



**FLORIDA RURAL BROADBAND ALLIANCE (FRBA)
FLORIDA RURAL MIDDLE MILE NETWORKS – NORTHWEST AND
SOUTH CENTRAL REGIONS PROJECT:
BROADBAND NEEDS ASSESSMENT, DIAGNOSTICS, AND
BENCHMARKING OF SELECTED ANCHOR INSTITUTIONS**

FIRST INTERIM REPORT OF PROJECT ACTIVITIES – DRAFT

(November 1 – December 31, 2010)

December 9, 2010

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FRBA FLORIDA RURAL MIDDLE MILE NETWORKS – NORTHWEST AND SOUTH CENTRAL REGIONS PROJECT: BROADBAND NEEDS ASSESSMENT, DIAGNOSTICS, AND BENCHMARKING OF SELECTED ANCHOR INSTITUTIONS: FIRST INTERIM REPORT OF PROJECT ACTIVITIES – DRAFT

The Information Use Management and Policy Institute (Information Institute) at Florida State University has been conducting a number of activities in fulfillment of its award from the Florida Rural Broadband Alliance (FRBA) to conduct work in support of its \$23 million Rural Middle Mile Networks project between November 1, 2010 and December 31, 2011. This first interim report provides a summary of project activities to date (Nov. 1 – Dec. 31, 2010) and descriptions of planned activities for the remainder of the project (Jan. 1 – Dec. 31, 2011).

Task 1: Detailed Project Tasking

During the first phase of the study, study team members detailed project tasking and performed other organizational activities, all in consultation with the FRBA project liaison. See Appendix A for the Detailed Project Tasking. This task includes organizational activities in preparation for the beginning of the data collection for the needs assessment phases of the project. Note that development of the contact list of anchor institutions in the Northwest and South Central RACECs required considerably more time and effort than the project team originally anticipated. For purposes of confidentiality, the contact list is being provided separately to FRBA and will be updated as the survey is sent out and managed in January – March 2011. Table 1 provides an overview of activities completed to date for Task 1.

Table 1. Key Activities and Status for Task 1

ACTIVITY	STATUS UPDATE	TIMELINE
1. Prepare for data collection activities – <ul style="list-style-type: none"> • Initiate development of contact list of selected anchor institutions; • Write letter that explains project details and importance to selected anchor institution participants; and • Prepare to mail and/or email introduction letter to selected anchor institutions to introduce project. 	Contact list begun (Sent separately to FRBA) Letter drafted (See Appendix B) Plans have begun to send the mailing in mid-January 2011	November 1, 2010 – December 31, 2010
2. Begin development of survey methodology – <ul style="list-style-type: none"> • Decide whether to do a census (i.e., survey all institutions on the list) or use a sample (if there are more than 200 institutions); • If a sample will be used, develop a simple random sample of a subset of the anchor institutions, in which each institution in the full list has the same probability of being chosen as does any other institution. 	The Institute has determined that although there are approximately 500 institutions in the population, a census, rather than a sample, is necessary to meet the stated goals.	November 1, 2010 – December 31, 2010

Table 1. Key Activities and Status for Task 1 (continued)

ACTIVITY	STATUS UPDATE	TIMELINE
3. Prepare to contact anchor institutions to develop a list of those interested in participating in the onsite diagnostics activities.	Contact list begun and institutions contacted for additional information.	November 1, 2010 – December 31, 2010
4. Begin development of sampling/selection methodology for interviews and focus groups that pulls a purposive sample of anchor institutions in each county. The sample will comprise institutions that indicate interest in participating, and reasonable effort will be made ensure that each county and each type of institution in the region is represented.	Sampling methodology begun; likely to depend upon respondents to the survey	November 1, 2010 – December 31, 2010
5. Begin drafting measurement instruments – <ul style="list-style-type: none"> • Draft survey instrument; • Draft metrics for diagnostics assessment; and • Draft interview and focus group questions. 	Draft survey instrument attached (See Appendix C) Draft diagnostics metrics attached (See Appendix D) Draft interviews/focus group questions attached (See Appendix E)	November 1, 2010 – December 31, 2010
6. Prepare to produce survey – <ul style="list-style-type: none"> • Draft of Survey Monkey version; and • Draft of paper version. 	Both versions drafted (See Appendix C)	November 1, 2010 – December 31, 2010
7. Begin developing a project website – <ul style="list-style-type: none"> • Include sections for project information, data collection instruments, a self-diagnostics tool, and project reports; and • Load a link to the Survey Monkey survey on the site. 	Beta version of project website available at http://frba.ii.fsu.edu that includes project information and placeholders for other sections including the survey	November 1, 2010 – December 31, 2010
8. Work with FRBA liaison to fine-tune project tasking and data collection instruments.	Tasking document (Appendix A) and data collection instruments sent to liaison for review	November 1, 2010 – December 31, 2010
9. Deliver interim report that details completed project activities.	Complete as of submission of this report	December 31, 2010

Task 2: Data Collection

Data collection activities will include conducting a needs assessment and benchmarking survey, onsite diagnostics collection, and interviews and/or focus groups that will follow up on the survey and collect data on situational factors and issues that impact anchor institutions’ deployment of broadband networks. See the Detailed Project Tasking in Appendix A for key activities and a tentative time line for Task 2. The survey is on track to begin January 1, 2011, onsite diagnostics and interviews/focus groups are on track to being May 1, 2011, and these activities will be submitted in the second interim report, due June 30, 2011.

Task 3: Data Analysis

The various data collected in Task 2 will be analyzed, tabulated, and verified using descriptive statistics, GIS mapping methodologies, and content analysis of primary themes and issues. See the Detailed Project Tasking in Appendix A for key activities and a tentative time line for Task 3. All task 3 activities are on track to begin July 1, 2011, and these activities will be submitted in the third interim report, due October 31, 2011.

