



**Broadband Infrastructure Application  
Submission to RUS (BIP) and NTIA (BTOP)**

<b>Submitted Date:</b> 8/20/2009 2:27:33 AM	<b>Easygrants ID:</b> 2762
<b>Funding Opportunity:</b> Broadband Initiatives Program and Broadband Technology Opportunities Program	<b>Applicant Organization:</b> Executive Office State of West Virginia
<b>Task:</b> Submit Application - Infrastructure Programs	<b>Applicant Name:</b> Ms. Kelley M Goes

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## A. General Application Information

1. Applicant Information	
1-A. Name, Address, and Federal ID for Applicant	
<b>i. Legal Name:</b>	Executive Office State of West Virginia
<b>ii. Employer/Taxpayer Identification Number (EIN/TIN):</b>	556000780
<b>Street 1:</b>	1900 Kanawha Blvd E #1
<b>Street 2:</b>	
<b>City:</b>	Charleston
<b>County:</b>	Kanawha
<b>State:</b>	WV
<b>Country</b>	United States
<b>Zip/Postal Code:</b>	25305

1-B. Name and Contact Information of Person to be Contacted on Matters Involving this Application:	
<b>Prefix:</b>	Ms.
<b>First Name:</b>	Kelley
<b>Middle Name:</b>	M
<b>Last Name:</b>	Goes
<b>Suffix:</b>	
<b>Telephone Number:</b>	
<b>Fax Number:</b>	
<b>Email:</b>	kelley.m.goes@wv.gov
<b>Title:</b>	Cabinet Secretary, WV Dept of Commerce



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<b>1-C. Other Required Identification Numbers</b>	
<b>i. Organizational DUNS:</b>	809594377
<b>ii. CCR # (CAGE):</b>	5M0J8
<b>iii. Funding Opportunity Number:</b>	1
<b>iv. Catalog of Federal Domestic Assistance Number:</b>	<b>BTOP CFDA Number:</b> 11.557 <b>BIP CFDA Number:</b> 10.787 <b>BTOP CFDA Title:</b> Broadband Technology Opportunities Program <b>BIP CFDA Title:</b> Broadband Initiatives Program

**1-D Eligible Entities**

Please classify your organization. (Note: If there are multiple organizations involved in the project, designate the lead applicant that would enter into a Loan or Grant agreement with the Agency and assume operational and financial responsibility should an award be made). **State or State Agency**

**1-E. RUS Borrower Status**

No

**1-F. Applicant Federal Debt Delinquency Explanation**

Is the Applicant Delinquent On Any Federal Debt? **No**  
**Federal debt delinquency Explanation:**  
 West Virginia is NOT delinquent on any Federal Debt.

**2. Project Description & Project Title**

**2-A. Project Title:** West Virginia Statewide Broadband Infrastructure Project-"Middle Mile"

**2-B. Project Description:** The West Virginia Statewide Broadband Infrastructure Project extends broadband services across the state by leveraging existing infrastructure to build a middle mile network with Multiprotocol Label Switching (MPLS) over Microwave and Fiber technology. The proposed network will provide a backbone to community anchors, including: schools, libraries, hospitals, public safety agencies and jails.



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**3. Application ID for Multiple Submissions for Identified Service Areas:**  
This is the only application for BTOP funding and the State of West Virginia is not applying for any BIP funding effectively causing this application to be the sole request for the Executive Office, State of West Virginia.

**4. Rural Area Determination**  
At least 75 percent of the proposed service area to be funded falls within rural areas that are unserved or underserved.  
**No**

**5. Applications for Rural Areas:** Please choose the funding program(s) to which you are submitting this application.

a) BIP broadband infrastructure category to which you are applying:

b) Would you like this Application for Rural Areas to also be considered for BTOP funding?

c) BTOP Infrastructure category for which you are applying.

**6. Applications for All Other Areas: Per the NOFA, all applications to fund broadband infrastructure projects in areas that are less than 75% rural must be submitted to NTIA for consideration under BTOP.**

BTOP broadband infrastructure category to which you are applying: **Middle Mile**

## **B. Eligibility Factors**

**7. Application Submission**

**BIP and BTOP Factors Selected By Applicant:**  
Applicant has submitted a completed application and provided all supporting documentation required for the application.



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<p>The Project will be substantially complete within 2nd year from the award date, and the project will be fully complete by the end of the 3rd year from the award date.</p>
<p>For projects seeking more than \$1 million funding, the Applicant agrees to submit a certification, from a Professional Engineer, that attests that a) the system will deliver the stated performance; and b) the projected project will be substantially completed within two years, and fully completed within three years.</p>
<p>The Applicant provides two-way data transmission with advertised speeds of at least 768 kbps downstream and 200 kbps upstream.</p>
<p>Applicant understands and agrees to comply with the nondiscrimination and interconnection obligations outlined in the NOFA.</p>
<p>If applying for a last mile Broadband Infrastructure project, applicant understands and agrees to comply with the last mile coverage obligations as outlined in the NOFA.</p>

<p><b>Additional Factors for BIP Selected By Applicant</b></p>
<p>At least 75 percent of the proposed funded service area qualifies as unserved and underserved rural areas in accordance with the NOFA.</p>
<p>Applicant understands and agrees that the project will be fully funded in accordance with the requirements of the NOFA.</p>
<p>Applicant understands and agrees that only projects that RUS determines to be financially feasible and/or economically sustainable will be eligible under this NOFA.</p>



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**Additional BTOP Factors Selected By Applicant**

- **Conformity with Statutory Purposes**
- **Cost Sharing/Matching**
- **Reasonableness of Project Budget**

The project advances at least one of the statutory purposes for BTOP

Applicant has provided documentation that the project would not have been implemented during the grant period without federal grant assistance.

Applicant has provided a budget that is appropriate to the proposed technical solution and only includes eligible costs.

- **Demonstration the Project Could not be Implemented But For Federal Grant Assistance**  
Applicant is providing matching funds of at least 20 percent towards the total eligible project costs?  
Yes

**7-k. Cost Sharing/Matching Fund Explanation**

Executive Office, State of WV did not request a waiver of the matching funds request.

## C. Executive Summary

### Executive Summary of Project for BIP and BTOP:

#### 8. Infrastructure Projects Executive Summary

Recognizing that broadband is imperative in serving its citizens and bringing economic development, West Virginia Governor Joe Manchin, III signed legislation creating the Broadband Deployment Council (BDC), an entity designed to facilitate innovative, quality, affordable broadband to all West Virginians. West Virginia is positioned to systematically and completely deploy broadband throughout the state, which will create a replicable model for other states to follow. West Virginia, located in the heart of Appalachia, is entirely mountainous, is the only state entirely located in the Appalachian Regional Commission, and



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has challenging demographics. Compared to the national averages, West Virginia’s population is older; is less educated; lives in more rural areas; has a higher poverty rate; is in poorer health, including smoking, obesity, diabetes, and asthma; and lacks health insurance. Combined, these present West Virginia with unique broadband challenges. West Virginia’s terrain is a major challenge for broadband deployment, as is reflected in the build out rate. This leaves a major part of the state’s households with limited or no access to broadband. Coverage cannot be extended due to the cost of deployment and population scarcity. The most challenging parts of the state both demographically and topographically remain un-served.

