



Commonwealth of Massachusetts
Office of the State Auditor
Suzanne M. Bump

Making government work better

Official Audit Report – Issued May 15, 2017

Massachusetts Technology Collaborative

For the period July 1, 2014 through June 30, 2016





Commonwealth of Massachusetts
Office of the State Auditor
Suzanne M. Bump

Making government work better

May 15, 2017

Mr. Timothy J. Connelly, Executive Director
Massachusetts Technology Collaborative
75 North Drive
Westborough, MA 01581

Dear Mr. Connelly:

I am pleased to provide this performance audit of the Massachusetts Technology Collaborative. This report details the audit objectives, scope, and methodology for the audit period, July 1, 2014 through June 30, 2016. My audit staff discussed the contents of this report with management of the agency, whose comments we considered in preparing this report.

I would also like to express my appreciation to the Massachusetts Technology Collaborative for the cooperation and assistance provided to my staff during the audit.

Sincerely,

A handwritten signature in blue ink, appearing to read "SMB", written in a cursive style.

Suzanne M. Bump
Auditor of the Commonwealth

TABLE OF CONTENTS

EXECUTIVE SUMMARY	1
OVERVIEW OF AUDITED ENTITY.....	2
AUDIT OBJECTIVES, SCOPE, AND METHODOLOGY	4
POST-AUDIT EVENTS	6
1. The private operator of the Middle Mile fiber-optic network has filed for bankruptcy.....	6
2. The Executive Office of Housing and Economic Development will award up to \$20 million in capital funds under the Last Mile Infrastructure Grant Program.	6

LIST OF ABBREVIATIONS

Axia	Axia NG Networks USA
BEP	Broadband Extension Program
EOHED	Executive Office of Housing and Economic Development
KCST	KCST USA Inc.
MassTech	Massachusetts Technology Collaborative
MBI	Massachusetts Broadband Institute
MTPC	Massachusetts Technology Park Corporation

EXECUTIVE SUMMARY

In accordance with Section 12 of Chapter 11 of the Massachusetts General Laws, the Office of the State Auditor has conducted an audit of the Massachusetts Technology Collaborative (MassTech) for the period July 1, 2014 through June 30, 2016. In this performance audit, we examined certain activities of MassTech's Massachusetts Broadband Institute (MBI) division. Specifically, we conducted the audit to determine whether MBI had (1) established a long-term plan and annual operating plans for the use of the Broadband Incentive Fund as required by Section 6B of Chapter 40J of the General Laws, (2) established regulations as well as other authoritative guidance for the administration and enforcement of the requirements of that law, and (3) established controls over its project management for both the Middle Mile and Last Mile projects that were adequate to ensure proper oversight of its third-party contractors and ensure that MBI could meet its strategic objectives.

Based on our audit, we have concluded that MBI complied with the requirements of Section 6B of Chapter 40J of the General Laws in the areas we reviewed that were related to our objectives and had established adequate project-management controls. We did not identify any significant deficiencies in those areas.

OVERVIEW OF AUDITED ENTITY

The Massachusetts Technology Park Corporation (MTPC) was created by Chapter 40J of the Massachusetts General Laws to “foster the expansion of industrial and commercial activity and employment opportunities within the commonwealth.” In 1994, MTPC formed the Massachusetts Technology Collaborative (MassTech) as an operating entity to enhance the state’s economic competitiveness. The Massachusetts Broadband Institute (MBI), a division of MassTech, was established by Section 6B of Chapter 40J of the General Laws to assess and improve access to affordable broadband services for communities with little or no broadband access.

MBI is governed by a nine-member board of directors, representing senior state government officials and people appointed by the Governor who have the qualifications required by Section 6B of Chapter 40J of the General Laws. The director of MBI is appointed by the executive director of MassTech and approved by MassTech’s board.

In August 2008, Governor Patrick signed the Broadband Act, designating \$40 million capitalized by general obligation bonds, to invest in broadband infrastructure. Another \$4.3 million was added in July 2009 to build fiber-optics along Interstate 91. In 2010, \$45.4 million from the federal American Recovery and Reinvestment Act money was used to expand broadband access through the Middle Mile. According to MBI’s website,

***Middle Mile** is an industry term that describes the network infrastructure that connects **last mile** (i.e., local) networks to other network service providers, major telecommunications carriers, and the greater internet. It does not typically connect the majority of end-users.*

Middle Mile (MassBroadband 123)

Source	Amount (in millions)
Federal Stimulus Funds	\$ 45.4
Matching State Funds	44.3
Total	<u>\$ 89.7</u>

In February 2014, MBI began operating the MassBroadband 123 Network, an open-access fiber-optic Middle Mile network that stretched across approximately 120 communities in western and central Massachusetts, connecting local area networks to network service providers. This network enabled

hundreds of public facilities to connect to the Internet. It is managed and operated for MBI by Axia NG Networks USA.

In August 2014, Governor Patrick signed Chapter 257 of the Acts of 2014, allocating \$50 million to MBI to bring Last Mile broadband connectivity to more homes and businesses in western and central Massachusetts.

Last Mile

State Appropriation for Program for Unserved Towns	Amount (in millions)
Planning and Professional Services	\$ 18
Construction Allocation	22
Subtotal	<u>\$ 40</u>
State Appropriation for Broadband Extension Program for Partially Served Towns	5
Other Expenses	5
Total	<u>\$ 50</u>

MBI is currently extending broadband services to users through two primary initiatives funded by state bond funds. The Last Mile project is designed to support and invest in broadband solutions for communities in the state that lack residential broadband service by providing local network infrastructure and connectivity to users. According to MBI's website,

***Last Mile** is an industry term that describes the local network infrastructure closest to the end-users (e.g., the residents, businesses and community facilities). They are typically built off of **middle mile** networks.*

The Broadband Extension Program (BEP) is designed to further extend broadband access to eligible communities with residential cable franchises that do not cover substantial areas of towns. As of the end of our audit period, June 30, 2016, no awards had been made from the BEP.