Task 4: Reporting

The study team will develop a final draft report that describes project activities, summarizes findings, identifies key issues, and makes specific recommendations for middle mile network deployment and strategies to better meet the broadband service needs of anchor institutions in the Northwest and South Central RACECs. Key FRBA staff will provide input for the report, and a member of the study team will be available to make an oral presentation to the FRBA if requested. See the Detailed Project Tasking in Appendix A for key activities and a tentative time line for Task 4. All task 4 activities are on track to being November 1, 2011, and these activities will be submitted in the final report and oral presentation, due December 31, 2011.

Summary

In the first two months of the project (November 1 – December 31, 2010), the project team has started organizing the project in collaboration with the FRBA liaison. In addition, development has begun on the list of anchor institution contacts, measurement instruments and metrics, and the project website. The team is on track to begin the next phase of the project beginning January 1, 2011. Key activities to be accomplished in this next phase are finalizing the survey instrument and conducting the survey, conducting interviews and/or focus groups with anchor institution representatives, and conducting onsite diagnostics at selected anchor institutions. The next Interim Report will be delivered to FRBA June 30, 2011.

APPENDIX A: PROJECT TASKING

FLORIDA RURAL BROADBAND ALLIANCE (FRBA), LLC FLORIDA RURAL MIDDLE MILE NETWORKS – NORTHWEST AND SOUTH CENTRAL REGIONS PROJECT: BROADBAND NEEDS ASSESSMENT, DIAGNOSTICS, AND BENCHMARKING OF SELECTED ANCHOR INSTITUTIONS

PROJECT TASKING¹

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December 8, 2010

The Information Use Management and Policy Institute (Information Institute)² at Florida State University has received an award from the Florida Rural Broadband Alliance (FRBA)³ to conduct work in support of its \$23.7 million Florida Rural Middle Mile Networks – Northwest and South Central Regions project for which FRBA has obtained funding from the National Telecommunications and Information Administration (NTIA)⁴ as part of the Broadband Technology Opportunity Program (BTOP)⁵. The overall purposes of this project are to (1) inform the deployment and configuration of the middle mile network, (2) increase the successful deployment and use of broadband at the various anchor institutions in the 8 county Northwest RACEC, the 6 county South Central RACEC, and the City of Immokalee, (3) insure that users of the various anchor institutions obtain high quality and up-to-date broadband services, (4) position the FRBA to better document the success of the project based on intended outcomes described in the original proposal to the National Telecommunications and Information Administration (NTIA), and (5) assist in obtaining additional funds for broadband expansion and economic development in the region. Four tasks will be completed to meet these purposes.

- Task 1: Detailed Project Tasking (November 1, 2010 – December 31, 2010⁶)
- Task 2: Data Collection (January 1, 2011⁷ – June 30, 2011)
- Task 3: Data Analysis (July 1, 2011 – October 31, 2011)
- Task 4: Reporting (November 1, 2011 – December 31, 2011)

¹ Note that this tasking document is subject to change, based on the needs of the project.

² <http://www.ii.fsu.edu>

³ <http://weconnectflorida.com/>

⁴ <http://www.ntia.doc.gov/>

⁵ <http://www2.ntia.doc.gov/>

⁶ Although the proposal indicated Task 1 would be complete November 30, 2010, due to a delay in starting the project, Marguerite McCauley indicated that Task 1 could be extended to December 31, 2010.

⁷ Although the proposal indicated Task 2 would begin December 1, 2010, due to the extension of Task 1, Task 2 will begin January 1, 2011.

This document describes the activities related to each of the four key tasks that the Information Institute will conduct for this initiative during the period July 7, 2010 through June 12, 2011. The following tasking schedule is tentative; the final schedule is dependent on a range of factors.

The project deliverables will be Interim Reports at the completion of Tasks 1-3 and a final report provided to FRBA on December 31, 2011 that will summarize project activities, identify benchmarks, summarize findings, identify key issues, and make specific recommendations for middle mile network deployment and strategies to better meet the Northwest and South Central RACEC anchor institutions’ broadband service needs.

Task 1: Detailed Project Tasking

During the first phase of the study, members of the study team will detail project tasking and perform other organizational activities, all in consultation with the FRBA project liaison. Key activities and a tentative time line for Task 1 are delineated in Table 1.

Table 1. Key Activities and Timeline for Task 1

ACTIVITY	TIMELINE
1. Prepare for data collection activities – <ul style="list-style-type: none"> • Initiate development of contact list of selected anchor institutions; • Write letter that explains project details and importance to selected anchor institution participants; and • Prepare to mail and/or email introduction letter to selected anchor institutions to introduce project. 	November 1, 2010 – December 31, 2010
2. Begin development of survey methodology – <ul style="list-style-type: none"> • Decide whether to do a census (i.e., survey all institutions on the list) or use a sample (if there are more than 200 institutions); • If a sample will be used, develop a simple random sample of a subset of the anchor institutions, in which each institution in the full list has the same probability of being chosen as does any other institution; and 	November 1, 2010 – December 31, 2010
3. Prepare to contact anchor institutions to develop a list of those interested in participating in the onsite diagnostics activities.	November 1, 2010 – December 31, 2010
4. Begin development of sampling/selection methodology for interviews and focus groups that pulls a purposive sample of anchor institutions in each county, in which institutions are sampled that indicate interest in participating and such that reasonable effort is made to insure that each county and each type of institution in the region is represented.	November 1, 2010 – December 31, 2010
5. Begin drafting measurement instruments – <ul style="list-style-type: none"> • Draft survey instrument; • Draft metrics for diagnostics assessment; and • Draft interview and focus group questions. 	November 1, 2010 – December 31, 2010
6. Prepare to produce survey – <ul style="list-style-type: none"> • Draft of Survey Monkey version; and • Draft of paper version. 	November 1, 2010 – December 31, 2010

Table 1. Key Activities and Timeline for Task 1 (continued)

ACTIVITY	TIMELINE
7. Begin developing a project website – <ul style="list-style-type: none"> • Include sections for project information, data collection instruments, a self-diagnostics tool, and project reports; and • Load a link to the Survey Monkey survey on the site. 	November 1, 2010 – December 31, 2010
8. Work with FRBA liaison to fine-tune project tasking and data collection instruments.	November 1, 2010 – December 31, 2010
9. Deliver interim report that details completed project activities.	December 31, 2010

These activities will be conducted to address Task 1 and outcomes will be reported in the first interim report due December 31, 2010.