In order to facilitate broadband deployment; the delivery of critical public services in healthcare, education, and public safety; and private investment in infrastructure and technology applications for broadband, it is critical that West Virginia have a complete and robust middle mile. West Virginia’s broadband deployment strategy begins with the expedient, systematic, and sustainable build out of an “open” network middle mile solution that will provide fiber to critical community anchor tenants. Distribution of the bandwidth to support private, public, and individual connectivity will then occur through switching, routing, and leadership. This high quality middle mile is essential to last mile completion of broadband deployment, and will provide a full range of interconnect possibilities to meet provider, carrier, and end user requirements. West Virginia’s strategy is designed to foster competition generated by built-in multiple accesses, with the foreseeable reduction in costs for service for actual end users.

Due to West Virginia’s topographical and demographic challenges, this middle mile build out will not be completed by the private sector, partially due to the low take rate throughout the state. This is another hurdle that West Virginia must overcome. Statewide the take rate is 40.1%, a number so low that it illuminates the reality that the vast majority of the state has a much lower take rate. For a private provider, the costs are too high to reach too few customers who have not proven historically likely to purchase broadband services when provided. Left to pure market forces, West Virginia, and other rural areas, will have inferior technology or none at all.

To address demand and sustainability issues, the State, through the selection of the anchor tenants for the build out, designed the broadband deployment strategy to enhance critical services to citizens, which is paramount to building demand for robust broadband service.



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West Virginia’s project is anchored by critical community facilities. West Virginia systematically assessed its schools, libraries, healthcare facilities, public safety institutions, and emergency response entities to determine those with adequate broadband infrastructure. The facilities identified in this grant application are unserved by fiber. The State’s plan will deliver fiber and connectivity to that fiber to the facility/institution. This deployment of robust middle mile infrastructure would begin immediately upon receipt of funds. The requested service creates opportunity for redundancy, increased investment by private providers in response to the demand for enhanced services, and the deployment of current technology. This middle mile solution will push fiber into parts of the state where there is none, thus creating the opportunity for the build-out of broadband to homes, businesses, and other public institutions currently without access. The last mile solutions can now be technology neutral as backbone will exist where it previously did not.

West Virginia’s approach serves other important goals and initiatives. The jobs created by this request are easily quantified. Extrapolating from U.S. Department of Commerce data, CWA estimates an employment multiplier effect of 19.5 jobs in telecommunications and information technology (IT) for every \$1 million invested. Secondly, the economic development benefits are well documented and the impact on this rural state will be profound and immediate. According to a Brookings study, as detailed in a February 2008 report by Connected Nation, for every 1% increase in broadband penetration, employment is projected to increase by 0.2 to 0.3%. The U.S. Department of Commerce also determined that communities with broadband not only increased the employment rate by 1%, but added 0.5% to the growth of business establishments and 0.5% to the share of IT establishments. Thirdly, the services critically needed by West Virginia’s vulnerable population (aged, more likely to suffer from chronic disease, more likely to be disabled, more likely to be undereducated) are enhanced and accelerated because the build out serves critical community facilities first, by design.

- Healthcare – The West Virginia Department of Health and Human Resources (DHHR) provided input into the overall strategy and is primed to be an anchor of the system. DHHR envisions the efficient delivery of healthcare through the use of electronic health records. DHHR’s portion of the middle mile has been specifically designed to complement the federal initiative for Electronic Health Records (HER) and the state Health Information Network (HIN). The middle mile will provide access to over 25,000 providers serving doctor’s offices, healthcare facilities, hospitals, and individuals. The bandwidth specifications and system deployment are designed to deliver healthcare to the West Virginians in greatest need of





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healthcare. These individuals are also the least likely to have access to a hospital.

- **Education** – As primary stakeholders, the West Virginia schools are in dire need of this middle mile solution in order to provide suitable bandwidth to an additional 471 schools. The West Virginia Department of Education has the history, and the vision, of investing in technology, but the most remote schools, which face the greatest challenges in student demographics, are the ones that have been left behind in bandwidth. West Virginia’s strategy systematically addresses this problem and brings all West Virginia schools to the desired bandwidth.
- **Libraries** – Public libraries (176) complement West Virginia’s education initiatives. The majority of the libraries are without sufficient broadband capability to serve the needs of a community public computing facility; this middle mile will serve to reach the general community during normal business hours and after hours. As the last mile solutions are developed and funded, the library system is essential to the Governor’s goal of broadband accessibility for all citizens and businesses of West Virginia.
- **Public Safety** – The 53 (+2 redundancy) West Virginia public safety answering points (PSAPs) cannot function without the middle mile solutions. The PSAPs are ready and have sustainment funding earmarked for the last mile solution. Ultimately the PSAP solution will enable over 344 law enforcement (state police ((77)), county deputies/sheriff departments/police departments) and 447 volunteer and paid fire departments full broadband services. Geographic information system and mapping applications require the middle mile in order to reach out as required by policy and plans. Additionally this grant will serve 55 county courthouses.

This middle mile solution can be built rapidly and is guaranteed to provide both broadband access and service to the anchor tenants and the low income, aged, and unemployed as the deployment uses the competitively bid existing contract for broadband services. Currently, Verizon holds this state contract and provides statewide solutions, working with the state, local providers and its own network. This proposal is to build the primary middle mile solution; thus allowing for multiple last mile solutions that may be accessed by most, if not all, providers. The last mile is not dependent on the type of fiber, who built it, or what it looks like. The importance is placed on good quality and accessibility for a nominal access fee. This solution provides a gamut of interconnect possibilities that will meet provider, carrier, and end user requirements. Anticipation is for actual end user costs for service to be greatly reduced due to the natural competition generated by the multiple accesses provided with the solution. This enables rural West Virginia better access at a greatly reduced rate.



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The secretary of the West Virginia Department of Commerce, Secretary Goes, oversees the broadband processes by designation of the governor and as chairperson of the BDC. The critical anchor stakeholders for this grant are designed to provide stability and structure to the broadband build out and utilization. Uniquely in this endeavor, each stakeholder from the critical community facilities participated at the highest level of his or her department, building a cohesive team to ensure the project’s success. The Governor’s Office of Technology is poised to take an aggressive role in the daily operation, maintenance, and sustainment of the results of this proposal.

