



**Broadband Infrastructure Application
Submission to NTIA – Broadband Technology Opportunities Program**

Submitted Date: 3/26/2010 8:11:47 PM		Easygrants ID: 4289	
Funding Opportunity: Broadband Technology Opportunities Program		Applicant Organization: EXECUTIVE OFFICE OF THE STATE OF MISSISSIPPI	
Task: Submit Application - BTOP		Applicant Name: Ms. Nicole Stofer	

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A. General Application Information

Applicant Information	
Name and Federal ID for Applicant	
DUNS Number	019202949
CCR # (CAGE)	5LPV7
Legal Business Name	EXECUTIVE OFFICE OF THE STATE OF MISSISSIPPI
Point of Contact (POC)	DEB BIGGERS 6013595758 Ext. collied@dfa.state ms.us
Alternate POC	EVONA LOVING 6013593927 Ext. lovinge@dfa.state ms.us
Electronic Business POC	DEB BIGGERS 6013595758 Ext. collied@dfa.state ms.us
Alternate Electronic Business POC	EVONA LOVING 6013593927 Ext. lovinge@dfa.state ms.us

Name and Contact Information of Person to be Contacted on Matters Involving this Application:	
Prefix	Ms.
First Name	Nicole
Middle Name	
Last Name	Stofer
Suffix	



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Telephone Number	601-359-3766
Fax Number	
Email	nstofer@governor.state.ms.us
Title	Policy Advisor

Additional Contact Information of Person to be Contacted on Matters Involving this Application:

Project Role	Name	Phone	Email
Secondary Point of Contact	Ms. Amanda , Jones	6015762565	ajones@governor.state.ms.us

Environmental Point of Contact

Prefix: Name: Roach, Joseph Suffix: Telephone Number: 6013595333 Title: Executive Officer, MS Wireless Communication Commission

Organization Classification

Type of Organization	State or State Agency
Is the organization a small business?	No
Does the organization meet the definition of a socially and economically disadvantaged small business concern?	No



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Authorized Organizational Representative	
AOR Name	BIGGERS, DEB
Result	Applicant Authorized

Project Title and Project Description

Project Title: Mississippi Education, Safety and Health Network

Project Description: The Office of the Governor will lead a public/private partnership to establish a Middle Mile broadband infrastructure that will geographically cover 97% of the state, transform education, public safety, and health care in Mississippi, create jobs in economically distressed areas, and enable broadband service by commercial providers to unserved and underserved rural areas.

CCI Priority Checklist

The following items were selected from the CCI Priority Checklist:

1. This project will deploy Middle Mile broadband infrastructure to community anchor institutions.
2. The project will deploy Middle Mile broadband infrastructure and has incorporated a public-private partnership among government, non-profit and for-profits entities, and other key community stakeholders.
3. This project will deploy Middle Mile broadband infrastructure in economically distressed areas.
4. This project will deploy Middle Mile broadband infrastructure to community colleges.
5. This project will deploy Middle Mile broadband infrastructure to public safety entities.
6. This project will deploy Middle Mile broadband infrastructure and either includes a Last Mile infrastructure component in unserved or underserved areas or has received commitments from one or more Last Mile broadband service providers to utilize the Middle Mile components. Any Last Mile components in rural areas do not exceed 20% of the total eligible costs of the project.

Comprehensive Community Infrastructure Components



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The following items were selected from the Comprehensive Community Infrastructure Components:

Middle Mile

BIP Applicants

Have you also applied to BIP for funding in the sample proposed funded service area?

- No

If Yes, please provide the project title and Easygrants ID number:

Title of Joint BIP Application:

Easygrants ID:

Other Applications

Is this application being submitted in coordination with any other application being submitted during this round of funding?

- No

Easygrants ID	Project Title

If YES, please explain any synergies and/or dependencies between this project and any other applications.

Individual Background Screening

Is the Applicant exempt from the Department of Commerce requirements regarding individual background screening in connection with any award resulting from this Application?

- Yes, Applicant is exempt because it is a unit of a state or local government

If the answer to the above question is "No," please identify each key individual associated with the Applicant who would be required to complete Form CD-346, "Applicant for Funding Assistance," in connection with any award resulting from this Application:



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Name	Title	Employer

B. Executive Summary, Project Purpose and Benefits

Essay Question

Executive Summary of the proposed project:

The Office of the Governor, recipient of a Broadband Mapping Grant from NTIA, will lead a partnership to establish a Middle Mile broadband infrastructure that will extend or expand broadband access to community anchor institutions statewide, serve public safety agencies and healthcare entities in every county, and substantially upgrade broadband opportunities to unserved and underserved areas. In April 2009, Governor Haley Barbour charged the Mississippi Broadband Task Force to develop strategies to enhance the broadband infrastructure in Mississippi, resulting in the proposed Mississippi Education, Safety and Health Network (MESHNet). MESHNet will be based on broadband expansion of an existing wireless public safety network, the MS Wireless Information Network (MSWIN) and two programs to deploy broadband capabilities throughout Mississippi based on results from the NTIA mapping project currently underway: the MS Anchors program and the Community Broadband Initiative (CBI). Partners are:

- Mississippi Wireless Communication Commission (WCC; state agency): responsible for upgrade and operations of MSWIN broadband wireless system, through vendor contracts;
- Mississippi Department of Information Technology Services (ITS; state agency): member of WCC; fiscal agent for WCC; manages contract for telecommunication services for state entities; will implement and administer MS Anchors and CBI
- Mississippi MED-COM (joint initiative of University of Mississippi Medical Center and MS Dept. of Health): deploy wireless subscriber equipment for healthcare applications
- Delta Health Alliance (DHA, non-profit): develop subscribers for healthcare applications



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Funds are requested for three programs to establish the proposed MESHNet statewide broadband infrastructure:

- MSWIN system upgrade - add broadband (768 Kbps downstream, 200 Kbps upstream) and upgrade backhaul (616 Mbps) data transmission capabilities to 134 existing MSWIN towers.
- MS Anchors Program - connect (up to 10 Gbps) community anchor institutions identified from the NTIA mapping project.
- Community Broadband Initiative (CBI) – substantially enhance broadband service to unserved/underserved areas

a. The proposed project will establish broadband infrastructure throughout Mississippi, which is last in the nation in broadband connectivity and first in poverty indicators [3Q 2009 Research Notes by Leichtman Research Group, Inc]. The Department of Transportation classifies 90% of Mississippi (74 of 82 counties) as economically distressed, making MESHNet the single most important opportunity for Mississippi to simultaneously transform its research, educational, public safety, and healthcare landscape. Specifically, MESHNet will:

- increase public safety statewide by adding wireless broadband capability to supplement voice communications among public safety agencies
- improve healthcare for vulnerable populations statewide by deploying broadband wireless delivery infrastructure for telemedicine applications
- provide Middle Mile connections throughout Mississippi that will enable commercial providers to offer broadband services to rural areas.

b. MESHNet will establish a Middle Mile service area geographically covering 97% of Mississippi. The MSWIN system will add LTE broadband (minimum 768 Kbps downstream, 200 Kbps upstream) data transmission capabilities for public safety agencies in every county and 90 hospitals in the State and add broadband capacity (from 462 Mbps to 616 Mbps) to the MSWIN microwave backhaul paths (see MSWIN Network Map Attachment). The MS Anchors program will provide up to 10 Gbps connectivity to community anchor institutions in priority areas (economically distressed, vulnerable populations, unserved/underserved) identified from the NTIA mapping project (to be completed May 2010). The Community Broadband Initiative (CBI) is a competitive grant program for public/private partnerships to enhance Last Mile