Task 2: Data Collection

Data collection activities will include conducting a needs assessment and benchmarking survey, onsite diagnostics collection, and interviews and/or focus groups that will follow up on the survey and collect data on situational factors and issues that impact anchor institutions’ deployment of broadband networks. Key activities and a tentative time line for Task 2 are delineated in Table 2.

Table 2. Key Activities and Timeline for Task 2

ACTIVITY	TIMELINE
1. Conduct survey of anchor institutions – <ul style="list-style-type: none"> • Mail survey packet (including cover letter, informed consent form, and a paper version of the survey) to selected anchor institutions; • Track survey completions; and • Follow up with survey recipients by phone and/or email to encourage and aid in survey completion. 	January 1, 2011 – April 30, 2011
2. Conduct diagnostics analyses at volunteer institutions (on-site and via the self-diagnostics tool).	May 1, 2011 – June 30, 2011
3. Conduct interviews and/or focus groups with representatives of anchor institutions in each county.	May 1, 2011 – June 30, 2011
4. Deliver interim report that details completed project activities.	June 30, 2011

These activities will be conducted to address Task 2 and outcomes will be reported in the second interim report due June 30, 2011.

Task 3: Data Analysis

The various data collected in Task 2 will be analyzed, tabulated, and verified using descriptive statistics, GIS mapping methodologies, and content analysis of primary themes and issues. Key activities and a tentative time line for Task 3 are delineated in Table 3.

Table 3. Key Activities and Timeline for Task 3

ACTIVITY	TIMELINE
1. Analyze, tabulate, and verify survey data – <ul style="list-style-type: none"> • Use descriptive statistics to analyze survey responses; • Describe the existing and future broadband uses and applications of the region’s anchor institutions; • Describe the existing bandwidth being purchased at the “front door” and at the workstation-level for the anchor institutions; • Determine the current cost for the bandwidth being purchased by anchor institutions; • Identify the vendor(s) currently supplying the existing bandwidth for anchor institutions; • Identify situational factors and issues that impact whether anchor institutions decide to obtain or increase broadband capacity; • Obtain baseline data related to broadband connectivity and use that can be used to justify and support additional broadband funding requests for the region; and • Use GIS methodologies to map metrics such as anchor institution broadband costs and connections speeds. 	July 1, 2011 – October 31, 2011
2. Analyze diagnostics – <ul style="list-style-type: none"> • Describe the existing broadband networks currently deployed in the region’s anchor institutions; • Identify situational factors and issues that impact how anchor institutions deploy their broadband networks; and • Determine ways that the region’s anchor institutions can improve their network deployments to increase connection speeds at the workstation. 	July 1, 2011 – October 31, 2011
3. Analyze interview and focus group data – <ul style="list-style-type: none"> • Identify situational factors and issues that impact whether anchor institutions decide to obtain or increase broadband capacity; and • Describe improvements at anchor institutions that are due to the Florida Rural Middle Mile Networks – Northwest and South Central Regions project. 	July 1, 2011 – October 31, 2011
4. Deliver interim report that details completed project activities.	October 31, 2011

These activities will be conducted to address Task 3 and outcomes will be reported in the third interim report due October 31, 2011.

Task 4: Reporting

The study team will develop a final draft report that describes project activities, summarizes findings, identifies key issues, and makes specific recommendations for middle mile network deployment and strategies to better meet the broadband service needs of anchor institutions in the Northwest and South Central RACEC. Key FRBA staff will provide input for the report, and a member of the study team will be available to make an oral presentation to the FRBA if requested. Key activities and a tentative time line for Task 4 are delineated in Table 4.

Table 4. Key Activities and Timeline for Task 4

ACTIVITY	TIMELINE
1. Develop draft report – <ul style="list-style-type: none">• Describe project activities;• Summarize findings and identify key issues;• Make specific recommendations for middle mile network deployment and strategies to better meet the anchor institution broadband service needs; and• Work with FRBA liaison to finalize report.	November 1, 2011 – December 31, 2011
2. Deliver final report and make oral presentations findings to FRBA staff and FRBA board of directors.	December 31, 2011

These activities will be conducted to address Task 4 and outcomes will be reported in the final report due December 31, 2011.

APPENDIX B: DRAFT CONTACT LETTER

<<DATE>>

Dear «CONTACT_NAME»:

I am writing to introduce an exciting new Florida Rural Broadband Alliance (FRBA) project and to request your assistance.

We have obtained funding from the National Telecommunications and Information Administration (as part of the Broadband Technology Opportunity Program) to build a new Middle Mile broadband infrastructure. This infrastructure will extend the high-speed Internet backbone capacity for local last-mile providers in the 8-county Northwest RACEC, the 6-county South Central RACEC, and the City of Immokalee, in order to better serve vital public sector services and private commercial customers.

To support this project, we have hired Florida State University's Information Use Management & Policy Institute (Information Institute; www.ii.fsu.edu) to conduct a needs assessment of the existing and future broadband uses and applications of the region's anchor institutions (such as libraries, schools, and hospitals) including broadband diagnostics at selected anchor sites to describe existing broadband networks, configurations, and uses. This research will inform the deployment and configuration of the Middle Mile network, increase the successful deployment and use of broadband at the region's various anchor institutions, insure that users of the various anchor institutions obtain high quality and up-to-date broadband services, help the FRBA to better document the success of the project, and assist in obtaining additional funds for broadband expansion and economic development in the region.

