

**U.S. DEPARTMENT OF COMMERCE**

**Performance Progress Report**

2. Award Or Grant Number

25-50-M09017

4. Report Date (MM/DD/YYYY)

04-12-2011

1. Recipient Name

Massachusetts Tech. Park Corporation dba MTC

6. Designated Entity On Behalf Of:

N/A

3. Street Address

75 North Drive,

8. Final Report?

Yes

No

9. Report Frequency

Quarterly

Semi Annual

Annual

Final

5. City, State, Zip Code

Westborough, MA 01581

7. Project / Grant Period  
Start Date: (MM/DD/YYYY)

11-01-2009

7a. End Date: (MM/DD/YYYY)

10-30-2014

7b. Reporting Period End Date:

03-31-2011

9a. If Other, please describe:

N/A

**10. Broadband Mapping**

10a. Provider Table

Number of Providers Identified	Number of Providers Contacted	Number of Agreements Reached for Data Sharing	Number of Partial Data Sets Received	Number of Complete Data Sets	Number of Data Sets Verified
0	0	0	0	0	0

10b. Are you submitting the required PROVIDER DATA by using the Excel spreadsheet provided by the SBDD grants office?  Yes  No

10c. Have you encountered challenges with any providers that indicate they may refuse to participate in this project?  Yes  No

10d. If so, describe the discussions to date with each of these providers and the current status

We have continued to make progress in increasing participation from providers. There are no pending non-disclosure agreements (NDAs) that remain to be resolved. For the Spring 2011 data submission, we received data from 5 additional providers and significantly updated data from another. This accounts for 2 of the 6 providers that said last round that they would participate but did not submit data. This accounts for 3 of 7 providers that said last round that they would participate but did not submit data and 1 provider that was not responsive last round. We have also confirmed with an additional 3 providers on our list that they do not qualify as broadband service providers as defined in the Notice of Funding Availability (NOFA) because they are cannot provider service within 7-10 days or no longer provide broadband services.

Our primary focus continues to be getting the rest of the providers on board that have said they will participate and improving the completeness and quality of the data from participating providers. All but one of the providers is now submitting speed information at the census block level. The one remaining provider submitting speed information by Metropolitan Statistical Area and Rural Statistical Area has indicated that if we need information other than that requested in the NOFA, a clarification to the NOFA should be made. We also believe there are several other providers on our list that may not qualify as broadband service providers as it is defined in the NOFA and are working to confirm this so we can remove them from the list.

10e. If you are collecting data through other means (e.g. data extraction, extrapolation, etc), please describe your progress to date and the relevant activities to be undertaken in the future

Modeling of estimated cable and Digital Subscriber Line (DSL) service areas was completed in the first quarter of 2010, based on Computer Aided Design (CAD) strand maps filed with the MA Department of Telecommunications and Cable (DTC) and known central office locations, and were used to validate and supplement provider data. The models will be updated as new cable strand maps are received or DSL central office and remote terminal locations are refined or added. Remote terminal locations and DSL status continue to be collected and mapped through targeted field surveys. These have been helpful in identifying and flagging possible overstatement of service areas for provider feedback.

The Massachusetts Broadband Institute (MBI) continues to collect broadband service information from residents, businesses and from community anchor institutions (e.g., police, hospitals, community health centers, schools, colleges and universities, libraries, and town halls) through online surveys. The redesigned web surveys and speed test will be released in the 2nd quarter of 2011 to improve the user interface and quality and usability of the information. The MBI also followed up with phone surveys to libraries and town halls in western MA that did not respond to the web survey, continues to maintain a collaborative relationship with the MA Board of Library Commissioners and promoted the survey at the annual meeting of the Massachusetts Municipal Association.

10f. Please describe the verification activities you plan to implement

In addition to existing verification activities, speed information submitted by providers will be compared to speed results from address searches on the providers' web sites as well as speeds submitted to the Federal Communications Commission (FCC) on Form 477. Feedback on the National Broadband Map and the Massachusetts Broadband Map will also be incorporated into our verification process. The mobile wireless and cable/DSL verification projects described below will continue to be improved and rolled out to additional areas throughout the state, with a focus on low-confidence areas.