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services. A central tenet of both the MS Anchors Program and the CBI is to leverage existing infrastructure and build infrastructure where there is none.

c.Number of households and businesses passed: The MESHNet service area will pass 1,089,075 households and 101,598 businesses. MSWIN provides a Middle Mile Service area that geographically covers 97% of the state. MS Anchors and CBI will provide the potential for high-speed connectivity for community anchor institutions dispersed throughout Mississippi (e.g., libraries, schools, hospitals, clinics, local government agencies, Mississippi Band of Choctaw Indians).

d.Number of community anchor institutions, public safety entities, and critical community organizations passed and/or involved with project: MESHNet will create broadband connections to 197 community anchor institutions, 579 public safety agencies, and all public entities in the State.

e.MSWIN will provide 200 Kbps upstream/ 768 Kbps downstream roaming wireless broadband connectivity to public safety and emergency medical responders. Of the total planned Middle Mile backhaul capacity of 616 Mbps, between 200-400 Mbps will be leased to commercial providers for Last Mile wireless components on the towers; the remaining 200-400 Mbps reserved for public safety use.

f.MESHNet will comply with the Nondiscrimination and Interconnection Obligations specified in the NOFA.

g.MSWIN will be an expanded IP-based wireless public safety network consisting of a 616 Mbps terrestrial fixed microwave backhaul and 768 Kbps/200 Kbps terrestrial mobile broadband subscriber service operating in the 700Mhz band and using Long Term Evolution (LTE) technology. Technology deployed through MS Anchors and CBI will be dictated by the existing infrastructure and equipment required to connect the selected community anchor institutions.

h.Partner and sub-recipient WCC, which is presently operating the MSWIN wireless system, will oversee its expansion to broadband capabilities. The Applicant has the necessary fiscal and administrative systems to manage the project and is also managing the \$2 million NTIA broadband mapping grant. MSWIN design is completed and work can begin immediately upon issuance of contracts, within 90 days of availability of BTOP funds. ITS will administer MS



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Anchors will be administered by ITS, and will rely on a vendor(s) to deploy broadband connectivity to priority anchor institutions (selected by the MS Broadband Task Force, based on results of the mapping project). WCC has the authority and responsibility for implementing a wireless public safety network for MS, as well as authority to enter into contracts with vendors to implement this network. ITS manages contracts for telecommunications and information services for state entities.

i. The Office of the Governor requests \$121,262,515, with in-kind match of \$30,481,684 (20.09%), for total project costs of \$151,744,199. [REDACTED]

None of the MSWIN towers are equipped with broadband capabilities and 91% of Mississippi is underserved. The State of Mississippi does not have funds to establish the proposed broadband infrastructure, as documented in its FY10 budget. Without BTOP funds, the MESHNet project cannot be completed.

j. Expected initial subscribers to MESHNet include all public safety agencies, 342 ambulances, and 90 hospitals. Other subscribers will be added during the project period via MS Anchors and CBI grants. Internet service providers estimate there will be >136,000 Last Mile subscribers within 8 years.

k. Number of jobs estimated from the project -

- 1318 direct job-years will be created
- 844 direct & indirect jobs will be created
- 474 jobs will be induced

The proposed project is directly responsive to the BTOP priorities, within the range of allowable funding requests, and can be completed in its entirety within the required project period, but the project cannot be done without BTOP funds.



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Project purpose:

Mississippi has the highest rate of poverty nationwide and is last in broadband availability and adoption. Over 40% of Mississippians live over an hour away from a level I trauma center. Nearly 60% of the state’s physicians practice in one of four urban areas. According to the FCC National Broadband Plan, medical IT operations require 4 Mbps for a single physician office. But the Broadband Plan’s map “Availability of 4 Mbps-Capable Broadband Networks in the US by County” shows nearly half of Mississippi without this connectivity. Public safety agencies do not have access to broadband applications to support mission-crucial functions. Mississippi presents a very compelling problem and opportunity consistent with the BTOP statutory goals.

This project will establish a wireless Middle Mile broadband service to 98 public safety agencies and 99 healthcare networks throughout the state, initially by upgrading the 134-tower MSWIN towers to broadband capabilities. The proposed project will also expand MESHNet through two programs aimed at leveraging existing infrastructure and resources to make the greatest impact with BTOP funds: the MS Anchors program and the Community Broadband Initiative (CBI). ITS will use \$33,000,000 in BTOP funds for the MS Anchors program to connect or substantially upgrade broadband connections of Middle Mile community anchor institutions that are considered key to the state’s interests. The goal of MS Anchors is to create Middle Mile community anchor institutions and broadband infrastructure strategically dispersed throughout the state. Criteria for institutions to be connected via the MS Anchors program are:

- serves an educational institution
- creates or retains jobs (Workforce Investment Network job centers)
- located in an area that is economically distressed (90% of MS), has higher than average vulnerable populations, or is underserved (91% of MS)
- leverages existing infrastructure or builds infrastructure where none exists

The CBI will be a competitive grants program for public/private partnerships to build out broadband infrastructure in local communities. The program will be administered by MDA.

Criteria for grant evaluation will be

- evidence the commercial partner has infrastructure in place to provide local broadband services
- a strong plan for sustainability of network services
- thorough and complete environmental impact analysis
- contributions (in-kind or cash) by the partnership



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Proposed solution demonstrates broad significance including impact on Round 1 projects and developments that can be replicated to improve future projects - MESHNet will establish a wireless network linking Middle Mile anchor institutions throughout Mississippi and a funded service area geographically covering 97% of the state.

Mississippi is last among the states in broadband availability and adoption. Only about 35% of Mississippi households have access to broadband in the home, compared to 51% nationwide. According to the Census Bureau, Mississippi ranks second to last in terms of user access to the Internet. Utopian Wireless has found that 91% of the state is underserved.

This proposed project addresses all five BTOP statutory purposes as shown below (and six goals of the FCC National Broadband Plan, specifically goal 5: wireless broadband connectivity for public safety networks).

- 1, 2. Provide access to broadband service to consumers residing in unserved and underserved areas - The broadband infrastructure in MESHNet will provide geographic coverage to 97% of the state, touching every county. The MS Anchors program and the CBI will connect or substantially upgrade Middle Mile community anchor institutions in areas identified as high priority by the NTIA mapping project currently underway and enable broadband services to rural areas.
3. Provide broadband education, awareness, training, access, equipment, and support to ...and support services... - MSWIN will provide wireless broadband connectivity to the service area and mobile connectivity for public entities throughout the state. The MS Anchors program will create community anchor institutions in areas of need, and the CBI will enable Last Mile services to both unserved and underserved areas.
4. Improve access to, and use of, broadband service by public safety agencies - MESHNet will provide wireless broadband to public safety and emergency departments and emergency service vehicles, substantially improving coordination and execution of emergency response, physician medical oversight, and development of the Mississippi Trauma Care Network and other emergency medical systems. MESHNet provides the potential for campus security for MS community colleges, schools and universities to communicate with first responders and the public safety network, consistent with the goals of the FCC National Broadband Plan (NBP).
5. Stimulate the demand for broadband, economic growth, and job creation - Since 90% of the state is economically distressed, the transformative potential of this broadband infrastructure



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is unprecedented. According to the NBP, 62% of American workers rely on the Internet to perform their jobs; the share of Americans using high-speed Internet at work grew by 50% between 2003 and 2007. The Bureau of Labor Statistics projects that jobs depending on broadband and information and communication technologies will grow by 25% from 2008–2018. The NBP also notes that broadband infrastructure and a digitally skilled workforce are essential for a region to attract new jobs and investment. The proposed project will provide the infrastructure for Mississippi to compete for those jobs.