We need your help identifying the type of broadband currently being used by your anchor institution, as well as its future broadband-related needs. Please follow this link: <<http://frba.ii.fsu.edu/survey>> to our brief, easy-to-complete online survey that asks about your institution's current broadband situation and its future needs. We are enclosing a copy of the questionnaire so you can prepare your answers prior to filling in the online survey. If you do not have access to the Internet to complete the survey, please fax your responses to (850) 644-4522 or mail responses to the NFBA at: 1500 Mahan Drive, Suite 250, Tallahassee, FL 32308.

Please ensure that your institution completes the survey and participates to the extent possible in the subsequent interviews and onsite broadband diagnostics. Please note that only those institutions that complete the survey will be eligible for interviews and onsite broadband diagnostics. We know that your time (and your staff's time) is very valuable, but the results of this work will have many positive outcomes for the anchor institutions and the residents of the Florida Rural Broadband Alliance. It is important to receive as many responses from organizations and individuals as possible. If you have any questions about this needs assessment, please contact the Information Institute at (850) 645-5683.

Thank you.
Best regards,



Pat Lien
System Manager

APPENDIX C: SURVEY INSTRUMENT

CONSENT FORM

Your participation in this study indicates your consent, given voluntarily and without element of force or coercion in the research project entitled “Florida Rural Broadband Alliance Anchor Institution Broadband Needs Assessment, Diagnostics, and Benchmarking, 2010-2011.” Only persons 18 or older may participate in this study. Your participation in this study indicates that you are 18 years of age or older.

If you choose to participate, you will be asked to complete the following survey. This will take approximately one hour. Please contribute as many comments as possible, if applicable. Your feedback will be very valuable to this effort. Your contribution will involve participation in this study and your participation in this study is voluntary. If you choose not to participate there will be no penalty. You may withdraw from the study at any time. Your answers will remain confidential to the full extent allowed by law. The results of this research study will be published, but your name and/or contact information will not be used in any form. All files related to this study will be stored in a locked file cabinet at the Information Institute, Room 010 of the Louis Shores Building at Florida State University and will remain confidential to the full extent allowed by law. The files will be held in this secure location until December 31, 2014 and will be destroyed by December 31, 2014.

There are no foreseeable risks or discomforts if you agree to participate in this study. Although there may be no direct benefit to you, the possible benefit of your participation is an improvement in anchor institutions’ ability to provide computer and broadband Internet access and services to the 8-county Northwest RACEC, the 6-county South Central RACEC, and City of Immokalee residents. If you have any questions concerning this study after the session has concluded, please contact the Information Institute Director, Dr. Charles R. McClure, Francis Eppes Professor, by email at cmclure@lis.fsu.edu.

If you choose not to participate, you may do so at this time or at any time during the survey. If you have any questions while taking the survey, please call the Information Institute at (850) 645-5683.

Thank you.

I, _____,
(Print name here)

formally acknowledge that I am informed of all benefits and risks associated with participating in this research, and that I give my informed consent to participate in this research.

SIGNED _____ DATE _____
(Signature here)

General Information

Type of anchor institution you represent (Choose only one):

- School
- School District
- Higher Education
- Federally Qualified Health Clinic
- Rural Health Clinic
- Hospital
- Other, please describe: _____
- City/county government agency
- Fire Department
- Law Enforcement
- Emergency Medical Service (EMS)
- Library

What is the name of your institution?

What is your job title? _____

What is the job title of the person who has the authority to contract for broadband services?

When did your institution first obtain Internet service?

- My institution does not have Internet service
- Year service was obtained: _____

If your institution does not have Internet service are there plans to obtain it? (Choose only one)

- Yes, within 6 months
- Yes, within 12 months
- Yes, in more than 12 months
- No
- My institution already has Internet service

Please provide us with some reasons why your institution is planning to obtain (or not obtain) Internet service in the near future.

PART 1: Your Institution's Internet Connection

The following questions refer to the Internet connection at your institution. For the purposes of this survey, an Internet connection is defined as a telecommunications service through which your institution connects to the World Wide Web, transfers data (e.g., via file transfer protocol or FTP), uploads/downloads files, voice over Internet protocol (VoIP), etc. If your institution uses multiple Internet Service Providers (ISPs), please answer all questions with regard to your institution's *primary* ISP.

1. Which kind of Internet connection does your institution have? (Choose only one)
 - Dial-up
 - DSL (Digital Subscriber Line)
 - Cable modem
 - Other, please describe: _____
 - Fiber
 - Satellite
 - My institution does not have Internet service

2. Which Internet Service Provider (ISP) does your institution subscribe to? (Choose only one)
 - AT&T
 - Comcast
 - Other, please describe: _____
 - Century Link (previously Embarq)
 - My institution does not have Internet service

3. What is the *advertised* speed of the Internet connection to your institution (that is, the speed your ISP says you get at the *front door*)? (Choose only one)
 - Less than 1.5 Mbps
 - 1.5 Mbps
 - 1.6 Mbps – 5 Mbps
 - My institution does not have Internet service
 - 5.1 Mbps – 10 Mbps
 - 10.1 Mbps – 20 Mbps
 - Greater than 20 Mbps

4. Has your institution obtained Internet service or increased the speed of your Internet service since March 1, 2010? (Choose only one)
 - Yes, we have obtained Internet service
 - Yes, we have increased the speed
 - We have *both* obtained Internet service and increased its speed
 - No

5. Is your institution interested in increasing the speed of its Internet connection at this time? (Choose all that apply)
 - Yes, but we already have the maximum speed available in our area
 - Yes, but we cannot afford it at this time
 - Yes, and we have plans to increase within the next year
 - Yes, but we have no plans to increase within the next year
 - Yes, but we do not have the technical knowledge needed
 - No