**Description of BTOP Project Purpose (BTOP Applicants Only Next Three Questions)**

**9. BTOP Statutory Purpose:**

Provide access to broadband service to consumers residing in “unserved” areas of the United States.
Provide improved access to broadband service to consumers residing in “underserved” areas of the United States.
Provide broadband education, awareness, training, access, equipment, and support to schools, libraries, medical and healthcare providers, community colleges and other institutions of higher education, and other community support organizations by or through these organizations.
Provide broadband education, awareness, training, access, equipment, and support to organizations and agencies that provide outreach, access, equipment and support services to facilitate greater use of broadband service by low-income, unemployed, aged, and otherwise vulnerable populations.
Provide broadband education, awareness, training, access, equipment, and support to job-creating strategic facilities located within a defined economic zone, or community as designated by a State authority, Department of Commerce , HUD or USDA.
Improve access to, and use of, broadband service by public safety agencies.
Stimulate the demand for broadband, economic growth, and job creation.



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**10. Description of BTOP Project Purpose:**

"Broadband access links people to so many possibilities. It helps small businesses grow, creates jobs, helps our students learn, and improves access to health care. It is imperative that we expand this critical technology infrastructure to all parts of the United States. Broadband expansion will boost economic activity nationwide, and it would help ensure that communities across West Virginia have the technology – and the opportunities – they deserve." - State of West Virginia Senator Jay Rockefeller

"Without the communication, without the Internet, without being linked to the rest of the world, it's going to be hard to compete, not just for the states, but for the nation" – State of West Virginia Governor, Joe Manchin III

The State of West Virginia lags behind much of the United States in the expansion of broadband capabilities and enhanced networking capabilities. As much of the nation is experiencing the advantages of being “connected,” the communities of West Virginia and their constituents have not been afforded the opportunity to utilize the commonly available internet based tools for schools, health care, public safety, libraries, courthouses, jails and research. Competitive network vendors have often viewed the potential expansion of network facilities in West Virginia as too costly to provide a return on investment. This situation has created a substantial gap that is limiting the growth potential of the entire state. Statistically, figures indicate that less than 25% of the State currently has access to broadband and of those only 40% subscribe, which is clearly behind many other States.

While the geographic topography in West Virginia presents difficulties in extending network access to the unserved and underserved areas within the State, broadband access is available in many of its urban regions. These urban areas have experienced moderate growth in connectivity and population. These areas have also gained greater efficiency for their businesses, communities, and residents through the competition of broadband service providers. Growth in these areas has proven competitive availability is the key element required to successfully fulfill the goals of this project. Since the entire State of West Virginia is categorized by NTIA guidelines as underserved, the primary use of BTOP funding will be to extend the reach and density of broadband access throughout the state. This project requires BTOP funding to satisfy all of the following statutory objectives upon deployment.



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Project Objectives:

- Provide broadband network access to consumers in unserved and underserved areas of the State of West Virginia
- Provide improved access to broadband service to consumers residing in underserved areas of the State of West Virginia
- Provide broadband education, awareness, training, access, equipment and support to:
  - o Schools, health care, public safety, libraries, court houses, jails and other community support organization by or through these organizations;
  - o Organizations and agencies that provide outreach, access, equipment, and support services to facilitate greater use of broadband service by low-income, unemployed, aged, and otherwise vulnerable populations;
  - o Strategic facilities, designed create employment opportunities, within a State designated economic zone, Economic Development District designated by the Department of Commerce, Renewal Community, or Empowerment Zone designated by the Department of Housing and Urban Development, or Enterprise Community designated by the Department of Agriculture.
- Provide improved access to, and use of, broadband service by public safety agencies
- Stimulate the demand for broadband, economic growth and job creation

In compliance with the guidelines, the broadband solution is designed as a layered solution. The primary emphasis in this application is to build the physical connections to the community anchor locations first. This step will create the middle mile distribution facility to each of the selected groups. Currently, many do not have the physical connectivity options to purchase an advanced IP based service with the necessary broadband speed to support the application.

Once the physical networks are completed, they will be used to enable the services layer. This layer is not included in the funding application but is recognizable because of the advantage it creates for the agencies, the communities and for the State of West Virginia. Once the network delivers advanced IP service to the community, a backbone meshed technology solution is feasible. This can easily be created through the community anchors by purchasing IP services and creating a logical cloud type network. This design represents an “open-access” model that creates the ability for each community anchor group to design a virtual private network (VPN) across the state. Each community anchor will be able to leverage the current Verizon MPLS contract to select a service level for the backbone carriage that meets their needs. For this example, a minimum service level of 10 Mbps to all locations will provide secure VPN access



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from one end of the state to the other.

VPN networks will enable greater information sharing, enhanced communications solutions, remote access to common files, distributed secure computing and anytime, anywhere access. This approach offers a solution that encourages a balance of public and private sector support. Partnerships with the community anchors encourage the usage of the network and purchase of the advanced services.

Additionally, these partnerships ensure the deployment of the network impacts the broadest range of users while developing a state-wide logical network. Each community anchor group has identified applications that could provide better service once the physical infrastructure is deployed. All of these applications will drive demand to the local communities, enhance the services each group currently provides, and/or expedite services to the rural and underserved areas.

This project is a shovel-ready solution. With the award of BTOP funding, all elements are in place to execute this strategy. Utilizing ratified contractual documents within the State, in concert with community anchor relationships, project implementation will be immediate.

**11. BTOP Enhanced Services for Health Care Delivery, Education, and Children:**

Mindful application of healthcare information technology has been shown to reduce the cost of healthcare and increase efficiency through better retention and retrieval of records, improved management of chronic diseases, coordinated care among and sharing of healthcare professionals, and enhanced decision support and evidence based decision making. As medical technology and applications have advanced, so has the need for increased bandwidth. As the US Internet Industry Study in 2007 noted, "Medical records have become more extensive, and need to be accessed by more parties simultaneously. Digital images have become clearer, but also larger. Many potential telemedicine projects have been hampered, therefore, by the lack of appropriate telecommunications technology, because regular telephone lines do not supply adequate bandwidth for most telemedical applications."

In West Virginia, figures indicate that less than 25% of the State currently has broadband access. Of this 25%, only 40% actually subscribe to some sort of broadband. Thus, those who could benefit the most from healthcare electronic transference of information and telemedicine do not have access to it. In fact, the paradox is that those most vulnerable populations of



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citizens in West Virginia, with the least access to brick and mortar healthcare facilities, are also the ones unable to access advanced broadband connectivity for telehealth applications.