Recovery Act and Other Governmental Collaboration:

- **Mississippi Health Information Network (M-HIN):** In March, 2010, the State of Mississippi was awarded a \$10,387,000 ARRA grant to develop a statewide health information exchange. MS-HIN will be a statewide hybrid clinical data repository/health information exchange focusing on integrating patient information and linking providers on an interoperable network to improve patient care and reduce costs. The MS-HIN technology platform will allow for scalable, rapid connectivity among existing exchanges. The rapid connectivity required for a highly reliable health information exchange will be greatly enhanced via the access to connectivity afforded by the MESHNet project. With access to high-speed broadband, MS-HIN will interface with providers of care, health information, and public health organizations, as well as provide connectivity to the Medicaid Management Information System (MMIS), and supporting eligibility verification and claims transactions.
- **South Mississippi Electric Power Association (SMEPA)** received a stimulus grant from the Department of Energy for \$30,564,000 to deploy smart meters and smart grid infrastructure across a range of its member cooperatives, providing increased communication and monitoring for the grid. SMEPA has expressed interest in potentially using the proposed fiber backbone to ensure adequate redundancy for its smart grid infrastructure.

Fit with BTOP CCI Priorities:

(1) Provide new or substantially upgraded Middle Mile infrastructure to community anchor institutions - The addition of broadband capability to the MSWIN wireless towers will substantially upgrade the existing system to enable emergency units to add data transmission capabilities at practical speeds and to communicate more reliably with each other and with medical institutions. The MSWIN component of MESHNet will connect 198 public safety and medical institutions as community anchor institutions.



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(2) Deploy Middle Mile broadband infrastructure and incorporate a Public-Private Partnership - MESHNet will be built and operated through a public-private partnership consisting of state agencies, and non-profits. MS Anchors and CBI will further meet the public/private partnership priority.

(3) Intent to bolster Growth in Economically Distressed Areas – MESHNet services a single combined Middle Mile Service area – the entire state of Mississippi. The US Department of Transportation classifies 74 of the state’s 82 counties as economically distressed. MESHNet will provide the foundation for Mississippi to be among national leaders in information services industries. Additional broadband services will naturally lead to additional jobs supporting that service. According to “The Effects of Broadband Deployment on Output and Employment: A Cross-sectional Analysis of U.S. Data,” Brookings Institution (2007), a 1% increase in broadband penetration in a state increases employment by 0.2 to 0.3 percent a year. The January 2010 report “Does Broadband Boost Local Economic Development?” from the Public Policy Institute of California found a positive relationship between broadband expansion and economic growth that is stronger in areas with lower population density – Mississippi ranks 32nd among the states in population density. The huge MSWIN Middle Mile service area footprint (geographically covering 97% of the state and touching all 82 counties) will enable healthcare/enable public safety and other first responder entities in economically distressed areas to have direct mobile access to applications and databases essential to their mission, while enticing Last Mile service providers such as Utopian Wireless to offer broadband service in rural communities, providing residential and business customers opportunities to consume and provide services in the global economy.

(4) Commitment to serve Community Colleges - MESHNet provides the potential for campus security for MS community college campuses to communicate with first responders and the public safety network.

(5) Commitment to serve Public Safety Entities - This priority will be met with the MSWIN wireless component of MESHNet. Inspired by Hurricane Katrina, MSWIN is being deployed as a Land Mobile Radio public safety network providing voice and sub-broadband data communication capabilities to public safety entities in Mississippi. BTOP funding will be used to add broadband capacity to MSWIN infrastructure, enabling broadband fixed wireless service to



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over 300 anchor public safety entities, including 90 medical institutions directly involved in providing emergency medical care - as well as 98 regional ambulance services.

(6) Last Mile infrastructure - MESHNet will provide attractive opportunities for Last Mile service providers to offer consumer broadband wireless services in rural areas for which no business case can currently be made. Specifically, a statewide Middle Mile Service area will be created via the MSWIN broadband component, with extra tower capacity and inter-tower backhaul capacity available for lease to Last Mile providers, who can avoid deploying the most expensive wireless infrastructure components (e.g., their own cellular towers) in rural areas where a small customer base does not produce a sufficient business incentive. Utopian Wireless has provided a letter of intent to leverage the MSWIN towers and Middle Mile infrastructure to offer WiMAX broadband services to end users in Mississippi's unserved communities (e.g., Dundee, Harriston, Kokomo, McClain, & Siblee.)

Is the applicant seeking a waiver of the Buy American provision pursuant to section x.Q of the NOFA?

- No

Is the applicant delinquent on any federal debt?

- No

If Yes, justification for delinquency:

Are you seeking a waiver of any requirement set forth in the NOFA that is not mandated by statute or applicable law?

- No

Is the applicant a current recipient of a grant or loan from RUS?

- No

C. Partners

Are you partnering with any other key institutions, organizations, or other entities for this project?

- Yes

If YES, key partners are listed below:



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<p>Project Role: Sub-recipient Name: Roach, Joseph Phone: 6013595333 Email: broach@wcc.ms.gov Address 1: 412 East Woodrow Wilson Ave. Address 2: Address 3: City: Jackson State: Mississippi Zip Code: 39216 Organization: MS Wireless Communication Commission Organization Type: State or State Agency Small business: No Socially and economically disadvantaged small business concern: No</p>
<p>Project Role: Sub-recipient Name: Litchliter, David Phone: 6013591395 Email: david.litchliter@its.ms.gov Address 1: 301 North Lamar Address 2: Suite 508 Address 3: City: Jackson State: Mississippi Zip Code: 39201 Organization: Mississippi Department of Information Technology Services Organization Type: State or State Agency Small business: No Socially and economically disadvantaged small business concern: No</p>
<p>Project Role: Sub-recipient Name: Swoope, Gray Phone: 6013593449 Email: gswoope@mississippi.org Address 1: PO Box 849 Address 2: Address 3: City: Jackson State: Mississippi Zip Code: 39205</p>



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<p>Organization: Mississippi Development Authority Organization Type: State or State Agency Small business: No Socially and economically disadvantaged small business concern: No</p>
<p>Project Role: Other Name: Wilson, Jonathan Phone: 6019844367 Email: jwilson5@emergmed.umsmed.edu Address 1: 2500 North State Street Address 2: Address 3: City: Jackson State: Mississippi Zip Code: 39216 Organization: Mississippi MED-COM Organization Type: State or State Agency Small business: No Socially and economically disadvantaged small business concern: No</p>
<p>Project Role: Other Name: Fox, Karen Phone: 6626863521 Email: kfox@deltahalthalliance.org Address 1: 435 Stoneville Road Address 2: Address 3: City: Stoneville State: Mississippi Zip Code: 38776 Organization: Delta Health Alliance, Inc. Organization Type: Non-profit Corporation Small business: No Socially and economically disadvantaged small business concern: No</p>

Description of the involvement of the partners listed above in the project.