10g. Have you initiated verification activities?  Yes  No

10h. If yes, please describe the status of your activities

In collaboration with the Franklin Regional Council of Governments and the Montachusett Regional Planning Commission, the MBI held two meetings the first week of January 2011 to kick-off the cable and DSL verification project and inform the community representatives of the verification process. Following the meetings, maps of cable and DSL service availability and infrastructure were created and distributed to designated community representatives in 26 towns in western MA and 22 towns in north central Massachusetts. The community representatives, members of local broadband committees or other individuals knowledgeable about local broadband availability in their town are currently providing feedback on these maps, including the last known service location along roads when known.

Additional drive study tests are planned for targeted locations on Martha's Vineyard and in southwestern MA, with assistance from the Martha's Vineyard Commission and Westfield State University students respectively, to continue improving wireless service area verification methodologies. Android phones from each of the four mobile broadband companies operating in Massachusetts will be loaded with software from QoS Solutions to capture wireless capacity, signal-level and network quality information and will also be used to run the FCC Speed Test. The MBI has been working the software vendor QoS Solutions to improve the software performance and quality of the resulting data. The results will be evaluated and compared to the results from the earlier drive study pilot in north central MA.

10i. If verification activities have not been initiated please provide a projected time line for beginning and completing such activities

Verification activities have begun and will continue throughout 2011.

## Staffing

10j. How many jobs have been created or retained as a result of this project?

The total number of jobs created or retained were 5.76. (MTC = 2.84; Subrecipient = 1.12 and Vendor=1.80). This number includes the following positions:

1. The 2.84 MTC jobs are comprised of various administrative and program positions, which are: GIS Project Manager, Director, GIS Analyst, Outreach Manager, Executive Assistant, Intern and Federal Compliance Manager.
2. The 1.12 subrecipient jobs are comprised of programmatic and administrative support.
3. The 1.80 vendor jobs are comprised of professional services consultants providing programmatic, and auditing services.

10k. Is the project currently fully staffed?  Yes  No

10l. If no, please explain how any lack of staffing may impact the project's time line and when the project will be fully staffed

The MBI, a division of the Massachusetts Technology Collaborative (MTC), has hired an additional Geographic Information Systems (GIS) Analyst to start in Q2, 2011. A senior project manager and a project coordinator will also be hired to support the new application development and computer ownership and usage programs. The projects are expected to be fully staffed by the end of the 2nd quarter of 2011.

10m. When fully staffed, how many full-time equivalent (FTE) jobs do you expect to create or retain as a result of this project?

The MBI will need 5.22 FTE's and an average of 3 additional FTE's in subrecipients and vendors for a total of 8.22 FTE's to fully staff this project.

10n. Staffing Table

Job Title	FTE %	Date of Hire
MBI Director or Deputy Director	25	12/10/2009

GIS Project Manager	100	05/14/2009
GIS Analyst	94	10/12/2010
Outreach Coordinator	3	04/16/2010
GIS Intern	50	08/09/2010
Federal Compliance Manager	12	09/20/2010
Vendor Professional Services Consultants (e.g. Program and Audit)	100	10/01/2010
Vendor Professional Services Consultants (e.g. Program and Audit)	12	10/01/2010
Subrecipient Staff (Administrative and Programmatic)	100	10/01/2010
Subrecipient Staff (Administrative and Programmatic)	80	10/01/2010

Add Row

Remove Row

**Sub Contracts**

10o. Subcontracts Table

Name of Subcontractor	Purpose of Subcontract	RFP Issued (Y/N)	Contract Executed (Y/N)	Start Date	End Date	Federal Funds	In-Kind Funds
Western MA Connect	Planning Activities (Subrecipient)	N	Y	11/01/2009	10/31/2012	53,548	22,876
Western MA Connect	Mapping Data Verification Activities (Subrecipient)	Y	Y	07/29/2010	10/31/2012	25,793	0
BNC Consulting	Field Engineering Services For Data Verification	Y	Y	01/08/2010	12/31/2014	44,963	0
Deloitte & Touche	Annual Single Audit Services	Y	Y	11/01/2009	06/30/2011	25,000	0
Applied Geographics	Web Design and Development Services	Y	Y	06/14/2010	12/31/2010	62,339	0

