

QUARTERLY PERFORMANCE PROGRESS REPORT FOR BROADBAND INFRASTRUCTURE PROJECTS

General Information

1. Federal Agency and Organizational Element to Which Report is Submitted Department of Commerce, National Telecommunications and Information Administration	2. Award Identification Number NT10BIX5570070	3. DUNS Number 147368641
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4. Recipient Organization

Massachusetts Technology Park 75 North Drive
 , Westborough, MA 01581-3335

5. Current Reporting Period End Date (MM/DD/YYYY) 12-31-2011	6. Is this the last Report of the Award Period? <input type="radio"/> Yes <input checked="" type="radio"/> No
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7. Certification: I certify to the best of my knowledge and belief that this report is correct and complete for performance of activities for the purposes set forth in the award documents.

7a. Typed or Printed Name and Title of Certifying Official Lisa Erlandson	7c. Telephone (area code, number and extension)
	7d. Email Address erlandson@masstech.org

7b. Signature of Certifying Official Submitted Electronically	7e. Date Report Submitted (MM/DD/YYYY): 02-21-2012
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Project Indicators (This Quarter)

1. Please describe significant project accomplishments completed during this quarter (600 words or less).

MassBroadband 123 accomplishments for the quarter ending December 31st, 2011 include:

Agreements

- Executed contract for dark fiber Indefeasible Right of Use to connect network service to Boston via two paths.
- Executed pole attachment agreement with Unitil
- Executed Housatonic Railroad Company Utility Crossing License agreement
- Reviewed draft Point of Interconnection Agreement with 10 of 22 locations

Make Ready and Licensing

- Completed utility pole data collection; received data for over 5,000 poles during the quarter out of a total of 38,500 poles for the project
- Submitted applications for licensing and make ready for over 8,800 poles, totaling over 29,400 for the project
- Submitted conduit applications for over 4 miles of conduit for a total of 28 miles for the project
- Paid Verizon make ready cost estimates for 5,600 poles for a total of 13,800 poles, and electric company make ready costs for 2,500 poles for a total of 6,700
- Received pole licenses for 387 poles from Verizon, 430 poles for Western Massachusetts Electric Company and 96 poles for National Grid. Through 12/31 we have received 441 licenses for Verizon, 449 for Western Massachusetts Electric Company and 96 for National Grid
- Received 22 conduit application record searches from Verizon. To date we have received 24 record search results

Engineering, Design, and Pre-Construction Activities

- Finalized construction schedule with Design Builder
- Received approval of one Notice of Intent in accordance with Massachusetts Wetland Protection Act
- Received district-wide permits from the Massachusetts Department of Transportation
- Submitted 44 drawings to 6 railroad companies to begin railroad permitting
- Completed site surveys of 632 Community Anchor Institutions and all 22 Points of Interconnect locations
- Completed design submittals for 96 Community Anchor Institutions and 3 Points of Interconnect
- Completed fiber design diagrams
- Completed construction drawings for 4 segments of the network, and completed corresponding splicing diagrams for the first phase of construction
- Obtained critical infrastructure components including inside plant parts, fiber optic cable, core optical network equipment, termination panels, and power plant
- Implemented prototype test lab simulating three Points of Interconnection for proof-of-design and equipment testing

Construction

- Utilities continuing make-ready work

Jobs Created or Retained

- The Total Number of Jobs Created or Retained for the quarter was 25.78

Sustainability

- Executed 5 Letters of Intent with Internet Service Providers for providing network services. To date, we have executed 9 Letters of Intent for Service

2. Please provide the percent complete for the following key milestones in your project. Write "0" in the Percent Complete column and "N/A" in the Narrative column if your project does not include this activity. If you provided additional milestones in your baseline plan, please insert them at the bottom of the table. Unless otherwise indicated in the instructions, figures should be reported cumulatively from award inception to the end of the most recent reporting quarter. Please provide a narrative description if the percent complete is different from the target provided in your baseline plan (300 words or less).