6. Assuming you would like to increase your speed, what speed would your institution *like* to have? (Choose only one)
 - Less than 1.5 Mbps
 - 1.5 Mbps
 - 1.6 Mbps – 5 Mbps
 - We already have sufficient Internet speed
 - 5.1 Mbps – 10 Mbps
 - 10.1 Mbps – 20 Mbps
 - Greater than 20 Mbps

7. Please indicate the importance of each of the following obstacles to obtaining broadband or increasing broadband speed at your institution. (Choose one option per row)

	Extremely Important	Very Important	Somewhat Important	Not Very Important	Not Important
Technical issues	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Availability of providers in your area	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Internet service cost	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Ongoing maintenance costs	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Availability of specialized IT personnel	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>

8. Please provide us with any additional comments you might have regarding the speed of your Internet connection – including some reasons why your institution may be considering obtaining (or not obtaining) an Internet connection or increasing (or not increasing) the speed of your existing Internet connection.

PART 2: Cost of Your Institution’s Internet Connection

The following questions refer to the cost for Internet service at your institution.

- What is the total *annual* amount that your institution pays your ISP for your Internet service?
 - My institution does not pay for our Internet service
 - My institution does not have Internet service
 - Total annual charge: _____
- If you are a library or a school, what is your total annual E-Rate discount?
 - My institution is not a library or a school
 - My institution is eligible for E-Rate but does not apply for it
 - I do not know what E-Rate is
 - My institution does not have Internet service
 - Annual E-Rate discount amount: _____
- What is the source of funds used to pay your ISP for your Internet service? (Choose all that apply)
 - Your institution’s budget
 - County or regional funding
 - State funding
 - Other, please describe: _____
 - Federal funding
 - Not applicable

PART 3: Use of the Internet at Your Institution

The following questions refer to how your institution uses the Internet.

- How many dedicated *staff* workstations does your institution have *in total*? _____

2. How old are your dedicated *staff* workstations? (Place a number in each row)
Number of workstations that are less than 1 year old: _____
Number of workstations that are 1-2 years old: _____
Number of workstations that are 3-4 years old: _____
Number of workstations that are greater than 4 years old: _____
3. How many dedicated *staff* workstations does your institution have that are *not* connected to the Internet? _____
4. What is the *actual* speed of the Internet connection at one of your dedicated *staff* workstations? (Use speedtest.net <<http://speedtest.net/>> and click on 'Begin Test' to conduct a speed test)
Upstream (in Mbps): _____
Downstream (in Mbps): _____
5. How often does your institution's Internet connection speed meet *staff* needs?
 Always Most of the time Sometimes Rarely Never My institution does not have Internet service
6. How many dedicated *public* workstations does your institution have *in total*? _____
7. How old are your dedicated *public* workstations? (Place a number in each row)
Number of workstations that are less than 1 year old: _____
Number of workstations that are 1-2 years old: _____
Number of workstations that are 3-4 years old: _____
Number of workstations that are greater than 4 years old: _____
8. How many dedicated *public* workstations does your institution have that are *not* connected to the Internet? _____
9. What is the *actual* speed of the Internet connection at one of your *public workstations*? (Use speedtest.net <<http://speedtest.net/>> and click on 'Begin Test' to conduct a speed test)
Upstream (in Mbps): _____
Downstream (in Mbps): _____
10. How often does your institution's Internet connection speed meet *public* needs?
 Always Most of the time Sometimes Rarely Never My institution does not have public Internet service
11. What does the *public* use the Internet for at your institution? (Choose all that apply)
 E-mail Information or databases regarding investments
 Educational resources and databases Government information and services
 Information for small business development Computer and Internet skills improvement
 Social networking Services for job seekers
 Information about the community Services to immigrant populations
 Other, please describe: _____

PART 4: Your Institution’s Wireless Internet Service

The following questions refer to the wireless Internet service available at your institution.

1. Does your institution have wireless Internet service (e.g., Wi-Fi)?
 Yes No

2. If your institution does not have wireless Internet service, are there plans to obtain it? (Choose only one)
 Yes, within 6 months
 Yes, within 12 months
 Yes, in more than 12 months
 No
 My institution already has wireless Internet service

3. Please indicate the importance of each of the following obstacles to obtaining wireless Internet service at your institution. (Choose one option per row)

	Extremely Important	Very Important	Somewhat Important	Not Very Important	Not Important
Technical issues	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Availability of providers in your area	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Internet service cost	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Ongoing maintenance costs	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Availability of specialized IT personnel	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>

4. Who is able to use your institution’s wireless Internet service? (Choose all that apply)
 The staff inside the building
 The staff outside the building
 The public inside the building
 The public outside the building
 My institution does not have wireless Internet service

5. How many wireless access points (WAPs) does your institution have?
 My institution has wireless Internet service, but I do not know what a wireless access point is
 My institution does not have wireless Internet service
 Number of wireless access points: _____

6. Please provide us with more details as to why your institution is planning to obtain (or not obtain) wireless Internet service.

PART 5: Technology Training at Your Institution

The following questions refer to training on technology-related topics offered by your institution to staff and/or the public.