AUDIT OBJECTIVES, SCOPE, AND METHODOLOGY

In accordance with Section 12 of Chapter 11 of the Massachusetts General Laws, the Office of the State Auditor has conducted a performance audit of certain activities of the Massachusetts Technology Collaborative (MassTech) for the period July 1, 2014 through June 30, 2016.

We conducted this performance audit in accordance with generally accepted government auditing standards. Those standards require that we plan and perform the audit to obtain sufficient, appropriate evidence to provide a reasonable basis for our findings and conclusions based on our audit objectives. We believe that the evidence obtained provides a reasonable basis for our findings and conclusions based on our audit objectives.

Below is a list of our audit objectives, indicating each question we intended our audit to answer and the conclusion we reached regarding each objective.

Objective	Conclusion
1. Has the Massachusetts Broadband Institute (MBI) established a long-term plan and annual operating plans for the operation of MBI and the administration of the Broadband Incentive Fund ¹ as required by Section 6B of Chapter 40J of the General Laws?	Yes
2. Has MBI promulgated and adhered to the rules and regulations for the administration and enforcement of Section 6B of Chapter 40J of the General Laws as required?	Yes
3. Does MBI have controls over its project management of the Middle Mile and Last Mile projects to reasonably ensure that there is oversight of its third-party contractors and that it is meeting its strategic objectives?	Yes

To achieve our objectives, we gained an understanding of MBI and the Middle Mile and Last Mile projects. We evaluated the design and tested the operating effectiveness of controls over grant approvals and project management for both projects.

1. Section 6C of Chapter 40J of the General Laws established the Massachusetts Broadband Incentive Fund to be used to finance MBI's activities. The fund, which is kept separate from MBI's other funds, contains all revenue that MBI receives from various sources, such as state appropriations, bond proceeds, and funding authorized and designated for the fund by the General Court.

We conducted further audit procedures as follows:

- We obtained MassTech’s long-term plan and annual operating plans for our audit period and verified that they had been approved.
- We verified that MassTech had established rules and regulations for the granting of financial awards as required in Section 6B of Chapter 40J of the General Laws. We obtained grant contracts for all 22 financial awards granted by MBI for our audit period. We reviewed approvals for each contract award through MassTech’s contract management system.
- We obtained and reviewed policies concerning the Middle Mile and Last Mile projects and interviewed key personnel, both at the agency and in the unserved towns, in order to gain an understanding of the projects and their strategic objectives.
- We reviewed the construction contract for the Middle Mile network in order to gain an understanding of the scope of the project. We then reviewed the scope in the approved long-term plan to verify that it adhered to the contract.
- We obtained and reviewed the network operator agreement between Axia NG Networks USA (Axia) and MassTech to determine what responsibilities the network operator, Axia, had under the agreement. We then verified that MassTech had received the reports, documents, and payments stipulated in the agreement in order to determine whether MassTech was exercising oversight of Axia.
- We verified that MassTech was monitoring each of the affected towns’ progress toward completion by reviewing the assessments MassTech had completed for each town, and how it internally tracked each town’s milestones, to determine whether MassTech was moving toward the strategic objectives stated in its Last Mile Policy.
- We determined that all the Last Mile grants made during our audit period met the established criteria by verifying the levels of approvals and verifying that MassTech had ensured that towns had completed milestones before awarding them grants.
- We determined the reliability of data obtained from MassTech’s iCertis contract management system by testing certain general information-technology controls using questionnaires, interviews, and observation; source documentation testing; and electronic tests of report data. We determined that the data were sufficiently reliable for the purposes of this report.

POST-AUDIT EVENTS

After we finished our audit fieldwork, the following significant events related to the Massachusetts Technology Collaborative (MassTech) and its Massachusetts Broadband Institute division (MBI) occurred.

1. The private operator of the Middle Mile fiber-optic network has filed for bankruptcy.

On March 22, 2017, KCST USA Inc. (KCST), formerly known as Axia NG Networks USA, Inc., filed for Chapter 11 bankruptcy. KCST is the private operator of the state-owned “middle mile” fiber-optic network, also known as MassBroadband 123. Axia Canada, the parent company of KCST, filed suit on March 23, 2017, seeking a judgment declaring that MassTech had breached its network operations contract. This would entitle Axia Canada to avoid its obligations to MassTech. MassTech has filed a request in federal district court for a temporary restraining order against Axia Canada to enforce MassTech’s rights. On March 31, 2017, MassTech issued a request for proposals for a new operator of MassBroadband 123.

2. The Executive Office of Housing and Economic Development will award up to \$20 million in capital funds under the Last Mile Infrastructure Grant Program.

On March 28, 2017, the Governor announced the Last Mile Infrastructure Grant Program. The program will award up to \$20 million in capital funds directly to Last Mile towns. The funds will be administered by the Executive Office of Housing and Economic Development (EOHED). Previously, communities without high-speed Internet access were given funds for both professional services and construction of publicly owned broadband networks. Professional-service funds were held and expended directly by MBI on behalf of communities. Under the new grant program, EOHED will combine funds for professional services and construction into a single award. EOHED will evaluate pending applications and develop recommendations; final grant decisions will be made by the Secretary of Housing and Economic Development.

EOHED and MBI will continue to help municipalities that wish to partner with private broadband providers, wish to explore alternative technologies, or need assistance with design and engineering services.