	Milestone	Percent Complete	Narrative (describe reasons for any variance from baseline plan or subsequent written updates provided to your program officer)
2a.	Overall Project	35	Tracking closely to budget projections; 3% variance under baseline due to cumulative reasons set forth below
2b.	Environmental Assessment	100	Complete and at baseline projection. Compliance requirements with environmental mitigation included in Design-Build RFP and the owner's project manager will oversee work

	Milestone	Percent Complete	Narrative (describe reasons for any variance from baseline plan or subsequent written updates provided to your program officer)
2c.	Network Design	100	Ahead on percentage by 52%, due to front-loaded focus of Owner, Owner's Project Manager, Design Builder and other consultants as network design progressed. Costs are now projected to be high than the original NTIA budget
2d.	Rights of Way	100	Ahead on percentage by 25%. Make ready application submissions have picked up and pole survey work has nearly completed
2e.	Construction Permits and Other Approvals	36	Tracking closely to projections; 1% under baseline. Consistent with expectations
2f.	Site Preparation	0	Behind on percentage by 50% due to activities now being projected to occur in Year2 Quarter4. Costs will be less than baseline projection.
2g.	Equipment Procurement	26	Ahead on percentage by 13%. Orders of equipment and materials were procured and paid for earlier than scheduled due to industry-wide lengthened lead times on delivery.
2h.	Network Build (all components - owned, leased, IRU, etc)	20	Behind on percentage by 20%. Design-Build ramp-up and slower-than-expected make ready construction work by utilities has led to less expenditures to date than planned. Additionally, some costs included in the baseline report under this category are being captured under Network Design
2i.	Equipment Deployment	0	Behind on percentage by 13% due to equipment deployment costs starting later than planned
2j.	Network Testing	0	On par with baseline
2k.	Other (please specify):	97	Expected to be ahead on percentage by 17%, however; no significant expenditures planned next quarter which aligns with PPR projections and baseline. Costs include: <ul style="list-style-type: none"> • Federal Compliance Staff • BTOP Non-Construction Staffing • Application and Post Application Submission Costs included in approved budget • Staff, Consulting and Legal Costs with procurements

3. To the extent not covered above, please describe any challenges or issues faced during this past quarter in achieving planned progress against the project milestones listed above. In particular, please identify any areas or issues where technical assistance from the BTOP program may be useful (600 words or less).

Issues encountered include:

Make ready schedule delays

1. The time required by utilities to reconcile applications is exceeding contracted time frames. In addition, once reconciled, electric company estimates greatly lag behind telephone company estimates.
2. Make ready construction costs continue to run higher than budgeted.
3. Additional weather events diverted utility resources to emergency restoration.

NTIA could assist by:

1. Providing guidance on ways that other projects are reducing telephone and electric companies make ready costs
2. Providing information on how other projects are working with utilities to maintain pace and schedule in make ready reconciliation, while maintaining positive reporting and crew production oversight

4. Please report the following information regarding network build progress. Write "0" in the Total column and "N/A" in the Narrative column if your project does not include this activity. Unless otherwise indicated in the instructions, figures should be reported cumulatively from award inception to the end of the most recent reporting quarter. Please provide a narrative description if the total is different from the target provided in your baseline plan (600 words or less).

Indicator	Total	Narrative (describe your reasons for any variance from the baseline plan or any other relevant information)
New network miles deployed	0	On par with last quarter's PPR projections and baseline
New network miles leased	0	On par with last quarter's PPR projections and baseline

Indicator	Total	Narrative (describe your reasons for any variance from the baseline plan or any other relevant information)
Existing network miles upgraded	0	Variance of 55 miles from the baseline equates to those miles provided as match for this quarter but won't be considered "existing upgraded" until they are lit with BTOP funds in a future quarter.
Existing network miles leased	0	On par with last quarter's PPR projections and baseline
Number of miles of new fiber (aerial or underground)	0	On par with last quarter's PPR projections and baseline
Number of new wireless links	0	NA
Number of new towers	0	NA
Number of new and/or upgraded interconnection points	0	On par with last quarter's PPR projections and baseline

For questions 5 and 6 please include information relating to agreements that you are negotiating or have entered into, or that your sub recipient, contractor or subcontractor is negotiating or entered into.