1. How comfortable is the staff at your organization with the following topics? (Choose one option per row)

	Extremely Comfortable	Very Comfortable	Somewhat Comfortable	Not Very Comfortable	Not at All Comfortable
Basic computer skills (e.g., using the mouse)	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Basic Internet skills (e.g., getting online)	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Basic e-mail skills (e.g., writing and sending e-mail)	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Advanced Internet skills (e.g., searching for information or determining information accuracy)	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Basic broadband (e.g., what it is or major uses of it)	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Advanced broadband (e.g., configuring an internal network)	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Basic wireless (e.g., what it is or major uses of it)	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Advanced wireless (e.g., setting up wireless access points)	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>

2. What kinds of computer training for *staff* is your institution planning to offer within the next year (either offered in-house or elsewhere)? (Choose all that apply)

- Basic computer skills (e.g., using the mouse)
- Basic Internet skills (e.g., getting online)
- Basic e-mail skills (e.g., creating an account, writing and sending e-mail)
- Advanced Internet skills (e.g., searching for information or determining information accuracy)
- Basic broadband (e.g., what it is or major uses of it)
- Advanced broadband (e.g., configuring an internal network)
- Basic wireless (e.g., what it is or major uses of it)
- Advanced wireless (e.g., setting up wireless access points)
- None
- Other, please describe: _____

3. How comfortable are members of the public that you serve with the following topics? (Choose one option per row; if the public does not use computers at your institution skip this question)

	Extremely Comfortable	Very Comfortable	Somewhat Comfortable	Not Very Comfortable	Not at All Comfortable
Basic computer skills (e.g., using the mouse)	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Basic Internet skills (e.g., getting online)	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Basic e-mail skills (e.g., writing and sending e-mail)	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Advanced Internet skills (e.g., searching for information or determining information accuracy)	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Basic broadband (e.g., what it is or major uses of it)	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Advanced broadband (e.g., configuring an internal network)	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Basic wireless (e.g., what it is or major uses of it)	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Advanced wireless (e.g., setting up wireless access points)	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>

4. What kinds of computer training for *the public* is your institution planning to offer within the next year (either offered in-house or elsewhere)? (Choose all that apply)

- Basic computer skills (e.g., using the mouse)
- Basic Internet skills (e.g., getting online)
- Basic e-mail skills (e.g., creating an account, writing and sending e-mail)
- Advanced Internet skills (e.g., searching for information or determining information accuracy)
- Basic broadband (e.g., what it is or major uses of it)
- Advanced broadband (e.g., configuring an internal network)
- Basic wireless (e.g., what it is or major uses of it)
- Advanced wireless (e.g., setting up wireless access points)
- None
- Other, please describe: _____

5. Please provide us with any additional comments or suggestions you might have regarding increasing the use and effectiveness of computers and the Internet at this institution.

Follow-Up

May we contact you to set up a follow-up interview?

- Yes
- No

If you responded “Yes,” please provide your name, e-mail address, and phone number:

Name: _____

E-mail: _____

Phone: _____

THANK YOU FOR PARTICIPATING

APPENDIX D: DRAFT DIAGNOSTICS METRICS

FLORIDA RURAL BROADBAND ALLIANCE ONSITE NETWORK DIAGNOSTICS: PROPOSED METHODOLOGY – DRAFT

December 7, 2010

Introduction

The purpose of this document is to provide guidance for conducting the onsite diagnostics portion of the *Broadband Needs Assessment, Diagnostics, and Benchmarking for the Florida Rural Broadband Alliance Florida Rural Middle Mile Networks project*. The Information Institute is conducting onsite diagnostics and broadband connectivity assessment for select anchor institutions from the 8-county Northwest RACEC, the 6-county South Central RACEC, and the City of Immokalee. The overall objectives of the onsite diagnostics will be to:

- Describe the existing broadband networks currently deployed in the region's anchor institutions;
- Identify situational factors and issues that impact how anchor institutions deploy their broadband networks; and
- Determine ways that the region's anchor institutions can improve their network deployments to increase connection speeds at the workstation.

The methodology for conducting the onsite broadband benchmarking efforts consists of three phases. During phase one, the Institute will generate a pool of potential anchor institutions that qualify for onsite diagnostics. This list will include only those institutions that have taken the FRBA Anchor Institution Broadband Connectivity Survey.

During phase two, the Institute will assemble a diagnostic assessment team based on the sample size, institution location and complexity of diagnostics needed; and collect documentation and onsite diagnostic data from participating anchor institutions. The assessment team will request site documentation prior to the onsite visits. These prepared items will pertain to network information such as, but not limited to, network peak usage, workstation bandwidth speed, network equipment, age of computers and number of wireless access points throughout the network. The onsite assessment team also will provide the anchor institution with information and resources regarding improving broadband quality at the institution.

During phase three, the Institute will produce diagnostic reports for individual institutions, as well as a report of aggregate connectivity and diagnostic data for the Northwest and South Central RACEC and the City of Immokalee. Individual institution reports will provide overviews of findings for each individual anchor institution, and will be provided to the individual institutions to fact check before the Institute generates a final version of each report. The aggregated report will include recommendations for addressing network issues and improving broadband quality.

Project Methodology

Phase 1: Planning

During November and December of 2010, The Information Use Management and Policy Institute developed a contact list of selected anchor institutions in the 8-county Northwest RACEC, the 6-county South Central RACEC, and the City of Immokalee. Based on the contact information collected, a letter of introduction detailing the project was mailed to the anchor institutions along with a paper version of the broadband connectivity survey and a link to the online survey, created via Survey Monkey (www.surveymonkey.com).

Anchor institutions eligible for onsite broadband assessment and diagnostics will be chosen from the pool of survey respondents. More specifically, the participants must be institutions who have agreed to further contact between the Information Institute and their organization by answering “yes” to a survey question regarding further contact. The Information Institute will develop a list of eligible institutions based on survey results and make contact with the designated contact person given in the survey to determine if the institution would like to receive the onsite broadband assessment and diagnostics.

Based on the contact with the institution’s designated contact person, a dedicated liaison should be established to facilitate further preparation for an onsite visit, should the institution choose to take part. The pool of eligible institutions will depend upon how many are interested in the onsite visits, and this will in turn dictate the order and timeline for the visit schedule. Anchor institutions that will receive onsite visits will be chosen by a stratified, random sampling methodology to ensure a diverse group of institution types in different geographic locations to provide a more complete picture for the purposes of the broadband study.

