutions Due from Respondents	November 14, 2008

1.11. Other Important Information

This Call for Solutions does not commit the Broadband Institute, or MTC, to award a contract, issue a Purchase Order, or to pay any costs incurred in the preparation of a proposal in response to this request. The "Solutions" will become part of the Massachusetts Broadband Institute's files without any obligation on the MBI or MTC's part. **All Responses will be made publicly available on the MTC website www.masstech.org**.

For additional information and resources provided by the MBI please visit: http://www.masstech.org/broadband/index.html

Attachment A

RESPONSE FORM AND INSTRUCTIONS

In order for your response to be reviewed and considered, the "Solution" must contain, at minimum, the following:

- ☐ Completed Cover Sheet (all questions answered)
- ☐ "Solution" Articulation

Delivery Requirements:

Please submit:

☐ 2 Printed copies or on CD to:

Massachusetts Broadband Institute
C/o Massachusetts Technology Collaborative
75 North Drive
Westborough, MA 01581

AND

☐ 1 Electronic version
- o emailed to broadband@masstech.org

By:
November 14, 2008

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REMINDER:
Any information or materials submitted to MTC in response to this Call for Solutions will be made publicly available through the MTC website (www.masstech.org).

Solution Cover Sheet

Name of Respondent Organization			
Warwick Broadband Committee			
Mailing Address	**City/Town**	**State**	**Zip Code**
555 Northfield Rd	Warwick	MA	01378
Telephone	**Fax**	**Respondent Web Address**	
978-544-3911		reva@revareck.com	

Name of Primary Contact (Individual)		
Reva Reck		
Primary Contact Title	**Contact e-mail address**	**Direct Telephone #**
Chairperson, Warwick Broadband Committee	reva@revareck.com	978-544-3911

Which of the following best describes the respondent: (You must select at least one)

- ☐ Broadband Service Provider
- ☒ Government Organization
- ☐ Equipment Manufacturer
- ☐ Non-profit Organization
- ☐ Equipment Vendor
- ☒ Owner of Physical Assets
  (please specify Asset:_____ _____)
- ☐ Network or Systems Integrator
- ☐ Interested Individual
- ☐ Investor/Venture Capital
- ☐ Consultant
- ☐ Advocacy Group
- ☐ Other
  (please specify Other:_____ _____)

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Brief Description of Organization
(please outline previous experience with broadband deployment and/or provision of broadband services)

We have been charged with bringing broadband service to Warwick. We have been working on this since 2005 and have created a wifi hotspot in the center of town. We are currently installing a system which will bring broadband to 85 - 90% of Warwick. Please see "Solution" description attached for details.

List of anticipated partner organizations

AccessPlus Communications

For radio purchases: WiValley of Keene, NH and/or WiBlast on Cape Cod

Possible ISP's (partial list):

Crocker Communications
SteepleChase Networks
WiValley