Add Row

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**Funding**

10p. How much Federal funding has been expended as of the end of the last quarter? \$870,231      10q. How much Remains? \$5,292,322

10r. How much matching funds have been expended as of the end of last quarter? \$440,146      10s. How much Remains? \$1,237,176

10t. Budget Worksheet

Mapping Budget Element	Federal Funds Granted	Proposed In-Kind	Total Budget	Federal Funds Expended	Matching Funds Expended	Total Funds Expended
Personal Salaries	\$1,144,848	\$57,408	\$1,202,256	\$238,269	\$10,870	\$249,139
Personnel Fringe Benefits	\$403,312	\$20,234	\$423,546	\$79,060	\$3,706	\$82,766
Travel	\$26,400	\$0	\$26,400	\$0	\$0	\$0
Equipment	\$58,470	\$8,930	\$67,400	\$23,304	\$8,930	\$32,234
Materials / Supplies	\$24,500	\$0	\$24,500	\$13,768	\$0	\$13,768
Subcontracts Total	\$2,435,000	\$771,869	\$3,206,869	\$228,359	\$64,191	\$292,550
Subcontract #1	\$500,000	\$100,000	\$600,000	\$53,548	\$22,876	\$76,424
Subcontract #2	\$50,000	\$0	\$50,000	\$25,793	\$0	\$25,793

Mapping Budget Element	Federal Funds Granted	Proposed In-Kind	Total Budget	Federal Funds Expended	Matching Funds Expended	Total Funds Expended
Subcontract #3	\$130,000	\$0	\$130,000	\$0	\$0	\$0
Subcontract #4	\$42,500	\$0	\$42,500	\$25,000	\$0	\$25,000
Subcontract #5	\$1,712,500	\$671,869	\$2,384,369	\$124,018	\$41,315	\$165,333
Construction	\$0	\$0	\$0	\$0	\$0	\$0
Other	\$857,884	\$757,687	\$1,615,571	\$46,239	\$341,145	\$387,384
Total Direct Costs	\$4,950,414	\$1,616,128	\$6,566,542	\$628,999	\$428,842	\$1,057,841
Total Indirect Costs	\$1,212,140	\$61,194	\$1,273,334	\$241,233	\$11,304	\$252,537
Total Costs	\$6,162,554	\$1,677,322	\$7,839,876	\$870,232	\$440,146	\$1,310,378
% Of Total	79	21	100	66	34	100

### Hardware / Software

10u. Has the project team purchased the software / hardware described in the application?  Yes  No

10v. If yes, please list

The total expenditures for software and hardware (excluding software maintenance costs) using federal and state match funds is as follows. No hardware or software was purchased this quarter.

The following were purchased in previous quarters:

- 1 data server for \$12,211.74
- 2 mobile workstations for \$3,469.19
- 2 desktop workstations for \$3,067.80
- 1 plotter for \$5,274.00
- 4 ArcGIS licenses for \$24,745.00
- 3 ArcGIS extension licenses for \$6,750.00

The ArcGIS software and workstations listed were purchased to support the data development, data analysis and mapping needs of the GIS Project Manager, 2 GIS Analysts and a GIS Intern. The data server was purchased to store data from service providers in a separate, secure location with restricted access and the plotter was purchased to create hard copy maps for outreach and data verification.

10w. Please note any software / hardware that has yet to be purchased and explain why it has not been purchased

Additional hard disk space and a desktop computer may be required to handle data storage and processing requirements. These will not be purchased until deemed necessary.