Phase 2: Data Collection

The assessment team will collect three different types of data prior to, and during onsite visits. Data collection activities will consist of the following:

- Site documentation (detailed below) request
- On site network diagnostics
- On site

Travel and time limitations, require that the assessment team conduct no more than two site visits per day, will determine an action plan for visiting the chosen anchor institutions. To maximize the time spent on site, each anchor institution’s chosen liaison will be asked to prepare items in advance of the visit. The Information Institute’s broadband assessment team will prepare a checklist of items to develop and tasks for anchor institutions to perform pre-assessment, which they will give to the team at the time of the onsite visit. In addition to preparing documents for the assessment team, the anchor institutions should provide the team with access to other individuals within the organization who would be helpful for the team to meet in person. The following documents should be requested from site liaisons prior to on site visits:

- Graph/diagram of institution’s network layout (if one exists);
- Network graph/diagram illustrating bandwidth (various connection speeds in different locations);
- Current organization chart detailing management structure (if one exists);
- Resumes or biographies of IT staff or network system administrator and/or length of time each has been employed at the institution;
- Technology Plan (if one exists);
- Equipment list, detailing model and age (date purchased) – from accountant or fiscal office; and
- Name(s) and contact information for additional people to meet during onsite visit.

The aforementioned items will be collected prior to starting the network diagnostics.

Another task to be conducted prior to the onsite visits is an Internet speed test illustrating download and upload speeds. The following URL is the same as the one used in the survey, and can be used to perform the test: <http://www.speedtest.net>. The bandwidth test is an easy to use site that the anchor institution’s designee can test twice per day for one week at any point prior to the onsite visit. Bandwidth tests should be conducted twice per day at the same times in the day over the course of the week. One test should occur during the institution’s peak usage hours, but whether the institution’s designee will adhere to a rigid testing schedule—or will conduct speed tests at all—is a variable over which the Information Institute has no control.

Onsite Network Diagnostics

The following steps will be taken to perform the onsite network diagnostic at each anchor institution:

- Collect any prepared items;

Systems Security

- Verify/check to see if the network has a firewall in place;
- Verify/check to see if workstations have firewalls in place;
- Determine level of malware protection;

Network Performance

- Conduct speed test at a workstation at the beginning of the site visit using <http://www.speedtest.net>;
- Perform a count of the number of public workstations;
- Perform a count of the number of workstations reserved for use by staff;
- Perform a count of the number of wireless access points;
- Perform a ping test to record length of time to traverse network (will compare later to “standard” performances);
- Assess cable management;

- Check end points;
- Check/verify with liaison if workstations have specific software that runs in the background transmitting information and collecting information that may have an impact on the network bandwidth (these applications can be anti-virus software, operating systems updates, and other diagnostic software);
- Make sure DNS server is appropriately configured;

Resource Management

- Determine equipment replacement schedule;
- Determine contract renewal schedule;
- Create list of hardware;
- Determine who controls IT budget and how it is managed;
- Compile a list of user activities on both public and private workstations; and
- Compile a list of software on both public and private workstations.

Additional steps can be included by the team conducting the network assessment.

Onsite Interview Questions

The following are questions to ask the anchor institution liaison.

General Impressions

- How has your broadband speed helped or hurt your work flow?
- Do you notice fluctuations in the network speed?
- Do you see areas for improvement with the network?
- What are some of your frustrations with your network and personal computer workstation?

Technology Plan, E-rate, and Budget

- Does your organization have goals about how to best use technology and for what types of tasks?
- Have you considered writing a technology plan to better outline priorities, goals, and monitor progress toward your goals? (if institution did not provide a technology plan)
- How do you budget for getting new equipment or technology upgrades?
 - Is the IT budget something over which your organization has complete, partial, or no control?
- Have you considered using federal discounts, such as through the E-rate program (schools and libraries) or Rural Health Care Pilot Program (<http://www.fcc.gov/wcb/tapd/ruralhealth/>), to get a high quality connection at a reduced price?
- Do you think your organization would consider learning more about E-rate/Rural Health Care Pilot Program assistance?

Security and Troubleshooting

- What are some of the ways your organization protects sensitive and personal information over your network or at computer workstations?
 - Do you have password-protected workstations?
 - Do you have wireless (WLAN)? Is it secure?
 - Do you have anti-virus software on the workstations?
- Do you keep network error logs?
 - Are they kept secure on one or two network servers?

Barriers and Facilitators

- How would you describe the staff's approach to using technology? (if administrators or IT person)
- How would you describe the administration's approach to using technology? (if staff or IT person)
- Does staff attend training to use software or to help them with computer literacy?
- Do staff members ask about additional training or equipment upgrade opportunities? If so, what kinds?
- Is ongoing technology training a priority for your organization?
- How important are computer skills and a person's comfort level with technology when hiring staff?
- What are some reasons why people in this organization embrace the use of technology and what are some reasons why people avoid using technology?
- How important would you say technology is to your organization?
 - Why so or why not?
- How do you envision making use of technology in the future?

Teams Conducting Onsite Network Diagnostics

The Information Institute's broadband assessment team ideally should consist of two individuals. One member of the team will focus on meeting with administrators and other designated individuals at the anchor institution. The other team member will focus on examining network setup, conducting speed tests and equipment checks for the broadband assessment and onsite diagnostics. The team members will collect data separately, but they will collaborate on updating or modifying the documents provided by the anchor institution. For example, it is possible that the network diagram created by the anchor institution may not match what the assessment team observes. The team will be able to use any materials the anchor institution provides them as a basis for making additional observations and recommendations.