This WV request for “middle-mile” broadband connectivity will ensure that other efforts around the state related to health information exchange, electronic health records, and personal health record applications are able to reach our most vulnerable populations. It should be noted that a good portion of the specific facilities “connected” by funds requested in this application are:

- Critical Access Hospitals
- Federally Qualified Healthcare Centers
- Community Mental Health Centers
- Urgent Care and Emergency Care Service Providers
- Rural Healthcare Clinics and Providers

By extending broadband connectivity to these anchor facilities and caregivers, we will be delivering healthcare to our most vulnerable populations, including the low income, unemployed and the aged; thus advancing the objectives of healthcare reform through information technology. This high bandwidth “dial-tone” will enable the following key applications to be undertaken by the State:

- Electronic Medical Records and Health Information Exchange.
- Telehealth and Telemedicine.
- Medical education.
- Virtual healthcare teams.

Education, another essential community anchor, will be supported by the West Virginia Statewide Broadband Infrastructure Project. According to the State Educational Technology Directors Association (SETDA), while national statistics boast almost 98% connectivity in US schools, the substance and bandwidth of the connection is often problematic and insufficient. High-speed broadband access and connectivity are vital for economic growth, global competitiveness, education, innovation, and creativity. Ensuring high-speed broadband access for all students has become a critical national issue especially when considering the necessity for the use of technology in assessment, accountability, engagement, and preparing our students for work and life in the 21st century.



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Of the 741 schools in West Virginia, 270 currently have access to High-speed broadband service, well below the national average. This project will provide robust high speed internet access to schools throughout the State, creating opportunity for economic growth, global competitiveness, education, innovation, and creativity.

## D. Proposed Funded Service Area

### 12. Proposed Funded Service Area Maps:

12-A. Service Area Map (Reference Number): **5E9F-395F-4DD1-A0E3**

12-B. Is the applicant is seeking a waiver for providing less than 100% coverage of a census block. **No**

### 13. Proposed Funded Service Area (BIP - Last Mile Projects):

Please refer to section M at the end of document.

### 14. Proposed Funded Service Area (BTOP - Middle Mile Project):

Please refer to section M at the end of document.

### 15. Non-Funded Service Area( BIP Only):

BIP Question only, not required for BTOP.

### 16. Coverage Waiver:

Applicant is seeking a waiver for providing less than 100% coverage of a census block.

**No**

For Response of "Yes" please refer to upload section for additional supporting documentation.

### 17. Methodology for Area Status:

West Virginia is applying for funds to acquire and construct a multi-use high speed IP backbone that will provide presence and interconnect points throughout the state. The network will provide cost-effective high speed broadband connectivity to numerous critical community facilities and local governments throughout every area of the state. This middle mile approach will bring benefits to the entire state, including the deployment of fiber deep into areas presently unserved.

At this time, West Virginia does not have sufficient data to properly identify all unserved and underserved areas of the state. This application applies the best available data, acquired from



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various telephone, cable and wireless companies, to estimate how much of West Virginia meets these definitions. The methodology is described below.

The state analyzed decennial census data based on the definitions of rural and remote areas as defined in the NOFA. Less than 2% of West Virginia can be considered urban based on these definitions. Additionally, about 9% of West Virginia can be considered remote under the definitions. This “remote” designation vastly underestimates the true conditions in West Virginia because the 50 mile radius factor allows portions of the state to be included within the sphere of towns from other states – where the providers have no ability of inclination to provide service across the border – and also swallows up vast geographically challenging and literally remote and unserved regions of the state because of the scale of this radius compared to the size of West Virginia. Applying the current definition, however, leaves 89% of the state that can be considered rural/remote.

The broadband infrastructure location data was buffered to 500ft to provide an indication of the areas that have coverage available. On this basis, approximately 11% of the state is served by broadband coverage and approximately 89% of the land area of the state does not have terrestrial broadband coverage available. We cannot be certain how many households within these land areas have subscribed to broadband. Based on testimony filed with the West Virginia Public Service Commission, the maximum subscription rate is just over 40% as an average for the entire state. That estimate was based on coverage analysis that used 5-digit zip codes, and is, therefore, lacking the specificity necessary for fully ascertaining subscription. The indication is that the state subscription rate is far lower.

Clearly, West Virginia, as a whole, can be categorized as underserved. The areas that can be confidently labeled as served are concentrated in a few urban areas, and accordingly, much of the land area of the state qualifies as unserved. Further, a significant amount of West Virginia’s broadband infrastructure serving households is copper based. It is fair to say that there are households shown as covered – even in relatively urban areas – that may not have access to broadband meeting the NOFA definition of 768 kbps.

Based on the data accumulated for this application, provider data, other available data, the assumptions as described, and also on the design of our network, the application defines the entire state as the service area.





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**18. Middle Mile Benefits**

The primary service providers identified for the interconnect are Verizon and Frontier. The last mile service areas for which the middle mile project will provide service include: schools, health care, public safety, libraries, court houses, and jails. Based on data provided by Verizon – 270 of 741 schools in West Virginia have fiber connectivity. The need for connectivity for the remainder of 471 (64%) of schools, hospitals, PSAPS, libraries, courthouses and jails identifies a significant level of need in the state. The anchors will be provided opportunities for additional education, training, access, equipment and support through the broadband initiative. Public safety agencies will gain much needed access to and use of broadband services.

## E. Proposed Service Offering

**19. Broadband Service Offerings for Last Mile Project:**

Please refer to upload section at the end of the document.

**20. Service Offerings for Middle Mile Project:**

Please refer to upload section at the end of the document.

### Competing Service Providers

**21. Existing Broadband Service Providers and Services Offered:**

Please refer to upload section at the end of the document.

### Non-Discrimination, Interconnection

**22. Description of Network Openness:**

Interconnection to the backbone through the community anchors is designed to offer “open access” to any provider that may wish to deliver a solution. Additionally, the interconnection among all of the community anchors will allow for greater redundancy, resiliency and survivability across the state.

Using the previously defined model, interconnections created across the middle mile



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deployment will allow the education anchors to share coursework, distribute learning tools and maximize the educational opportunities available. This concept will interconnect schools through an individualized network providing custom applications enhancing shared learning activities within the State.

Within the health care industry, the middle mile solution will permit data exchange required for the remote sharing of diagnosis and analysis of illness and treatment with the necessary speed and security.

The Public Safety community benefit from the increased data and voice interoperability. Specifically, a state wide radio infrastructure will provide interoperable voice radio systems to interconnect. This systems can be augmented to support video and voice over IP services. Public Safety First Responders will deploy statewide applications which will enhance the personal safety of the First Responder and the citizen. This middle mile solution fully meets the open architecture to support next generation 911.

Most important, middle mile deployment will allow greater connectivity options to be designed and deployed. In many cases, services that are available from a provider are not available in West Virginia because the middle mile options do not have the capacity to provide the adequate service to the end user.