5a. If applicable, please provide the following information with regard to agreements with broadband wholesalers and/or last mile providers as a result of your project.

Indicators	
Number of signed agreements with broadband wholesalers or last mile providers	2
Number of agreements currently being negotiated with broadband wholesalers or last mile providers	7
Average term of signed agreements (in quarters)	70

5b. Please list the names of the wholesale and last mile providers with whom you have signed agreements (100 words or less). Providers: Axia Networks, USA; Massachusetts Information Technology Division (ITD)

5c. What wholesale services are being provided by this project? Please describe below. As an attachment to this report, please provide pricing plans (in \$ per month) associated with each wholesale service provided by your product (100 words or less). Wholesale services description:

No services are being offered at this time.

5d. If you have designated a third party to operate all or a portion of your network, please provide the name and contact information for this third party, indicate if this entity is a sub recipient, contractor, and/or subcontractor, and describe with specificity the portion of your network this third party operates (600 words or less).

MTC has hired Axia NGNetworks USA as a contractor to run the entirety of the MassBroadband 123 network. They will also assist with equipment specifications and network and fiber design during the construction period. Tim Scott, Vice President, may be contacted at Tim.Scott@axia.com

6. Please provide the data according to the type of subscriber. Write "0" in the Total column and "N/A" in the Narrative column if your project does not pass or serve a particular subscriber type. Unless otherwise indicated in the instructions, figures should be reported cumulatively from award inception to the end of the most recent reporting quarter. Please provide a narrative description if the total is different from the target provided in your baseline plan (300 words or less).

Subscriber Type	Access Type	Total	Narrative (describe your reasons for any variance from the baseline plan or any other relevant information)
Broadband Wholesalers or Last Mile Providers	Providers with signed agreements receiving new access	3	On par with last quarter's PPR projections and baseline
	Providers with signed agreements receiving improved access	0	On par with last quarter's PPR projections and baseline
	Providers with signed agreements receiving access to dark fiber	0	On par with last quarter's PPR projections and baseline

Subscriber Type	Access Type	Total	Narrative (describe your reasons for any variance from the baseline plan or any other relevant information)
	Please identify the speed tiers that are available and the number of subscribers for each	0	On par with last quarter's PPR projections and baseline
Community Anchor Institutions (including Government institutions)	Total subscribers served	0	On par with last quarter's PPR projections and baseline
	Subscribers receiving new access	0	On par with last quarter's PPR projections and baseline
	Subscribers receiving improved access	0	On par with last quarter's PPR projections and baseline
	Please identify the speed tiers that are available and the number of subscribers for each	0	On par with last quarter's PPR projections and baseline
Residential / Households	Entities passed	0	NA
	Total subscribers served	0	NA
	Subscribers receiving new access	0	NA
	Subscribers receiving improved access	0	NA
	Please identify the speed tiers that are available and the number of subscribers for each	0	NA
Businesses	Entities passed	0	NA
	Total subscribers served	0	NA
	Subscribers receiving new access	0	NA
	Subscribers receiving improved access	0	NA
	Please identify the speed tiers that are available and the number of subscribers for each	0	NA

7. Please describe any special offerings you may provide (600 words or less).

MTC offers a 15% discount off of wholesale rates to our state partners, Information Technology Division and Executive Office of Public Safety and Security. Our state partners contributed matching funds to the MassBroadband 123 grant application and they have committed to being an anchor tenant on the new network.

8a. Have your network management practices changed over the last quarter? Yes No

8b. If so, please describe the changes (300 words or less).

N/A

9. Community Anchor Institutions:

Using the table below, please provide a list by service area of the community anchor institutions (including Government institutions) connected to your network as a result of BTOP funds. Figures should be reported for the most recent reporting quarter only (NOT cumulatively). Also indicate whether your organization is currently providing broadband service to the anchor institution. Finally, provide a short narrative description with examples of how institutions are using BTOP-funded infrastructure (300 words or less).

