

July 20, 2010

VT Quarterly Report as of 06/30/2010

State Broadband Data & Development Grant Program Quarterly Report Content

Directions: Please answer all questions completely. If you have questions, please do not hesitate to call your assigned Federal Program Officer. Please note that each grantee's quarterly report will be made publicly available on the broadband mapping section of www.ntia.doc.gov.

Broadband Mapping:

1. Describe progress made against goals, objectives, and milestones detailed in the approved project plan. In regard to these goals, please provide the specific information listed below.

A. Broadband Provider Data:

- a. Please provide the name of each broadband provider that you have identified as providing service in your state. (See attached spreadsheet for data that is current for the March 31st, 2010 delivery.)
- b. For each such provider, provide the following information on the attached spreadsheet:
 - i. Have you contacted the provider to provide data? (See attached spreadsheet.)
 - ii. Have you reached agreement for data sharing (signed NDA or other agreement)? (See attached spreadsheet.)
 - iii. Has the provider supplied you with a complete set of data? (See attached spreadsheet.)
 - iv. Have you completed validation of these data sets? (See attached spreadsheet.)
- c. Have you encountered challenges with any providers that indicate that these providers may refuse to participate in this project? If so, describe the discussions to date with each of these providers.

***VT Response** – VT is actively requesting updates, changes and new coverage data (to be current as of 6/30/2010) from the Providers in our state. We have no comprehensive status to provide on where that effort stands at this time. However, there is no reason to believe that participation will change significantly from the high level of participation we saw for the March 31, delivery. We will continue to pursue updated data from the Providers in future months in preparation for the October 1, delivery.*

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

VT Response – Yes, we are collecting information through other means. Data for newly located wireless tower and transceiver sites and other information is extracted from the required reporting data for VT Act 250 data. Data is also being extracted from other public repositories such as Adirondack Park Agency maps for cell sites in western New York that may serve VT as that data is updated.

The VT Dept. of Public Service is tasked with doing field work to locate central office facilities in the state and then GPS the locations for inclusion in the data. At this time, they have created an example dataset for VCGI to review and approve prior to full data collection during the summer.

Additional, public data sources are being considered for future years. VT will be in touch with other states to find out what sources have been effective for them in updating their data.

C. Verification Activities:

- a. Please name the verification activities you plan to implement.

VT Response – The VT Broadband Mapping Team will be performing verification by survey (on-line and phone), drive testing, and a minimal amount of field verification.

- b. If you have begun verification activities, please describe the status of these activities. If not, what is your projected timeline for beginning and completing activities?

VT Response –The VT Broadband Mapping Team has been working on the following verification activities.

Verification using Survey Data

The VT Center for Rural Studies (CRS) conducted a short-form phone and online survey of broadband usage in Vermont in June. Respondents indicated whether they currently have broadband, the type of broadband service, the provider, and the address where they received service. CRS collected 1728 responses from residences and businesses.

VCGI will be geocoding addresses included in the survey responses, and will use the resulting data to help verify Vermont's broadband coverage data.

Drive Testing and Field Verification

This quarter saw a significant increase in the drive testing and field verification activities in VT. While we have not completed and integrated the findings of this work the latest status is as follows;

WISP Field Test:

Our propagation mapping sub-contractor traveled to Vermont the week of June 21 to spot check WISP signal levels versus propagation predictions on a small test sample of sites. This testing was conducted using both a spectrum analyzer and 802.11 “sniffer” tool to decode SSID/MAC information. The contractor is still reviewing this data.

Cellular Drive Test Data Processing:

Data extraction/processing. Our drive testing sub-contractor has nearly completed their efforts to extract and organize the data collected during the cellular drive test. This has been an involved process due to the different information available from the different phones. To complicate matters, the format/location of the information changes depending on the state of the phone (network type, voice call, data call or idle). They collected good data in the following areas:

- Voice call success/fail*
- Data call success/fail and high level data transfer summary*
- Uplink data speeds*
- Downlink data speeds*
- Received signal strength indications (RSSI) – although there are multiple versions of this, see discussion below.*
- Network used (shows where the phone was roaming for AT&T/T-Mobile)*
- Network type (indicates min/max voice and data services supported)*
- Serving cell information: CellID for AT&T/T-Mobile, serving cell location (lat/long) for Sprint and USC and a few locations for Verizon (still being verified)*

They are still working on the following:

- Neighbor cell lists (identifier, channel, RSSI for all of the neighbor sites that the mobile phone could hear). They are trying to extract a unique identifier for these and determine if this info can be used to identify additional transceiver locations.*
- Band/channel used information – identifies the frequency band used. We currently only have partial info here.*

Further Coverage Map Verification:

The sub-contractor is reviewing existing propagation maps versus drive test received signal levels. They have just begun the process of comparing the RSSI values from the different phones to the propagation maps. This is complicated by the different received

signal levels from the phones which must be normalized. Due to the additional sites identified, the propagation maps are less dense than the actual (due to missing sites), so while they give a good approximation of the overall shape of the coverage area, they are not as accurate for the absolute signal level within the coverage area. Analysis of RSSI and actual data rates is also planned.