Advantages of Team Based Network Assessment

There are several advantages of evaluating each anchor institution with a team of two, one of which is that one team member can focus on the technical evaluation while the other team

member can collect anecdotal information on technology adoption in rural areas. The second team member can conduct informal interviews and gain insight into the institution's mindset, including barriers and facilitators to technology adoption. This will provide a more complete picture for the Information Institute, together with the data gleaned from the actual network assessments. This anecdotal data is of particular importance to the following project goals:

- Needs assessment goal:
Identify factors that affect the likelihood that anchor institutions will adopt high-speed broadband;
- Onsite diagnostics goal:
Identify situational factors and issues that impact how anchor institutions deploy their broadband networks; and
- Benchmarking goal:
Identify situational factors and issues that impact whether anchor institutions decide to obtain or increase broadband capacity.

With time being the primary constraint for the onsite visits, it is of utmost importance to ensure that the data needed for drawing reasonable conclusions about each institution's broadband set up—as well as gathering an accurate assessment of barriers and facilitators to technology access—can be obtained in the allotted time frame of four hours per visit.

Large Anchor Institution Concerns

For those anchor institutions that are large and that have a dedicated IT staff of more than one or two people, having an assessment team will allow for diagnostic procedures in various physical locations of the institution's facility. The likelihood of finding a better maintained network and competent IT staff able to facilitate the assessment will compensate for the team needing to cover a larger physical area. It is also possible that these larger institutions will self-eliminate from the site visit pool due to concerns of security or simply not seeing the benefit of a broadband assessment. These institutions may have the funds to maintain their network by hiring plenty of knowledgeable staff and performing equipment and facility updates as needed to maintain a high level of broadband performance.

Small Anchor Institution Concerns

With smaller institutions, or larger institutions with only one dedicated IT staff member for multiple branches of the institution, network configuration and maintenance issues are more likely, and will take longer to decipher. There is a higher likelihood that these understaffed institutions will display complex and conflicting dynamics with regard to perceived barriers and facilitators to technology adoption. It is also more likely that these institutions will not have most of the items on the pre-visit checklist to provide the team, making the on-site information gathering even more crucial. With a second team member dedicated to conducting formal and informal interviews, the data collected will be far more thorough and definitive than what one individual could achieve while simultaneously collecting network data. This will in turn benefit the Information Institute by allowing for greater overall conclusions regarding barriers and facilitators to technology adoption.

Onsite Assessment

While on site, the team will gather any prepared documents from the checklist provided to the anchor institution prior to the visit. The team member dedicated to network evaluation and diagnostics will conduct two speed tests on a sample of staff workstations. One test will occur shortly after arriving on site, and to have a second test under theoretically different conditions, the other will occur shortly before leaving. Another diagnostic test, a ping test to record the length of time it takes to traverse the institution's network, could also be performed at those same two points in time. The team should make note of whether the network has a firewall in place, the number of wireless access points, and perform counts of staff workstations and, if applicable, public workstations. The institution's liaison can provide the team with information about network and workstation setup including DNS server(s) configurations and software such as antivirus programs that may be running in the background on workstations.

Onsite Interviews

For the team member dedicated to interviews, the primary focus is to gain insight into the inner politics, philosophies, and perceptions that form the institutional culture—specifically, the institution's view of technology. Discovering the barriers and facilitators to technology adoption are essential to developing recommendations to improve broadband quality for anchor institutions, especially in rural areas. This information also will provide insights into network configuration and performance issues discovered through physical inspection. Interview questions should cover a range of topics related to network and technology, including questions about staffing histories and reporting structures, administrative turnover, sources of funding for technology, E-rate, and plans to upgrade equipment and/or expand current technological capabilities.

Phase 3: Reporting

During phase three, the Institute will produce diagnostic reports for individual institutions, as well as a report of aggregate connectivity and diagnostic data for the Northwest and South Central RACEC and the City of Immokalee. Individual institution reports will provide overviews of findings for each individual anchor institution, and will be provided to the individual institutions to fact check before the Institute generates a final version of each report. The aggregated report will include recommendations for addressing network issues and improving broadband quality.

APPENDIX E: DRAFT INTERVIEW AND FOCUS GROUP QUESTIONS

FOCUS GROUP QUESTIONS (MODERATOR VERSION) – DRAFT

December 8, 2010

1. First, I would like to go around the table and have you introduce yourselves (FIRST NAME ONLY). Please tell us where you work, your job title, and what your basic responsibilities are. [10 MINUTES]
2. What do you think about your current broadband and technology situation at work? [25 MINUTES]

Potential Probes

- Types of tasks for which broadband speed is sufficient and types for which it isn't sufficient for staff and (if appropriate) for the public
 - Why they think it isn't sufficient and what speed they think would be sufficient
 - How happy they are with their service provider and why they are or aren't
 - Is computer/connection equipment sufficient for their needs
3. How did your institution select the speed of your current Internet connection? [30 MINUTES]

Potential Probes

- Factors that drive the decision
 - Whether they have increased broadband speed within the last year/have plans to increase broadband speed within the next year
 - The level at which decisions are made (e.g., internal or external to the institution)
 - Who controls the budget
 - Is that person generally understanding of their needs
 - The impact of current economic conditions
4. What factors affect your successful access to and use of Broadband in your organization? [45 MINUTES]

Potential Probes

- What factors in terms of the broadband connection, the existing network, the uses of the network, training, or other factors reduce the overall effectiveness/success of accessing using broadband in your organization?
- What factors in terms of the broadband connection, the existing network, the uses of the network, training, or other factors have increased the effectiveness or success of your use of broadband in your organization?

- What are the 2-3 single most important steps YOU would have done so that your access to and use of broadband makes you more productive?
 - What is the role of local, state, and national politics regarding broadband deployment and use in your organization?
 - What is the role of local, state, and national regulations regarding broadband deployment and use in your organization?
5. We want to understand how your institutions use broadband services and how broadband access and services at your institution could be improved. Is there anything that we missed? Is there anything that you came wanting to say that you didn't get a chance to say? **[10 MINUTES]**