Any entity wishing to join the network will be required to enter into an interconnection agreement which identifies the terms and conditions of use. While terms and conditions will be maintained by the service provider, network service level agreements will meet the terms of the current Verizon MPLS contract. Associated networks will be administered by the respective vendor according to the policies drafted to meet the specific criteria of of the entity being served.

**Non-Discrimination and Interconnection (BTOP applicants only for next three questions)**



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**23. Non-Discrimination Obligations (applicable to Last Mile and Middle Mile Applicants):**

Adhere to the minimum non-discrimination requirements as set forth in the NOFA.
Display the nondiscrimination practices in a prominent location on the service provider’s web page, and provide notice to customers of changes to these policies.

**24. Interconnection Obligations (applicable to Last Mile Applicants):**

--

**25. Interconnection Obligations Middle Mile Applicants:**

Adhere to the minimum interconnection requirements as set forth in the NOFA.
Display the interconnection policies in a prominent location on the service provider’s web page, and provide notice to customers of changes to these policies.
Commit to offering wholesale access to network components and services such as wavelength or fibers at reasonable rates and terms.
Commit to binding private arbitration of disputes concerning interconnection obligations.

**Cost Effectiveness and Affordability**

**26. Cost per Household (BTOP only):**

This request is for “Middle Mile” only. Therefore, an estimate of the cost per household, is not applicable to this grant submission. However, using the formula noted in the grant guidance the following calculation is provided:



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Total amount of grant: \$126,323,297 divided by number of households: 743,064 equals a cost per household of \$170.

### **27. Affordability**

As noted in section 26 “Cost per Household”, because this grant request is for a middle mile solution there is no estimated or actual cost per household. As to affordability, the middle mile solution (build out of fiber) will effectively and efficiently provide middle mile solutions across the state reaching public safety, schools, public and private sector, libraries, medical applications and citizens. Because a viable middle backbone will be available supporting open architecture multiple vendors may chose to develop a last mile solution. This competition will drive cost per end node down. This application is statewide and in locations where there is no middle mile solution today, nor is any planned. The competitively bid (under State of West Virginia purchasing rules and regulations) MPLS contract coupled with FCC regulations ensure the best cost possible for this infrastructure build out.

## **F. Technology Strategy**



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**28. Technology Type:**

Wireline - xDSL
Wireline - Coaxial Cable
Wireline - Fiber-optic Cable
Wireline - Hybrid System
Wireless - Terrestrial Fixed
Wireless - Terrestrial Mobile
Other

**Other:** This request is middle mile, but will support the noted.

**29. System Design**

System Design Strategy

A key reason why service providers have not provided broadband access to unserved and underserved areas is due to the cost of building the network infrastructure to reach those areas. The State of West Virginia is made up of a diverse topographic environment, most of which is at best hilly, at worst mountainous. The State has terrain that precludes, in many locations, the ability to run optical fiber or copper pairs. One linear mile of distance could equate to 2-4 miles up and over rugged terrain, so rugged at times that Utility Companies could not provide the mounting pole installation or trenches necessary to run the optical fiber or copper. Plus the costs incurred for running said fiber or copper over this terrain are not feasible for most budgets.

Because of these terrain limitations, a major portion of the State's 911 Systems, to include Public Safety Answering Points (PSAP's), Dispatch radios sites, and voted receive sites, are interconnected across and supported with Licensed Microwave Radio Systems. This support includes basic operation of First responders, including Law Enforcement, Fire, Emergency



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Medical Services (EMS) and DHS/Emergency Management Services. The links provide the capability to talk out (from the radio site) and talk back (to the radio site) between the Dispatchers located at the PSAP and these First Responders.

Currently, the State of West Virginia has 84 Communications tower or rooftop sites, many designed for self-sustainment in adverse conditions for a specified amount of time, interconnected by 95 Microwave radio links, to provide a Backbone for the aforementioned First Responder services. The services provided are incorporated into the Licensed Microwave system across a 4DS3 composite data pipe. This pipe is made up of 4x45MB data channels, and has the capacity and supports the necessary bandwidth for current use, however, does not provide the needed growth capacity for current use, but does not have sufficient capacity for future growth.

The State proposes to add 12 primarily self-sufficient tower sites, to include shelters, towers and generators, to the existing system, and further to propose and install another 4DS3 (180 MB Capacity) Licensed Microwave system to all 96 tower sites. This system coupled with an existing state wide contract with Verizon to govern the purchase of infrastructure and services throughout the state would provide “middle mile” broadband capability to the proposed State anchor sites in unserved, underserved rural and remote areas that no other carrier reaches today.

The assets of this existing microwave infrastructure include not only communications equipment, but towers, roads, rights-of-way, real estate, buildings, cabinets and other facilities. By leveraging and upgrading this existing infrastructure, the State will be able to provide the most cost-effective and shovel-ready approach to expedite broadband proliferation in unserved and underserved areas of West Virginia, while also improving communications for public safety, education and healthcare. The proposed system will provide Middle Mile connectivity enabling equal opportunity for all Service Providers to reach the unserved and underserved areas of West Virginia.

**Key Network Components**

The objective of the proposed Middle Mile network is to transport traffic from targeted unserved and underserved areas of West Virginia to the existing Service Provider networks. The Middle Mile network enables connectivity from the end-user to the Internet by providing backhaul bandwidth and infrastructure to Rural ISPs, as illustrated below:

Service Provider <-> West Virginia Middle Mile <-> Rural ISP Last Mile



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The State will leverage its existing infrastructure to build a Middle Mile network that provides MPLS over Microwave and Fiber technology. The key components of this network are as follows:

- This microwave network will be upgraded to provide 180 Mbps of Middle Mile bandwidth. This bandwidth will provide the backhaul for broadband provider's connectivity to any of the noted anchor institutions.
- The Fiber Segments will provide new infrastructure to extend "middle mile" deeper into rural areas of West Virginia, with a minimum 10 Mbps to every anchor institution. It is the point at which the Service Provider can connect to the Middle Mile to backhaul their broadband traffic.

Service providers will interconnect with the statewide Middle Mile network via fiber optics at redundant locations, creating gateways to the service provider of choice. The Middle Mile network will transport traffic between these gateways and the Last Mile, where providers can deliver Last Mile services using multiple technologies.

**Wireless Technology Details**

**Microwave/MPLS Middle Mile:** The current microwave loops use 6GHz or the 10/11 GHz spectrum depending on the length of the Hop. In order to increase capacity, there will be an overlay of a mirrored 6 and 10/11 GHz radio at each existing tower location, as well as the proposed 12 tower locations. The proposed radios can share a common cross-polarization antenna with the existing radios, thus avoiding significant incremental tower loading. To be most cost-effective the solution will share antennas with separate radios and feeder / waveguide installations whenever possible. All traffic will converge on the common MPLS network, where it will be logically separated through virtualization, enabling the appropriate security and quality of service mechanisms for the public safety as well as Anchor location traffic.