Total overall statistics for the drive testing effort in VT is as follows;

- *11 full days of driving (5/31-6/10)*
- *14.5 hours testing per day (average). 12 hrs min, 16.5 hrs max*
- *5020 total miles driven*
- *2.7 GB of collected data*
- *0 speeding tickets*

D. Staffing:

- a. How many jobs have been created or retained as a result of this project? (Use the same figure that you utilized in your ARRA report). (See attached spreadsheet.)
- b. Is the project currently fully staffed? If not, please describe the expected dates that you expect to hire the staff positions named above. Please also describe how any lack of staffing will impact the project's timeline. (See attached spreadsheet and further clarification below.)

VT Response – *The project is fully staffed internally at VCGI and amongst all of the VT Broadband Mapping Team members at this time. However, we still have one planned sub-contractor RFP to award in order to meet all of the tasks designated in our proposal. The final RFP is for a contract for marketing or public relations support to develop a robust outreach strategy oriented toward gaining cooperation from broadband providers and increasing public awareness of the effort.*

- c. When fully staffed, how many full-time equivalent (FTE) jobs do you expect to create or retain as a result of this project? (See attached spreadsheet.)
- d. Please provide the title and percentage of FTE for each job. (See attached spreadsheet.)
- e. Subcontracts: If you plan to subcontract any portion of your work, please provide the following information on the attached spreadsheet for each subcontract greater than \$25,000. (See attached spreadsheet.)
 - i. Purpose of the subcontract.
 - ii. Name of Vendor (enter "Not Selected" if no vendor has been selected)
 - iii. Has an RFP been released (if applicable)? (Y, N, NA) If so, when?

- iv. Has the project team executed a contract with the selected vendor? (Y,N) If so, please provide:
 - a. Start/end dates of contract
 - b. Contract value
 - i. Federal Portion
 - ii. In-kind Portion
- E. Please describe the status of any project milestone that has not been included in the information provided above.

VT Response - None

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

VT Response – *The challenges that the VT team faced in the Apr-June 2010 quarter were primarily related to standard data development issues such as completing NDAs, getting robust survey responses for community anchor institutions, defining a standard minimum level of data quality for Provider submissions, establishing repeatable processes and documenting them, making decisions about how the drive testing data will be integrated into the broadband coverage data and other important technical considerations. Managerial challenges were also primarily standard RFP development, review and selection issues.*

In each case the VT Team is dealing with these issues through the application of standard industry practices whenever possible. In some cases communication with other states has been helpful to make decisions about treatment of data. In some cases, the situation was singular in nature and our team made the decision amongst ourselves.

Funding:

- a. How much federal grant funding has been expended as of the end of the last quarter, and how much funding remains? *(See attached spreadsheet.)*
- b. How much of the matching funds have been expended as of the end of the last quarter, and how much funding remains? *(See attached spreadsheet.)*
- c. For any funds expended for a subcontract, please identify the name of the subcontractor and the amount. An example is provided in the template. *(See attached spreadsheet.)*
- d. Hardware/Software: Has the project team purchased the software/hardware described in the application? If so, please list. Please note any hardware/software that has not yet been purchased and explain why it has not been purchased.

VT Response – *The hardware has not been purchased yet, but it will be purchased in the next quarter. The VT Broadband Mapping Team is still making decisions about our web strategy etc. and it is not yet clear as to whether we will be purchasing the software identified in our proposal.*

That decision will be made within the design discussions that will take place with our website development contractor.

- e. Data Sets: Has the project team purchased the data sets described in the application? If so, please list. Please note any data set that has not yet been purchased and explain why it has not been purchased.

VT Response – *The Vermont Project team was not planning on purchasing any data in our original proposal. We have included a funding request in our July 1st Amendment submission that would allow us to purchase privately sourced data. We will rely on the experiences of other states in finding out what data products have been found to be most useful.*

2. Please provide any other information that you think would be useful to NTIA as it assesses your broadband mapping project.

VT Response- *As mentioned in the March Report, Provider participation has been good in Vermont. We believe that level of participation should continue. The most promising new source of information for us this quarter is the results of the drive testing effort. This will give us a very good picture of the actual extent of wireless coverage along state roads.*

We have serious questions about the veracity of the claims from Satellite Service Providers that the “entire state” has access to their broadband service. There are certainly terrain and ground cover issues that impact satellite access in VT. The question for us, that remains unanswered at this point, is how we treat satellite provider data. If we accept their claims of total coverage, the public already knows that is not true and will present credibility issues for our products. Yet we have limited capacity to verify point-of-service availability at all of the state’s addresses given the site specific nature of this problem. We will be looking for guidance from other states or NTIA on this question.

Broadband Planning:

Vermont Did Not Request Funding for Broadband Planning

1. If the project received funding for broadband planning, 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. (Answer below.)
2. Please describe any challenge or obstacle that you have encountered and detail the mitigation strategies the project team is employing. (Answer below.)
3. Does the project team anticipate any changes to the current project plan for broadband planning? If so, please describe these anticipated changes. Please note that NTIA will need to approve changes to the project plan before they can be implemented. (Answer below.)

4. Funding:
 - a. How much grant funding has been expended as of the end of the last quarter, and how much funding remains? (Use attached spreadsheet.)
 - b. How much of the matching funds have been expended as of the end of the last quarter, and how much funding remains? (Use attached spreadsheet.)
 - c. For any funds expended for a subcontract, please identify the name of the subcontractor and the amount. An example is provided in the template. (Use attached spreadsheet.)

5. Please provide any other information that you think would be useful to NTIA as it assesses your broadband planning project. (Answer below.)