10x. Has the project team purchased or used any data sets?  Yes  No

10y. If yes, please list

N/A

10z. Are there any additional project milestones or information that has not been included?  Yes  No

10aa. If yes, please list

The Massachusetts Broadband Map was launched on February 17, 2011, the same day the National Broadband Map was launched, and may be found at <http://mapping.massbroadband.org>. It is an interactive map that allows users to search for an address and retrieve information about the providers offering services within that census block or along that road segment. The map is derived from the data submitted in October 2010 and will be updated in the second quarter of 2011 to reflect the April 2011 data submission.

Broadband data have been prepared to submit to the National Telecommunications and Information Administration (NTIA) on April 1st, which include wired broadband availability and speed by census block and street segment, wireless broadband availability and speed

by service area, middle mile interconnection points and community anchor institution broadband services. The datasets contain data from 30 broadband providers, including 5 new providers since the last submission.

10bb. Please describe any challenge or obstacle that you have encountered and detail the mitigation strategies the project team is employing

Due to the lack of updates in the data collection for Fall 2010 from providers that participated in Spring 2010, we made an effort this round to make it more clear in our emails that we need updated datasets or notification of no change and we followed up with earlier with phone calls and email reminders as their deadline approached. As a result, in this round we received updates or notifications of no change from 100% of the providers that participated in previous rounds.

Since most of the data was acquired and stored using 2009 vintage census blocks, additional effort was required to convert data back to the 2000 vintage census blocks while preserving links to the original data for validation and future updates. Data conversion models were created to automate some of this process, but it is still additional work that we would like to avoid in the future by moving to the 2010 census data. Using the 2010 census blocks will eliminate this problem and improve the overall data accuracy.

We have also received feedback from small fixed wireless providers that they do not consider propagation modeling to be useful or reliable due to the terrain and vegetation in western and central MA. However, we were able to persuade one fixed wireless provider to share information that would allow us to do propagation modeling and two others have also provided us with their own models.

Overstatement of DSL coverage continues to be the primary feedback we get from the public and our primary verification challenge with respect to wireline availability. As we receive feedback from the community representatives participating in our cable and DSL verification project, we will flag questionable areas for review by our DSL providers and request in-person review meetings.

10cc. Please provide any other information that you think would be useful to NTIA as it assesses your Broadband Mapping Project

We would like to see the State Broadband Data and Development (SBDD) program begin using 2010 census block and road data in the next data collection round. Not only will this eliminate additional data processing and inaccuracies, but it will also hopefully address inaccuracies in the misalignment of 2000 and 2009 census block boundaries with roads and towns.

Based on feedback from many of the providers, it is in the best interest of the NTIA and all SBDD grantees if a clarification to the NOFA is released with updates on the type and format of information needed for the current data model. National providers in particular find it difficult to review and respond to slight variations in the data request from each state. If a clarification is released, it would be helpful if providers with GIS capabilities were asked to provide geometry as well as attribute data.

## 11. Broadband Planning

11a. Please describe progress made against all goals, objectives, and milestones detailed in the approved Project Plan. Be sure to include a description of each major activity / milestone that you plan to complete and your current status

Current activities continue to be focused on the review of barriers to broadband deployment and community outreach activities, including the recent production of a network operator meeting and a broadband technology summit.

MBI planning grant partner, WesternMA Connect (the "Connect") in collaboration with the Regional Planning Agencies (RPAs), continues to review municipal bylaws and identify barriers to broadband deployment (e.g., wireless siting restrictions) and to develop databases of route conditions and wireline and wireless facilities. The Connect and RPAs are now analyzing this data and developing strategies to work with communities to remove any barriers and preparing educational materials to inform and advise other communities on broadband planning.

The Connect continues to build community capacity and drive outreach activities, with a particular focus on the MassBroadband 123 network communities. In March 2011, a network operator summit brought together the recently hired MassBroadband 123 network operator and potential last mile providers and a broadband technology summit brought together representatives from 123 communities in western and north central Massachusetts with municipal light plants and current and potential last mile providers. The broadband technology summit kicked-off of the last mile planning effort to bring broadband to the unserved and underserved areas of the Commonwealth and included presentations from experts on broadband technologies and case studies for deploying rural broadband.