The applicant for the proposed project is the Office of the Governor, State of Mississippi.
 Partners in the project are:



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- Mississippi Wireless Communication Commission (WCC) is a State agency charged with deploying and operating the MSWIN system, which will be upgraded to broadband capacity in the proposed project. In conjunction with ITS, the WCC has the authority and responsibility to approve all wireless communication purchases within the state and to set forth rules and regulations governing these purchases. WCC will be responsible for contracting with a vendor(s) to install manage, and operate a broadband expansion of the MSWIN wireless public safety network component of MESHNet, and will be sub-recipient of BTOP funds.
- Mississippi Department of Information Technology Services (ITS) is responsible for providing computing and telecommunications infrastructure, for all information systems technologies within state government. ITS manages the new state-of-the-art State Data Center, which will connect to the Capitol Complex via the newly constructed, fiber-based Metro Area Network (MAN), which connects all major state government buildings in the Capitol Complex, the Education and Research (E&R) Complex, as well as buildings along the fiber path between the Capitol Complex and the E&R Complex. The MAN is also a gateway to other agency sites statewide via the Statewide Multi-Protocol Label Switching (MPLS) network. ITS is the fiscal agent fiscal for WCC.
- Mississippi Development Authority (MDA) is the State of Mississippi’s lead economic and community development agency, charged with encouraging job creation and providing services to businesses, communities and workers in the state. All of MDA’s activities are managed with the goal of improving the quality of life and economic well-being of Mississippians. The agency works to recruit new businesses to Mississippi, retain and expand the state’s existing industries and assist communities in improving their quality of place through infrastructure and housing assistance. MDA works closely with the state’s universities and community colleges to help workers improve their skills and build capacity in the state. The agency administers federal housing and energy programs for the State of Mississippi, including programs funded by the American Recovery and Reinvestment Act of 2009, and federal Hurricane Katrina disaster recovery assistance programs. MDA has extensive experience managing competitive funding programs and oversees numerous grant, loan, performance incentive, and other financial assistance programs funded by both state and federal sources.
- Mississippi MED-COM, a joint initiative by the MS Department of Health and UMMC, is a 24/7 medically-staffed communications center-based service to the emergency response



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agencies, hospitals and first responders of Mississippi. Mississippi MED-COM currently operates on the narrowband MSWIN network, and with the proposed upgrade to broadband service will expand the types of and speed of data that can be communicated between hospitals and emergency responders in order to improve patient outcomes. MED-COM will be responsible for coordinating the deployment of the wireless direct access equipment in ambulances and hospitals throughout Mississippi.

- Delta Health Alliance (DHA) is a community-based non-profit organization founded in 2001 to support and unify regional healthcare initiatives that address critical health issues in the Mississippi Delta. The mission of the DHA is to make sustainable improvements in the health and wellbeing of the residents of the Mississippi Delta. To help achieve this mission, the DHA has implemented a number of programs aimed at breaking the cycle of poor health by increasing patients' access to healthcare and specialty physicians. This is accomplished through a number of technology related projects that include region-wide Electronic Health Records, telemedicine, and remote, electronic monitoring of ICU beds (eICU). The DHA network currently includes 20 active clinical locations, including three hospitals, with 243 providers using this advanced health information technology platform to provide a higher level of access and care to the patients in the region. DHA was involved in planning aspects of the proposal related to healthcare applications of the broadband infrastructure. DHA will help develop subscribers for MESHNet healthcare applications.

All of the project partners have been heavily engaged in planning and development of the proposed project, through multiple meetings and conference calls, and by providing narrative and supporting documentation for this proposal.

D. Congressional Districts

Applicant Headquarters

- Mississippi

Project Service States

Mississippi



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Project Service Areas

Mississippi - 1

Mississippi - 2

Mississippi - 3

Mississippi - 4

Will any portion of your proposed project serve federally recognized tribal entities?

- Yes

Indicate each federally recognized tribal entity your proposed project will serve.

Mississippi Band of Choctaw Indians

Have you consulted with each of the federally recognized tribal entities identified above?

- Yes

E. Service Area Details

Is the applicant seeking a waiver for providing less than 100% coverage of a service area?

- No

Project Details

Service Area Type:
Service Area Name:

Middle Mile
MESHNet Funded Service Area



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Rural Classification of the Last Mile Service Area:Rural
Service Status of the Last Mile Service Area: Underserved

If Service Status is "Underserved" please select at least one applicable option from this list.
No more than 50% of the households in the proposed funded service area have access to facilities-based, terrestrial broadband service at greater than the minimum broadband transmission speed;

Total Square Miles in Service Area: 47,665
Total Population in Proposed Service Area: 2,935,275
Total Number of Households in Service Area: 1,089,075
Total Number of Businesses in Service Area: 101,598
Total Number of Community Anchor Institutions and Public Safety Entities in Proposed Funded Service Area: 1,981
Unemployment Rate in the Service Area: 12
Median Income in the Service Area: 34,147
Estimated Percentage of Households with Access to Broadband: 35
Estimated Percentage of Households Subscribing to Broadband: 33

F. Community Anchor Summary

Community Anchor Summary	
Schools (k-12)	0
Libraries	0
Medical and Healthcare Providers	99
Public Safety Entities	98
Community Colleges	0
Public Housing	0
Other Institutions of Higher Education	0
Other Community	0



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Support Organization	
Other Government Facilities	0
TOTAL COMMUNITY ANCHOR INSTITUTIONS	197
Historically Black colleges and Universities	0
Tribal Colleges and Universities	0
Alaska Native Serving Institutions	0
Hispanic Serving Institutions	0
Native Hawaiian Serving Institutions	0
TOTAL MINORITY SERVING INSTITUTIONS	0

G. Project Benefits

Demographics	
Jobs	
How many direct jobs-years will be created from this project?	1318
How many indirect jobs will be created from this project?	844
How many jobs will be induced from this project?	474

Methodology used to estimate jobs:

The California Public Policy Institute’s January 2010 report “Does Broadband Boost Local Economic Development?” indicates a positive relationship between broadband expansion and economic growth. The report also notes that the relationship is stronger in areas with lower



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population densities (such as Mississippi). Using methodology recommended by the Council of Economic Indicators, a Federal ask of funding for [REDACTED] would create 1318 job-years. Over time, roughly 844 direct and indirect jobs will be created and 474 jobs induced by this project.

Project Impact:

The impact of the MESHNet broadband infrastructure will be transformative and widespread in Mississippi, directly affecting education, public safety, healthcare, employment, entrepreneurship and commerce.

- how many community anchor institutions it will directly connect - MESHNet will initially connect 197 community anchor institutions.
- how many additional community anchor institutions are potential customers - Virtually all state and local entities, as well as the MS Band of Choctaw Indians tribal agencies are potential anchor institutions through wireless connections.
- how many of the anchor institutions have expressed an interest in subscribing - All of the anchor institutions noted have interest, and are committed to subscribing as documented in the attached letters.

Impact on education: The attractive Last Mile opportunities created by MESHNet will allow the expansion of broadband to rural, unserved and underserved communities, and thus enhance opportunities for students in those communities to better access online educational resources.