**Spectrum availability:** Spectrum has been pre-determined to be available for what is required by the design. FCC licensing and engineering has been included in this proposal.

**Topology and Morphology of the Area:** The design considers the terrain which has 80+ foot trees and 10 feet of growth to guarantee line of site now and in the future for the microwave. All links have been engineered to vegetation and seasonal changes and will have a minimum reliability of 99.999%.

**Power Levels at User Devices:** The solution uses already proven, widely-used technology. All power levels will be within FCC recommendations.

**Specific Advantages of System**



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Advantages of the Proposed Network Include:

- Cost-effective, shovel-ready approach by leveraging existing state infrastructure.
- Converged broadband backhaul enables service providers to deliver broadband services to unserved and underserved citizens, healthcare, education and public safety
- 180 Mbps Middle Mile network to extend broadband services to most un/underserved areas of West Virginia
- 10 Mbps public safety network with better control, flexibility and capacity for public safety traffic at reduced costs
- Complete logical segregation of different traffic types (public safety, rural broadband, education, healthcare) with MPLS advanced security and Quality of Service mechanisms
- Standards-based solution enabling interoperability between service providers, education, healthcare and public safety
- Reliability ensured via MPLS fast re-route in the event of a link loss
- Strategically placed handoffs to existing fiber optic networks to scale network bandwidth, offload traffic and conserve microwave bandwidth where required, and provide redundant connections to ensure high availability.

Future Capabilities

The proposed solution features standards-based technologies to assure interoperability across multi-vendor products. The upgrading of the existing State wide Microwave network and the build out of the Fiber network using existing state wide contract with Verizon, provides placement of Broadband facilities within reach of the, Schools, Health Care, Public Safety, Libraries, Court Houses, and jails (as anchors). Installations of this infrastructure also provides broadband infrastructure within reach of other commercial institutions that will benefit when requesting broadband services. Once in place, this infrastructure will reduce/eliminate their special construction charges making Broadband capabilities economically feasible in areas where it was previously cost prohibitive.





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**30. Network Diagram:**

Please refer to upload section at the end of document.

**31. Certification by Professional Engineer:**

Please refer to upload section at the end of document.

**32. Buy American Waiver Request:**

Is the applicant seeking an individual waiver of the Buy American provision? **No**

**Buy American Waiver Request – Legal Justification**

We are not asking for a waiver to the Buy American Waiver Requirement.

**33. Choice of Service Provider:**

Does the project's Infrastructure and the Company's business plan allow more than one provider to serve end users in the proposed funded service area?

**Yes**

## **G. Project Milestones and Completion Factors**

### **Timeline & Milestones**

**34. Infrastructure Build-out Timeline:**

Please refer to upload section at the end of the document.

**35. Licenses, Regulatory Approvals and Agreements:**

The West Virginia Infrastructure project has been designed to reach all of the community anchor locations in the State. This middle mile strategy is designed to build out the middle mile network that can serve to create the demand for broadband and serve as the gateway to communications service that is not available today.



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Most of the fiber build will be within the Frontier and Verizon territories. The total mileage of the special construction is estimated to be 900 miles of new fiber. Verizon already owns the largest portion of the right-of-way necessary to build the fiber into the areas identified in this project. All licensing and Regulatory approval will be associated with Verizon. In addition, there are 84 towers having a total of 95 links with 12 new towers located throughout the State serving the Public Safety Interoperable Radio Project. These sites are owned by the State of West Virginia and are not subject to a lease fee. Twelve new towers are going to be added to supply the additional areas of the State with the broadband capability required for the project. These new locations will also be owned and no lease agreement is expected.

**36. Construction and Vendor Contracts**

The middle mile project as described in this request will be mostly completed by contractors and vendors. As indicated in section 33, “Choice of Service Providers”, the solution is largely available through Multi-Protocol Layer Switching (MPLS) applications. The State of WV negotiated a MPLS contract with Verizon that will be passed to Frontier as the merger of the two companies comes to fruition. This contract is the tool of choice to frame out the middle mile and subsequent “last mile” (not contained in this request).

Weekly, senior leadership from both Verizon and Frontier meet with the West Virginia Secretary of Commerce regarding broadband initiatives and planning for West Virginia.

Any towers constructed in concert with this grant will be via coordination with the State of West Virginia Interoperable Working Group (IWG)/Statewide Interoperable Coordinator. This group has installed 84 towers using systems, contracts, etc that are tried and working. For these reasons we will utilize current existing contracts negotiated by the IWG. These contracts are on file and available from the respective State of West Virginia agencies.

**Qualification of Management Team and Organizational Readiness**



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**37. Management Team Resumes:**

Please refer to upload section at the end of the document.

**38. Organizational Readiness:**

West Virginia is poised in a manner to efficiently and effectively handle the organizational mechanisms and processes relating to implementation, management, and operation of the proposed broadband services relating to this proposal.

Immediately upon receipt of funding, we are prepared and ready to begin the implementation phase. Via an existing state negotiated contract, we can place service orders immediately. The contract was executed by the State of WV purchasing department and is currently being used on an as required basis. Through the management team noted in the attached organizational chart and the WV Broadband Deployment Council as appointed by Governor Manchin, plans are in place facilitating immediate execution. The anchor tenants (public schools, health care, public safety, libraries, court houses and jails) provided input into this middle mile solution; thereby effectively garnering support and data for implementation. Purchase orders, billing and payment to vendors will be via existing, tried, tested, and efficient State of West Virginia procedures.

Management, including appropriate network planning and execution will be coordinated and monitored by the leadership team, Governor's Office of Technology, and the Broadband Deployment Council. The team composition is such that all considerations for an efficient network, including operations and security, will be included.

Coupled with actual construction of the middle mile, we are developing a model that will graphically detail the exact locations, required bandwidth, and priority of this middle mile solution. This graph will be reviewed bimonthly by the leadership team, the Broadband Deployment Council, the Governor, and his staff for assurance of timely and reasonable fruition of the overall project. An operational team composed of Cabinet Secretary Goes, Chief Technology Officer Schafer, Mr. Jimmy Gianato, and Mr. Mike Todorovich will oversee the entire process on a project management basis.

Through partnerships and cooperation with the WV Interoperable Working Group (appointed



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by Governor Manchin via Executive Order), towers and microwave service will be built. This is a well grounded/established group with considerable experience in microwave/tower/broadband build out. Their expertise will greatly enhance overall ability to execute plans relating to middle mile. Simply stated we are "shovel" ready.