11b. Please describe any challenge or obstacle that you have encountered and detail the mitigation strategies the project team is employing

None at this time.

11c. Does the Project Team anticipate any changes to the project plan for Broadband Planning?  Yes  No

11d. If yes, please describe these anticipated changes. Please note that NTIA will need to approve changes to the Project Plan before they can be implemented

N/A

**Funding**

11e. How much Federal funding has been expended as of the end of the last quarter? \$0                      11f. How much Remains?                      \$0

11g. How much matching funds have been expended as of the end of last quarter?    \$0                      11h. How much Remains?                      \$0

11i. Planning Worksheet

Personal Salaries	\$0	\$0	\$0	\$0	\$0	\$0
Personnel Fringe Benefits	\$0	\$0	\$0	\$0	\$0	\$0
Travel	\$0	\$0	\$0	\$0	\$0	\$0
Equipment	\$0	\$0	\$0	\$0	\$0	\$0
Materials / Supplies	\$0	\$0	\$0	\$0	\$0	\$0
Subcontracts Total	\$0	\$0	\$0	\$0	\$0	\$0
Subcontract #1	\$0	\$0	\$0	\$0	\$0	\$0
Subcontract #2	\$0	\$0	\$0	\$0	\$0	\$0
Subcontract #3	\$0	\$0	\$0	\$0	\$0	\$0
Subcontract #4	\$0	\$0	\$0	\$0	\$0	\$0
Subcontract #5	\$0	\$0	\$0	\$0	\$0	\$0
Construction	\$0	\$0	\$0	\$0	\$0	\$0
Other	\$0	\$0	\$0	\$0	\$0	\$0
Total Direct Costs	\$0	\$0	\$0	\$0	\$0	\$0
Total Indirect Costs	\$0	\$0	\$0	\$0	\$0	\$0
Total Costs	\$0	\$0	\$0	\$0	\$0	\$0
% Of Total	0	0	0	0	0	0

**Additional Planning Information**

11j. Are there any additional project milestones or information that has not been included?

None at this time.

11k. Please describe any challenge or obstacle that you have encountered and detail the mitigation strategies the Project Team is employing

None at this time.

11l. Please provide any other information that you think would be useful to NTIA as it assesses your Broadband Mapping Project

Activities for the Veterans' Portal project have focused on project planning, identifying stakeholders and resources and assessing needs. The needs assessment, to be completed next quarter, will be used to develop a formal requirements document that will be the core of an RFP to select a vendor to build the web portal. Major milestones achieved in this period include: completion of a competitive

procurement to select a firm to conduct a needs assessment; held a kick-off meeting with the needs assessment vendor and project partners - the Department of Veterans' Services and Red Sox Home Base Foundation; completion of an inventory of existing services, providers and websites; completion of a survey of veterans to discover their needs; a collation of e-government "best practices" to guide portal design; and a design charrette that gathered requirements from a large group of key stakeholders. The design charrette was conducted on March 28, 2011 and included over 40 key stakeholders. The half-day session included a facilitated exercise to lead small groups of participants through analyzing the specific needs of representative veteran personas based on the veterans surveys, to help define what services should be represented in the portal. The team is working on completing the RFP process this summer to select a vendor to develop the portal, with an anticipated launch of the beta portal web site in the fall. Additional MBI staff will be hired at beginning of next quarter to manage the Veterans' Portal and Community Development Corporation grants projects.

A meeting was also held with MassGIS, the state's GIS agency, to kick off the address file development project. The next steps include identifying developments since supplemental grant application was submitted and completing a procurement for crowd sourcing application development vendor.

12. Certification: I certify to the best of my knowledge and belief that this report is correct and complete for performance of activities for the purpose set forth in the award documents.

12a. Typed or Printed Name and Title of Authorized Certifying Official

Lisa Erlandson

12c. Telephone  
(area code, number, and extension)

12d. Email Address

erlandson@masstech.org

12b. Signature of Authorized Certifying Official

Submitted Electronically

12e. Date Report Submitted  
(Month, Day, Year)

04-26-2011