Impact on public safety and healthcare: 197 public safety and medical institutions will be community anchor institutions of the MSWIN wireless network component of MESHNet using over 432 fixed and mobile wireless data terminals. This will allow most of the state's public safety, EMS responders, and other first responders to access the same high capacity network. The addition of broadband capability to the MSWIN towers of MESHNet will enable emergency units to communicate reliably with each other and with medical institutions to keep first responders and other emergency officials connected in the case of a natural disaster. MESHNet also allows for expanded services to the Mississippi Band of Choctaw Indians for the addition of public safety wireless direct connection portals to the Choctaw Ambulances and the fire department, and a secure portal for the Choctaw Health Center. Again, this connectivity will greatly leverage the limited personnel in the event of a multi-patient incident and seeks to decrease the mortality and morbidity of time-sensitive illnesses and traumatic injuries.



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MESHNet will allow MED-COM and the UMMC to provide enhanced (data/images/patient telemetry) on-line medical control to paramedics throughout Mississippi while using patient telemetry and demographic transfer to improve field management and proper hospital destination routing. This will also provide a real-time system of monitoring available hospital assets and ambulance resources and a patient/victim tracking system with access to real-time road closures, traffic delays, and weather conditions. MESHNet will also enable EMS professionals and staff in rural emergency departments to complete continuing education and other distance education while on-duty, as well as enabling “Just-in-Time” training in the event of a statewide disaster or pandemic.

Similarly, MESHNet will significantly enhance operations of the Mississippi Health Information Network (MS-HIN), now being implemented via an ARRA grant. MS-HIN is a statewide hybrid clinical data repository/health information exchange focusing on integrating patient information and linking providers on an interoperable network to improve patient care and reduce costs. With broadband access, MS-HIN will interface with healthcare providers, health information, and public health organizations, the Medicaid Management Information System, and support eligibility verification and claims transactions. MESHNet will provide a secure portal for hospitals and clinics to send patient information, access specific treatment protocols and have up-to-date information on open services at larger receiving hospitals, enabling effective communication between clinics in rural areas and major medical centers, in particular to decrease the mortality of heart disease and stroke in Mississippi which ranks in the top five nationally in deaths due to heart disease and stroke.

Impact on entrepreneurship and business in Mississippi: In the knowledge economy, those who can rapidly create compelling information services that can be delivered on-demand and at high speeds to consumers anywhere in the world will increasingly create value and jobs. In recent decades, Mississippians seeking high tech jobs often had to move to larger cities in other states, but knowledge workers can increasingly work anywhere—anywhere with broadband access. The potential of MESHNet, with its 97% broadband Middle Mile reach, is that as commercial providers leverage these Middle Mile services to substantially enhance Last Mile services throughout the state, any enterprising Mississippian with a novel idea, a laptop computer or smart phone can start his or her own small business and make a global impact. MS Anchors and CBI will extend high capacity bandwidth to selected communities.



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Note any specific service providers that have expressed an interest in utilizing the network to provide last mile service (specifying the level of interest, e.g., firm commitment, letter of interest, informal inquiries) – Utopian Wireless has provided a letter of intent to leverage the MSWIN tower and Middle Mile infrastructure to deploy WiMAX broadband services to both undeserved and unserved Mississippi communities.

Provide an estimated number of end users the proposed connections will serve and the basis for these end-user projections. End Year 3 – 914 residential users; 32 business users; 20 anchor institutions. End Year 8 – 11054 residential users; 1382 business users; 120 anchor institutions.

Document how the network could enhance last mile services provided by existing last mile service providers in the area – even if they have not specifically expressed interest yet - MESHNet will provide attractive opportunities for Last Mile service providers to offer consumer broadband wireless services in rural areas for which no business case can currently be made. An 82-county Middle Mile Service area will be created via the 134 tower MSWIN broadband component, with extra tower capacity and inter-tower backhaul capacity available (beyond the needs of the public safety network) for lease to Last Mile providers, allowing providers to avoid deploying the most expensive wireless infrastructure components (e.g., their own cellular towers) in rural areas where the sparser potential customer base does not provide sufficient business incentive. MS Anchors and CBI will extend high capacity bandwidth to selected communities.

Vulnerable Populations:

According to the U.S. Census Bureau, Mississippi ranks last among the states in per capita income and first in poverty. The Bureau of Labor Statistics shows the state as having the 10th highest unemployment rate (January 2010). Mississippi ranks 34th in terms of elderly population and 48th in terms of doctors per population (Census Bureau). According to a 2000 study at Cornell University, Mississippi is 5th highest in terms of people with work-impairing disabilities. Minorities comprise 40% of the state's population (Census Bureau).

Since the proposed funded service area covers 97% of the geographic area of Mississippi, and vulnerable populations exist throughout the state, the availability of the proposed broadband infrastructure to support employment and telemedicine will have a dramatic effect on vulnerable populations.



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According to the National Highway Traffic Safety administration, motor vehicle accidents are the leading cause of death for children in the nation. Mississippi leads the nation in number of traffic fatalities, with an increased percentage of children. With over than 50% of the state's population living greater than sixty miles from a trauma center, the emergency medical treatment of critically injured children in rural hospitals and in ambulances is a critical service. Mississippi ranks thirteenth in the nation for the highest number of fatalities associated with ATV injuries. When compared to these national statistics, citizens of our state are 3.5 times more likely to die from an ATV accident than those in other states. Mississippi children under the age of sixteen also have a 29% higher death rate than the national average. The American Academy of Pediatrics and the American College of Emergency Physicians along with other partner organization began an effort in 2003 to establish better guidelines for the treatment of critically injured or ill children. The National EMS for Children (EMSC) initiative seeks to produce a seamless system of care that works perfectly for all children. EMSC guidelines for a system of care, recommend a centralized center to provide specific pediatric medical direction and advice to paramedics and rural emergency department providers. Mississippi MED-COM will provide that service to the entire state by operating on the proposed broadband wireless system established by MESHNet.

Mississippi MED-COM was developed after Hurricane Katrina where the transport of special needs patients and patients from vulnerable populations. Some of the most vulnerable populations are hospitalized infants and pediatric patients. MED-COM currently provides a number of services to special needs and vulnerable populations during times of man-made or natural disasters to facilitate a more streamlined system of care and coordination. Currently, MED-COM is limited in redundant communications and data transmission.

Level of Need:

The FCC National Broadband Plan notes that 62% of American workers rely on the Internet to perform their jobs. But according to the Census Bureau, Mississippi ranks last in terms of user access to the Internet. There are an estimated 1.18 million Mississippians who do not access the Internet. Only 60% of Mississippi households access the Internet anywhere, compared to 71% of U.S. households. Only about 35% of Mississippi households have access to broadband in the home, compared to 51% nationwide.

National statistics from the General Social Survey indicate that Mississippi ranks last in terms of digital literacy. When compared to the Nation, 32% of Internet users in Mississippi are very



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knowledgeable about relevant Internet activities, compared to 41% for the U.S. population. Also, 29% of Mississippi users are defined as having limited knowledge, compared to 23% of the U.S. population.

For every 1% increase in broadband penetration, employment increases by 0.2 to 0.3 percent a year. In Mississippi, where 90% of the counties in the state are categorized as economically distressed, there is a profound need for a broadband infrastructure that can transform public safety and the healthcare of citizens, support education, increase employment, and enable economic growth.

The proposed broadband project is the single most important opportunity our state has to simultaneously transform its educational, healthcare, and public safety landscape - through the creation of a wireless network establishing a Middle Mile service area that geographically covers 97% of the state.