**Other**

**39. Organizational Chart:**

Please refer to upload section at the end of document.

**40. Legal Opinion:**

Please refer to upload section at the end of document

**41. Government and other Key Partnerships:**

Early in his first administration, Governor Manchin realized a vision for broadband access to every citizen in West Virginia. On April 11, 2008, the Governor stated “We are now in a position to take a leadership role among states in making broadband available to our citizens and businesses. Broadband technology is increasingly essential to enabling West Virginians to better compete in today’s global and technologically-savvy economy.” He made this statement at the signing of HB 4637 that created a statewide Broadband Deployment Council strategy.

Governor Manchin’s vision quickly included many key partners, including community anchor institutions, public safety entities, community organizations, vendors or contributors of in-kind and cash support.

Attached as a supplemental file is a chart titled “WV Broadband Technology Partners” that graphically depicts the key partners in this middle mile endeavor. The first column shows the State entities, including the broadband leadership management, team as they relate to the identified anchors of schools, health care, public safety, libraries, court houses, and jails. The next column shows identified partners of Verizon and Frontier with interlinks via the MPLS contract between the State, the Anchors, and the partners. The right side of the chart identifies some of the last mile opportunities that will be afforded after this middle mile portion is completed. Cabinet Secretary Kelley Goes, as the chair of the broadband leadership team, will



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coordinate all activities to ensure a smooth relationship and flow of effort during this middle mile construct. As stated in the Executive Summary, the Governor’s Office of Technology is poised to assume responsibility for day to day technical efforts, of this portion of the WV Broadband initiative.

**42. Recovery Act and Other Governmental Collaboration.**

Health Care:

American Recovery and Reinvestment Act of 2009 provides approximately seventeen billion dollars in funding for enhanced Medicare and Medicaid reimbursement to certain providers who demonstrate meaningful use of certified EHR technology (Certified EHR technology means a qualified electronic health record as defined in Section 3000(13) of the Public Health Services Act that is certified pursuant to Section 3001(c)(5)of such Act).

Section 13301 of the ARRA gives West Virginia’s Department of Health and Human Resources and the Bureau of Medicaid funding to facilitate the use of EHR technology, train personnel and improve eHIE.

Section 4101 of the ARRA gives West Virginia’s Department of Health and Human resources and the Bureau of Medicaid Services the ability to provide incentive payments to eligible professionals to encourage the adoption and use of certified EHR technology. West Virginia will leverage this section for additional funding.

Under the ARRA, approximately 15,000 West Virginia health care providers will become eligible for enhanced Medicare reimbursement in the federal fiscal year beginning in October 1, 2010 by becoming a meaningful user of certified EHR technology and will suffer financial consequences for failing to do so in the federal fiscal year beginning October 1, 2014. Additionally, approximately 15,000 West Virginia health care providers will become eligible for enhanced Medicaid reimbursement to providers who are engaged in efforts to adopt, implement or upgrade certified EHR technology or who are meaningful users of such technology, beginning on a date that has not yet been specified by the federal government.  
Education:

In addition to the collaboration with the West Virginia Department of Commerce on BTOP Infrastructure, many of West Virginia's public K-12 schools/counties will apply for the BTOP Public Computing Centers and/or the Broadband Sustainability Adoption grants. For all three



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BTOP programs, public education will leverage the following projects: 21st Century Tools for 21st Century; Techsteps--Online Technology Literacy Achievement Profiles for K-8 Grade Students; E-rate discounts for continued broadband use; interactive projects/programs with NASA, Teach 21 resources, and others.

**Public Safety:**

West Virginia received \$8.4 mil from Department of Commerce Public Safety Interoperable Communications (PSIC) grant that providing a portion of the existing interoperable tower (w microwave) backbone that associated towers in this request will interconnect and provide redundancy. 911 fees will be used for sustainability of a portion of public safety network.

**Community Involvement (BTOP Applicants Only)**

**43. Partnering with Disadvantaged Businesses**

This grant request is for the State of West Virginia to use an existing negotiated MPLS contract with Verizon and related FCC rules and regulations. Because of this existing contract with Verizon, the State of West Virginia will not be partnering with any Disadvantaged Businesses. However, disadvantaged businesses will be provided opportunity to utilize and partner with anchors to subscribe, utilize, and populate the end state (not this grant) last mile solution.

**H. Project Budget**

**44. General Overall Budget**



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Budget	Loan Request	Grant Request	Equity	Debt	Bond	Other
Network & Access Equipment (switching, routing, transport, access)		27,408,640				
Outside Plant (cables, conduits, ducts, poles, towers, repeaters, etc.)		75,274,657				
Buildings and Land – (new construction, improvements, renovations, lease)						
Customer Premise Equipment (modems, set-top boxes, inside wiring, etc.)						
Billing and Operational Support Systems (IT systems, software, etc.)						
Operating Equipment						



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(vehicles, office equipment, other)						
Engineering/ Professional Services (engineering design, project management, consulting, etc.)		23,640,000				
Testing (network elements, IT system elements, user devices, test generators, lab furnishings, servers/computers, etc.)						
Site Preparation						
Other						
<b>TOTAL BROADBAND SYSTEM</b>		<b>126,323,297</b>				





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<b>Funding Opportunity:</b> Broadband Initiatives Program and Broadband Technology Opportunities Program		<b>Applicant Organization:</b> Executive Office State of West Virginia	
<b>Task:</b> Submit Application - Infrastructure Programs		<b>Applicant Name:</b> Ms. Kelley M Goes	

**Total Budget:** \$ 126,323,297

**45. Detailed Budget:**

Please refer to upload section at the end of the document.

**Sustainability**

**46. Reasonableness**

The State of West Virginia is seeking funding to build middle mile solutions by utilizing key anchor tenants to build the interstate system of broadband for West Virginia. With the creation of the infrastructure built in this project, key entities will have access to broadband. Our proposed solution will also allow for broadband service to be built out into rural areas of the state with low population density where a sustainable business case cannot be made without substantial subsidies.

The costs utilized to determine the amount of funding requested in this application are based on existing contracts awarded by the State of West Virginia and other government entities after an extensive competitive bidding process. These processes are designed to obtain the best value for the citizens of our State. The anchors defined below provide crucial services to the public and private sectors. These community anchors include schools, health care, public safety, libraries, court houses, and jails. Working with key stakeholders, we have identified the locations where broadband is needed to support key initiatives such as tele-health, alternative education, and advanced public safety applications. These contracts which are currently in place will allow the state to immediately begin placing orders for service literally within days of a grant award being made. The State has a proven record of deploying its tower and microwave network in a very cost effective manner. By partnering with key agencies and working in a collaborative fashion, West Virginia has maintained a very low cost per site to build its public safety microwave network.