Institution Name	Service Area (town or county)	Type of Anchor Institution (as defined in your baseline)	Are you also the broadband service provider for this institution? (Yes / No)	Narrative description of how anchor institutions are using BTOP-funded infrastructure

Institution Name	Service Area (town or county)	Type of Anchor Institution (as defined in your baseline)	Are you also the broadband service provider for this institution? (Yes / No)	Narrative description of how anchor institutions are using BTOP-funded infrastructure
N/A	N/A	N/A	N/A	N/A

Project Indicators (Next Quarter)

1. Please describe significant project accomplishments planned for completion during the next quarter (600 words or less).
 In the upcoming quarter, MTC plans to:

Agreements
 -Execute Pole Attachment Agreements Massachusetts Department of Conservation and Recreation and Massachusetts Development Finance Agency
 -Execute dark fiber Indefeasible Rights of Use (IRU) agreement with Westfield, Chicopee, Holyoke, and South Hadley
 -Execute overlash agreement with Richmond Telephone
 -Execute agreements with Massachusetts Central Railroad, CSX Corporation, and Pan Am Railways
 -Continue filing of environmental and railroad permits
 -Execute agreements with POIs

Design and Engineering
 -Submit pole applications and conduit applications for entirety of remaining route not yet applied for
 -Complete segment construction drawings for 14 additional segments, for a total of 50% of the network
 -Complete site survey on 66% of the network for a total 90% of the Community Anchor Institutions in the network
 -Complete inside plant design for 25% of the Community Anchor Institutions for a total of 35% of the network
 -Complete inside plant design for 5 Points of Interconnect for a total of 33% of the network

Construction
 -Install network equipment at Community Anchor Institutions as designs are finalized and available. MTC is performing equipment installations at Community Anchor Institutions in advance of actual connection, which requires connectivity to the nearest Point of Interconnection and from that Point of Interconnection to the internet Point of Presence. Due to adjusted make ready completion timelines, we now project the first connections as occurring in Year 2, Quarter 4
 -Install messenger strand and fiber optic cable as utility pole licenses become available
 -Continue make ready work on poles
 -Operationalize the I91 fiber network, making it available for commercial use

Sustainability
 -Negotiate additional Letters of Intent with Internet Service Providers and work towards contracts to provide service
 -Conduct Community Outreach meetings in the service area

2. Please provide the percent complete for the following key milestones in your project. Write "0" in the Planned Percent Complete column and "N/A" in the Narrative column if your project does not include this activity. If you provided additional milestones in your baseline plan, please insert them at the bottom of the table. Unless otherwise indicated in the instructions, figures should be reported cumulatively from award inception to the end of the next reporting quarter. Please provide a narrative description if the percent complete is different from the target provided in your baseline plan (300 words or less).

	Milestone	Planned Percent Complete	Narrative (describe reasons for any variance from baseline plan or any other relevant information)
2a.	Overall Project	55	Expected ahead on budgeted expenditures by 3% due to anticipation of high expenditures for make ready work, which has been forecast higher than in initial baseline plan
2b.	Environmental Assessment	100	EA Completed. No further expenditures planned. Compliance requirements with environmental mitigation included in the Design Build Request For Proposal and the Owner's Project Manager will oversee work
2c.	Network Design	100	Expected ahead on budgeted expenditures by 43%, due to front-loaded costs in areas of Owner, Owner's Project Manager, Design Builder and other consultants. Costs are now projected to be higher than in original baseline
2d.	Rights of Way	100	Expected to be ahead on budgeted expenditures by 9%. We plan to be complete with all make ready, conduit applications and pole surveying ahead of schedule

	Milestone	Planned Percent Complete	Narrative (describe reasons for any variance from baseline plan or any other relevant information)
2e.	Construction Permits and Other Approvals	79	Expected to be ahead of budgeted expenditures by 26% due to the anticipation of high expenditures for make ready work costs, which has been forecast higher than in initial baseline plan
2f.	Site Preparation	0	Behind on percentage by 75% due to activities now being projected to occur in Year2 Quarter4. Costs will be less than baseline projection.
2g.	Equipment Procurement	47	Expected to be ahead on expenditures by 9% due to procurement scheduling occurring early
2h.	Network Build (all components - owned, leased, IRU, etc.)	31	Expected to be behind on percentage by 21%. Slower than expected Design Build ramp-up and make ready construction work by utilities have led to less projected expenditures in quarter. Additionally, some costs of this category are being captured under Network Design.
2i.	Equipment Deployment	46	Expected to be ahead by 8% due to equipment deployment costs starting to ramp up
2j.	Network Testing	0	On par with baseline projections
2k.	Other (please specify):	99	Expected to be ahead on percentage by 16%, however; no significant expenditures planned next quarter which aligns with PPR projections and baseline. Costs include: <ul style="list-style-type: none"> • Federal Compliance Staff • BTOP Non-Construction Staffing • Application and Post Application Submission Costs included in approved budget • Staff, Consulting and Legal Costs with procurements