Existing broadband infrastructure - Based on very preliminary results from the NTIA mapping project currently underway (<25% complete), there may be dark fiber in all 82 Mississippi counties; however, in most counties, there is very limited, if any, competition and/or subscriber volume is too low to see a return on investment.

Why the existing infrastructure is insufficient to meet needs –

Public Safety: Mississippi is deploying the MSWIN, a public safety wireless network to support state and local police, firefighters and emergency service workers. Use of the 700 MHz band for broadband would allow Mississippi to achieve greater interoperability, cost effectiveness, and would expand to provide data transmission. MESHNet will meet this need by leveraging the existing MSWIN infrastructure to provide data transmission to supplement voice communications among public safety agencies and create middle mile anchors that ultimately cover 97% of the state.

Because Mississippi is one of the least densely populated states in the nation, commercial providers face significant economic challenges in serving the rural areas of the State. As a result, government involvement is essential to the early build out and deployment of a 700 MHz broadband public safety system to meet the critical needs of public safety users in these rural regions.



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Although the State of Mississippi and some local entities presently obtain service from commercial broadband wireless network service providers, these networks generally have sufficient coverage to provide network connectivity to emergency responders in only the most populated parts of the state. In areas not served by the commercial wireless networks, on-scene responders must transmit and receive crucial information through the voice radio network. This limits the amount of information available to emergency responders in rural Mississippi.

Public safety does not yet have access to state-of-the-art broadband applications to support mission critical functions, in large part because the spectrum resources needed to run those applications are not readily available. Mississippi is eager to deploy a broadband network to better serve and protect Mississippians. Use of the 700 MHz band for this network would allow for expanded coverage given the enhanced reach and penetration of the 700MHz spectrum, and would maximize the beneficial impact of broadband access for our public safety, transportation and other critical governmental entities.

Gaining access to the 700 MHz public safety broadband spectrum will allow Mississippi to deploy a statewide wireless broadband data network, which will expedite high-speed mobile data IP connectivity to the state's existing network, satisfying the interests of public safety responders. A broadband network will support applications that are too bandwidth intensive for existing narrowband data technologies. Certain time-intensive tasks such as dispatch messaging, mapping and database queries could be offloaded onto the broadband network freeing up space on the narrowband voice system.

Health Care Community: MED-COM utilizes MSWIN to enable emergency responders and hospital personnel to communicate information important for the transfer of critical patients; however, the sub-broadband capabilities of the existing system prevent the transmission of more data-intensive information and applications, including video, that would better facilitate communication leading to improved patient outcomes. According to the latest Centers for Disease Control and National Traffic Highway Safety Administration statistics, Mississippi continues to rank in the top three states in mortality rates for cardiovascular disease, stroke and traffic accidents. Mississippi MED-COM seeks to decrease these mortality rates and needs a communications and data transmission structure that can provide real-time clinical support to paramedics and rural hospitals while ensuring the right patient is transported to the right medical center by the right transportation method.



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Mississippi is the 4th most rural state in the nation in terms of the percentage of persons residing in rural areas (56%), and 65 of the state's 82 counties are designated as rural. More than 40% of the state's population lives more than an hour away from a level I trauma center. Nearly 60% of the state's physicians practice in one of four urban areas. According to the FCC National Broadband Plan, the required broadband connectivity to support medical IT operations is 4 Mbps for a single physician office (Exhibit 10-C, p.210). But the map "Availability of 4 Mbps-Capable Broadband Networks in the United States by County" in the FCC Plan shows nearly half of Mississippi without this connectivity (Exhibit 3-D, p.19). The Mississippi Health Information Network (MS-HIN) now being put in place via an ARRA grant that will provide the mechanism to develop and share electronic health records – but must have broadband capability to obtain and share information effectively.

The Mississippi Primary Health Care Association, Inc. (MPHCA) is a non-profit organization representing 21 Mississippi Community Health Centers (CHC), also known as Federally-Qualified Health Centers. CHC are non-profit, community-directed providers that work to ensure that access to primary and preventive care health care services are made available to all community residents. By federal law CHC must serve populations that are identified by the Public Health Service Act as medically underserved, which are often areas that also have limited access to broadband. Mississippi's 21 CHC are geographically dispersed throughout the state and include 178 delivery sites, such as satellite clinics, school-based clinics, homeless clinics, and mobile units. In 2008, of the roughly 300,000 patients who received primary care services at Mississippi's CHC, 55% were at or below the Federal Poverty Level and two-thirds were Hispanic or African American. Currently, many of the CHC are located in isolated areas, utilizing minimal low speed broadband, often limited to the average T1 line speed of 1.5 mbps - not enough for rural Mississippians to benefit from the technological advances in health information technology.

The proposed MESHNet broadband infrastructure addresses an immediate and compelling need for Mississippi's public safety entities, healthcare community, and community colleges by connecting Middle Mile anchor institutions that are geographically dispersed throughout the state and can be leveraged for future enhancements. The proposed network is the most efficient means to address these unmet needs because it is a public-private partnership that leverages important existing capabilities and infrastructure in the state.



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According to a speed test data test compiled over the last three years by Utopian Wireless, at least 1% (5 of the 413) zip codes/towns of Mississippi are completely unserved by non-satellite 768/200 access. (Dundee, Kokomo, McClain, Sibley, and Harriston). Further, 91% (374 of the 413) zip codes/towns are underserved, i.e., defined as having less than 50% penetration of 5Mbps among Internet users.

According to the U.S. Census Bureau, Mississippi ranks last among the states in per capita income (75% of the national average) and first in poverty. The Bureau of Labor Statistics shows the state as having the 10th highest unemployment rate (January 2010). According to a 2000 study at Cornell University, Mississippi is 5th highest in terms of people with work-impairing disabilities. According to the Rural Policy Research Institute in 2006, 386 counties nationally are persistent poverty counties (the Economic Research Service of USDA defines persistent poverty counties as those counties with poverty rates of 20% or more in each decennial census from 1970 through 2000), and 51 of them are located in Mississippi. Of the 51 persistent poverty counties in Mississippi, 45 are nonmetro counties. In 24 counties, over 30 % of total personal income was from transfer payments (retirement and disability payments, social security benefits, public assistance, and medical benefits) - 22 of these counties are nonmetro. The population working in government enterprises in Mississippi is 35% more than the national average.

Since most of the governmental and first responder agencies are not able to obtain reliable mobile broadband coverage, there will be little cost savings afforded to them through the implementation of MSWIN broadband. They should, however, receive great benefits in their ability to better serve their communities because of timely access to wireless applications and information. If the WCC is able to lease space to commercial broadband service providers on each of the 90 MSWIN towers owned by the State, the gross revenue would be approximately \$2.7 million per year. Maintenance and operating costs associated with the broadband equipment will exceed these revenue predictions.

Because Mississippi is one of the least densely populated states in the nation, commercial broadband providers face significant economic challenges in serving the rural areas of the State. In some Mississippi counties, there are less than 50 first responder personnel serving a small and widely dispersed constituency. Consistent contiguous mobile broadband coverage is not provided on reliable, survivable network infrastructure in rural areas of Mississippi. Due to this lack of available broadband data coverage, on-scene responders must transmit and receive crucial information through the voice radio network. The projected MSWIN mobile broadband



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upgrade will provide the reliable contiguous coverage required by first responder and governmental entities in all counties.

H. Technology

Technology Type

Indicate the technology that will be used to deliver last mile services. The following items were selected:

Wireless - Terrestrial Fixed

Wireless - Terrestrial Mobile

Other:

Technology Questions

Methodology for Area Status:

According to speed test data compiled over the last three years by Utopian Wireless, at least 1% (5 of the 413) zip codes/towns of Mississippi are completely unserved by non-satellite 768kbps/200kbps access. (Dundee, Kokomo, McClain, Sibley, and Harriston). Further, 91% (374 of the 413) zip codes/towns are underserved, i.e., defined as having less than 50% penetration of 5Mbps among Internet users.

Description of Network Openness:

The Office of the Governor commits to operating MESHNet will be operated in compliance with the Nondiscrimination and Interconnection Obligations under the NOFA. Consistent with the FCC's Internet Policy Statement, all users that access the Internet through MESHNet will be entitled to: (i) access lawful Internet content of their choice; (ii) run applications and use services of their choice, subject to the needs of law enforcement; (iii) connect their choice of legal devices that do not harm the network; and (iv) offer competition among network providers, application and service providers, and content providers. ITS and WCC, the entities responsible for operating MESHNet components, will not favor any lawful Internet applications and content over others. ITS and WCC will display any network management policies in a prominent location on the service provider's Web page and provide notice to customers of changes to these



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polices. MESHNet will connect to the public Internet such that it is not an entirely private closed network. MESHNet will offer interconnection where technically feasible, without exceeding reasonably anticipated capacity limited, at reasonable rates and terms to be negotiated with requesting parties. ITS and WCC will negotiate in good faith with all parties making interconnection requests.

System Design:

This project consists of the MSWIN wireless broadband expansion and future enhancements that will be guided by the NTIA-funded mapping project currently underway.

A portion of the BTOP funds are allocated for providing broadband connectivity to communities that are identified from the NTIA mapping project as high priority:

- serves an educational institution (community college, university)
- creates or retains jobs (WIN centers)
- located in an area that is economically distressed, has higher than average vulnerable populations, or is unserved or underserved
- leverages existing infrastructure or builds infrastructure where there is none (as determined from the NTIA mapping project)

MSWIN Existing System - The State of Mississippi is already deploying MSWIN, a state-wide terrestrial narrowband Land Mobile Radio (LMR) wireless network, to operate in the 700 MHz public safety band. When completed in 2011, the 134-tower infrastructure will provide interoperable radio/voice communications to local police, firefighters, rescue/emergency medical service workers, and all other system participants a public-safety grade, statewide, interoperable, seamless roaming radio system. The key components of MSWIN are:

- 134 towers owned or leased by the Mississippi Wireless Communications Commission (WCC), and organized into three regions, each controlled by a Master Tower site that houses computing equipment to route traffic within and among the regions;
- Radios and antennae on the towers which communicate with last-mile subscriber units on the 700 Mhz band;
- Radios and microwave transmitters on the towers that transport tower-to-tower backhaul traffic via line of site;



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- Redundant controllers and IP network equipment.

Proposed MSWIN Expansion – BTOP funds will be used to:

- Add broadband capability of no less than 768 Kbps downstream and 200 Kbps upstream (via additional antennae and radios on existing towers) to public safety subscribers;
- Add broadband middle mile capability of up to 616 Mbps (via additional radios and transmitters on existing towers, and the installation of base units at Master Tower sites).

Use of the 700 MHz band for broadband, because of the 700 MHz band's superior propagation characteristics, will allow Mississippi to achieve greater interoperability and cost effectiveness, and will increase the data coverage area over which public safety entities can communicate.

All sites constructed or leased already provide for one-hundred percent growth in the number of antenna/dish attachments per tower. Additionally, the equipment shelters have space to house additional electronics racks. The WCC will utilize part of this reserve capacity to accommodate the 700 MHz Broadband data implementation.

In addition to the public safety network benefits, the MSWIN broadband expansion will enable ITS to lease Middle Mile services and tower space to ISPs, who will install their own last mile electronics on the extra capacity of the tower structures. These providers can leverage this to provide Internet services to businesses and residential customers within at least a 6-mile radius of each of the towers, and possibly farther. The providers will lease some of the 2.5 GHz spectrum owned by the State of Mississippi and reserved for (but underused by) the Mississippi EdNet network.

Is the applicant seeking a waiver pursuant to section IX.C of the NOFA so as to sell or lease portions of the award-funded broadband facilities during their life?

No

I. Project Budget

Project Budget		
	Federal Grant Request	Match



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Last Mile	0	0
Middle Mile	121,262,515	30,481,684
Total	121,262,515	30,481,684

Project Budget Total: \$151,744,199

Match Percent: 20.1%

[REDACTED]

- [REDACTED]

Outside Leverage	
Applicant is providing matching funds of at least 20% towards the total eligible project costs?	Yes
Matching cost detail	<p>The State of Mississippi is providing a total of \$30,481,684 (20.09% of project budget) as an in-kind contribution match for the proposed project. [REDACTED]</p> <ul style="list-style-type: none"> ■ [REDACTED] ■ [REDACTED] ■ [REDACTED] ■ [REDACTED] ■ [REDACTED] ■ [REDACTED] <p>[REDACTED]</p> <p>[REDACTED]</p> <p>[REDACTED]</p> <p>[REDACTED]</p> <p>[REDACTED]</p> <p>[REDACTED]</p> <p>[REDACTED]</p> <p>[REDACTED]</p> <p>[REDACTED]</p>



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	[REDACTED]
Unjust enrichment	[REDACTED]
Disclosure of federal and/or state funding sources	[REDACTED]
Budget reasonableness	[REDACTED]



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	<p>[Redacted]</p>
Demonstration of need	<p>[Redacted]</p>



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	<p>[REDACTED]</p> <p>[REDACTED]</p> <p>[REDACTED]</p> <p>[REDACTED]</p> <p>[REDACTED]</p> <p>[REDACTED]</p> <p>[REDACTED]</p> <p>[REDACTED]</p> <p>[REDACTED]</p> <p>[REDACTED]</p> <p>[REDACTED]</p> <p>[REDACTED]</p> <p>[REDACTED]</p>
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Funds to States/Territories

States	Amount of Federal Grant Request
Mississippi	121,262,515

Funds to States/Territories Total: \$121,262,515

J. Historical Financials

Matching Funds			
	2007	2008	2009
Revenue	16,578,817,000	15,815,345,000	15,677,857,000
Expenditures	15,172,705,000	15,315,504,000	15,968,407,000
Net Assets	11,988,077,000	12,487,918,000	12,197,368,000
Change in Net Assets from Prior Year	1,406,112,000	499,841,000	-290,550,000



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Bond Rating (if applicable)	AA	AA	AA
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K. Project Readiness

BTOP Organizational Readiness

Implementation, Management, Operations and Support Systems - The MESHNet broadband network will be implemented, managed, and operated by project partners WCC, ITS and MDA. Each has the administrative systems in place to effectively manage and oversee their respective projects. The Office of the Governor will prepare technical and fiscal reports to NTIA, and has all the necessary accounting and support systems to manage these funds.

MSWIN Upgrade and Operations: WCC will contract with a private vendor (selected through competitive bid) to upgrade the MSWIN wireless network to broadband capabilities. MSWIN design is completed, and work can begin immediately upon issuance of contracts, within 90 days of availability of BTOP funds.