3. Please describe any challenges or issues anticipated during the next quarter that may impact planned progress against the project milestones listed above. In particular, please identify any areas or issues where technical assistance from the BTOP program may be useful (600 words or less).

The most relevant risk to the project will continue to be the make ready process, the work required to be completed, and the associated cost and schedule impacts that may take place. Extension of make ready periods act to compress the construction schedule, leading to possible increased crew requirements and the corresponding increases in project costs. We will continue to work diligently with the pole owners to find solutions and cost saving measures while keeping up the planned schedule of applications and reconciliation as best as possible. We are in the midst of the winter months, and poor weather will pose schedule risks to both utility make ready construction and early fiber installation efforts. MTC would welcome advice or feedback from BTOP officials or other awardees regarding these topics and appreciate any best practices from other recipients.

Infrastructure Budget Execution Details

Activity Based Expenditures (Infrastructure)

1. Please provide details below on your total budget, cumulative actual expenditures (for the period ending the current quarter), and cumulative anticipated expenditures (for the period ending next quarter) for each line item, including detailed disbursements of both matching funds and federal funds from project inception through end of this quarter (actual) or next quarter (anticipated). Actual and anticipated figures should be reported cumulatively from award inception to the end of the applicable reporting quarter.

Budget for Entire Project				Actuals from Project Inception through End of Current Reporting Period			Anticipated Actuals from Project Inception through End of Next Reporting Period		
Cost Classification	Total Cost (plan)	Matching Funds (plan)	Federal Funds (plan)	Total Cost	Matching Funds	Federal Funds	Total Costs	Matching Funds	Federal Funds
a. Administrative and legal expenses	\$1,871,196	\$598,342	\$1,272,854	\$1,815,016	\$580,442	\$1,234,574	\$1,933,655	\$618,383	\$1,315,272
b. Land, structures, right-of-ways, appraisals, etc.	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0
c. Relocation expenses and payments	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0
d. Architectural and engineering fees	\$9,317,022	\$2,979,253	\$6,337,769	\$6,110,610	\$1,954,173	\$4,156,437	\$8,201,510	\$2,622,843	\$5,578,667
e. Other architectural and engineering fees	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0
f. Project inspection fees	\$2,218,560	\$709,417	\$1,509,143	\$0	\$0	\$0	\$75,000	\$23,985	\$51,015
g. Site work	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0
h. Demolition and removal	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0
i. Construction	\$51,193,858	\$19,660,308	\$31,533,549	\$15,381,787	\$8,139,996	\$7,241,791	\$25,544,436	\$11,390,011	\$14,154,425
j. Equipment	\$7,044,808	\$2,252,680	\$4,792,129	\$1,699,347	\$543,451	\$1,155,896	\$3,316,645	\$1,060,663	\$2,255,982
k. Miscellaneous	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0
l. SUBTOTAL (add a through k)	\$71,645,444	\$26,200,000	\$45,445,444	\$25,006,760	\$11,218,062	\$13,788,698	\$39,071,246	\$15,715,885	\$23,355,361
m. Contingencies	\$0	\$0	\$0	\$0	\$0	\$0			
n. TOTALS (sum of l and m)	\$71,645,444	\$26,200,000	\$45,445,444	\$25,006,760	\$11,218,062	\$13,788,698	\$39,071,246	\$15,715,885	\$23,355,361

2. Program Income: Please provide the program income you listed in your application budget and actuals to date through the end of the reporting period.

a. Application Budget Program Income: \$0	b. Program Income to Date: \$135,111
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