The WCC began construction on the Mississippi Gulf Coast and proceeded north. Fifty-six of the 134 tower locations are complete, equipped with Mobile Radio voice electronics, and will be in full operation in April 2010. These sites currently provide voice coverage from the Gulf Coast to the counties surrounding the State Capitol. Tower construction is currently underway on six sites and Site Due Diligence (leasing, zoning, permitting, FAA approval, National Environmental Protection Act (NEPA) assessment, etc.) is nearing completion on the next 18 sites in Phase 2, the central part of the state. These 80 sites will be ready to accommodate installation of the requested broadband components by December 2010. Options to lease land have been obtained on the remaining 64 sites in upper central and North Mississippi and Due Diligence efforts have begun. The WCC expects the statewide system to be completed around December 2011. All sites constructed or leased provide for 100% growth in antenna/dish attachments. Additionally, the equipment shelters have space to house additional electronics racks. The WCC will utilize part of this reserve capacity to accommodate the 700 MHz Broadband data implementation.

The Broadband implementation will be accomplished by placing additional antennae arrays and electronics on the MSWIN tower site infrastructure. Additional microwave radios will be



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implemented on the existing microwave network that connects all MSWIN sites to increase the backhaul bandwidth sufficiently to accommodate the Broadband data traffic.

ITS will implement MS Anchors and MDA will implement CBI; RFPs will be issued for vendor selection and competitive proposal submission within 90 days of availability of BTOP funds.

Organizational governance and management- MESHNet will be managed via the MESHNet Executive Committee, comprised of a representative from each partner entity. The MESHNet Executive Committee will meet quarterly to ensure regular communications and coordination of activities, and to identify strategic opportunities to utilize and enhance the state's broadband infrastructure.

Construction and Vendor Contracts

ITS, as the state contracting agent for technology purchases, will advertise and issue the RFP and conduct the evaluation, award and contracting activities. The vendor award will be approved both by the WCC and the ITS Board. The competitive bid process will be completed and a Vendor selected during the fourth quarter of 2010.

ITS will contract with a private vendor to connect or substantially upgrade broadband connections of Middle Mile community anchor institutions that are considered key to the State's interests. The vendor for implementation of the MS Anchors broadband infrastructure will be identified through a competitive bid. The successful vendor will be required to provide project design, engineering services, and environmental assessment as needed to compete the projects, and all projects must be completed within 90 days prior to the end of the project period.

MDA will issue a RFP within 90 days of availability of BTOP funds and those selected for funding will be awarded within 60 days of receipt. A condition of award will be evidence that the project can be completed within 90 days prior to the end of the project period.

Customer Base

MESHNet will establish a Middle Mile service area geographically covering 97% of Mississippi by adding broadband capabilities to MSWIN and providing connectivity to community anchor institutions throughout the state. The MESHNet service area will pass 1,089,075 households and



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101,598 businesses and connect 197 community anchor institutions. Expected initial subscribers to MESHNet include all public safety agencies, 342 ambulances, and 90 hospitals. Internet service providers estimate there will be >136,000 Last Mile subscribers within 8 years.

Licenses, Regulatory Approvals and Agreements

WCC began construction on the Mississippi Gulf Coast and proceeded north. Fifty-six of the 134 tower locations are complete, equipped with Mobile Radio voice electronics, and will be in full operation in April 2010. These sites provide voice coverage from the Gulf Coast to the counties surrounding the State Capitol. Construction is currently underway on six sites and Site Due Diligence (leasing, zoning, permitting, FAA approval, National Environmental Protection Act (NEPA) assessment, etc.) is nearing completion on the next 18 sites in Phase 2, the central part of the state. These 80 sites will be ready to accommodate installation of the requested broadband components by December 2010. Options to lease land have been obtained on the remaining 64 sites in upper central and North Mississippi and Due Diligence efforts have begun. The MWCC expects the statewide system to be completed around December 2011. All sites constructed or leased provide for 100% growth in antenna/dish attachments. Additionally, the equipment shelters have space to house additional electronics racks. The WCC will utilize part of this reserve capacity to accommodate the 700 MHz Broadband data implementation. The WCC already owns the requisite spectrum license/access that is sufficient for this project.

SPIN Number

Not Applicable

L. Environmental Questionnaire

Project Description

No ground disturbance activities will be paid for with ARRA Grant funds for the MSWIN portion of the project. MSWIN construction activities are not part of this project and are already completely funded. However environmental assessments required for FCC and FAA licensing are conducted on all MSWIN sites with a result of a Finding of No Significant Impact (FONSI)



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in all the areas listed in this environmental questionnaire prior to any site construction activities. Additionally, MSWIN sites are subject to environmental review by FEMA Environmental and Historical Preservation Office since other Federal funds have been used for equipping MSWIN.

The Mississippi Anchors Program (MAP) program will involve requests for proposals from third party telecommunications providers to connect or substantially upgrade broadband connections of Middle Mile community anchor institutions that are considered key to the state's interests. The Community Broadband Initiative (CBI) program will be a competitive grants program for public/private partnerships to build out last mile infrastructure in local communities. Both MAP proposals and CBI proposals must include, and will be evaluated in part based on favorable findings from, a thorough environmental impact analysis, and will be evaluated in part based on favorable findings from, a thorough environmental impact analysis.

Property Changes

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Buildings



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Wetlands

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Critical Habitats

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Floodplain

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Protected Land

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Coastal Area

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The Mississippi Anchors Program (MAP) program will involve requests for proposals from third party telecommunications providers to connect or substantially upgrade broadband connections



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Brownfield

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Uploads

The following pages contain the following uploads provided by the applicant:

Upload Name	File Name	Uploaded By	Uploaded Date
Service Offerings and Competitor Data	CCI Service Offerings and Competitor Data Attachment.xls	Stofer, Nicole	03/26/2010
Network Diagram	MSWIN Network Diagram.pdf	Stofer, Nicole	03/26/2010
Build Out Timeline	Build out timeline.doc	Stofer, Nicole	03/26/2010
List of Community Anchors and Points of Interest	CCI Anchor Detail and POI Attachment.xls	Stofer, Nicole	03/26/2010
Management Team Resumes and Organization Chart	Management Team Resumes and Org Chart.pdf	Stofer, Nicole	03/26/2010
Government and Key Partnerships	Govt Key Partnerships.pdf	Stofer, Nicole	03/26/2010
Historical Financial Statements	2008&2009 CAFR.pdf	Stofer, Nicole	03/26/2010
Budget Narrative	Budget Narrative.doc	Stofer, Nicole	03/26/2010



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Detailed Budget	Detailed Budget FINAL.xlsx	Stofer, Nicole	03/26/2010
Pro-forma Forecast	CCI Pro Forma Financial Projections Attachment.xlsx	Stofer, Nicole	03/26/2010
Subscriber Estimates	Subscriber Estimates.xls	Stofer, Nicole	03/26/2010
Dashboard Metrics	MESHNet Dashboard Key Metrics.doc	Stofer, Nicole	03/26/2010
Service Area Data	Service Area Data.xls	Stofer, Nicole	03/26/2010
Waivers	FCC Waiver Request.pdf	Stofer, Nicole	03/26/2010
Network Maps	Network Maps.pdf	Stofer, Nicole	03/26/2010
BTOP Certifications	BTOP Certification.pdf	Stofer, Nicole	03/26/2010
SF-424 C and D	SF424C and D.pdf	Stofer, Nicole	03/26/2010
Supplemental Information	LettersofSupport Final.pdf	Stofer, Nicole	03/26/2010



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