The total numbers of sites requested are identified in the table below:

Schools K-12	471
9-1-1 Centers	53 (+ 2 redundancy)
Libraries	176
Tele-Medicine	184
State Police	77



**Broadband Infrastructure Application  
Submission to RUS (BIP) and NTIA (BTOP)**

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Jails (13 Regional's & 21 Centers) 34  
Planning and Development Council 11  
Greenbank Observatory Research 1  
County Courthouses 55

Towers at 340 Feet 12  
Radios 4 DS-3 Backbone (2 PER Tower Site) 24  
Engineering 12

Radios 4 DS-3 Backbone (Additional bandwidth per site) 95

The cost for 1064 sites is \$87,679.79 each. The cost for the construction of 12 additional microwave sites and the addition of 4 additional DS-3s to the existing microwave backbone is \$33,032,000.00 These are very competitive and reasonable costs for the services requested.

**47. Historical Financial Statements:**

Please refer to upload section at the end of the document.

**48. Broadband Subscriber Estimates:**

Please refer to upload section at the end of the document.

**49. Other Services:**

Please refer to upload section at the end of the document.

**50. Pro Forma 5-Year Financial Forecast and Assumptions:**

Please refer to upload section at the end of the document.

**51. Commitment of Capital Funding Support**

During the interim legislative session in August 2009, and despite the current challenging economic times, the West Virginia Legislature voted to grant spending authority for \$5 million appropriated to the Broadband Deployment Council (BDC). The BDC is empowered to provide consultation services for any broadband improvement, construction or deployment project; to hire consultants for mapping and project evaluation, dispense funds, and use its powers to bring broadband to unserved areas. The BDC has already retained L. Robert



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Kimball & Assoc. as the expert consultant by a competitive process to assist in assessment and deployment strategies.

The largest portion of in-kind for this project comes from Interoperable Radio Project (IRP) radio tower build out for a state wide system. This project utilizes the existing completed backbone of 84 towers to continue broadband middle mile service throughout the state. The cash value of the existing tower infrastructure directly attributed to this middle mile project is \$28,500,000. These towers include digital microwave designed for public safety voice radio use. This microwave is also utilized for some data transfer as well. All towers built for this system are designed for multiple carrier use in order to maximize the investment of the state and leverage other business opportunities. The overall IRP works via coordination via a Statewide Interoperable Coordinator and is governed by a Governor appointed Interoperable Working Group (IWG).

In addition to the funding mentioned above, the State of West Virginia invests \$1,000,000 annually in grants to local governments to assist in building towers for communications use. Requirements for funding for these towers includes that they provide access to cell phone carriers and wireless broadband providers in order to expand the footprint of these services.

Summary of Capital Investments Related to this request, but not funded by the grant itself.

In-Kind -	\$5,000,000
Cash – IRP Towers	\$28,500,000
Total WV Invest	\$33,500,000
Total this request:	\$126,323,297
%of Capital Invst	26%

**BTOP Requirements**



**Broadband Infrastructure Application  
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**52. Matching Funds:**

- a. Cash: \$ 28,500,000.00
- b. In-Kind: \$ 5,000,000.00
- c. Percent of Total Project Cost: 26

**53. Demonstration of Financial Need:**

This proposed middle mile project would not be possible without the BTOP funding. Several reasons contribute to this statement. First, as the national economy began to have dire problems and failures, negative impacts on the State of West Virginia’s ability to fund such an endeavor surfaced. The Governor and State Legislature, in order to reduce costs, directed a 5% “across the board” cost reduction. As with most “stock market” investments, WV investment funding dropped commensurate with the market. Due to the rural nature of WV major companies have little interest in making huge investments in sparsely populated areas because of Return on Investment Ratio– low in rural states. For example Frontier is in the process of acquiring Verizon because Verizon desires to get out of the low profit wire/fiber business. Without BTOP there will be minimal middle mile fiber within the confines of West Virginia; however, the BTOP “middle mile” solution proposed herein will ensure broadband accessibility to our entire rural state. To this juncture, there has not been funding available to support this initiative. Many companies are “at-the-ready” with last mile solutions and capability. Without the middle mile proposed in this application, WV will never have viable broadband access to the anchor tenants. With this middle mile solution, competition will be fostered and federal money will be leveraged with the private sector (last mile) to accomplish the objectives of the NOFA relating to this grant.

**54. Unjust Enrichment**

The Executive Office, State of West Virginia, nor any other entities have requested or received any Federal support for non-recurring costs for the noted areas for this middle mile solution.

**55. Disclosure of Federal and/or State Funding Sources**

As noted in question 54, the Executive Office, State of West Virginia nor any entity has received or requested any federal or state funding to which this application relates.

**I. Self Scoring – BIP Only Self Scoring**



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**56. Self Scoring Sheet**



**Broadband Infrastructure Application  
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Criteria	Method	Points	Self Scores
<b><u>PROJECT PURPOSE</u></b>			
Proportion of Rural Residents Served in Unserved Areas	1 point for every 10,000 unserved households	Up to 5	0
Rural Area Targeting	1 point for every 5% increase in the rural service area up the minimum 75% rural area requirement	Up to 5	0
Remote Area targeting	1 point for every 50 miles a service area is located from a non-rural area	Up to 5	0
Title II Borrower	If you are or were a Title II borrower	5	0
Recovery Act and other governmental collaboration	1 point will be awarded for each governmental or Recovery program the applicant is partnering with	Up to 5	0
<b><u>PROJECT BENEFITS</u></b>			
Performance of the offered services	If a last mile wireline project delivers 20M to household – if a last mile wireless projects delivers 2M to end-user – if a middle mile projects delivers 100M to end points	<b>10</b>	0
Affordable of services offered	Points awarded based on the proposed rate structure and the logistics of the proposed service area	Up to 5	0



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Choice of service provider	If the proposed infrastructure is available to be used by multiple service providers	5	0
Critical Community Facilities	If discounted rate packages at least 25% lower than advertise rates are available to critical facilities	5	0
<b><u>PROJECT VIABILITY</u></b>			
Applicant's organizational capability	Points will be awarded on the strengths and accomplishments of key management	Up to 12	0
Community Support	If a letter of support has been received from a designated representative of the community for every community in the proposed service territory	2	0
Ability to promptly start project	If the applicant can demonstrate that all licenses and regulatory approvals have been received, contractors and vendors are ready to enter into contracts, and equity has been deposited into applicant accounts	10	0
Socially and economically disadvantaged small businesses (SDB), as defined by section 8(a) of the Small Business Act, 15 U.S.C. §637.	If the applicant is a Section 8(a) entity	1	0
<b><u>PROJECT BUDGET AND SUSTAINABILITY</u></b>			
Reasonableness of the budget	Points will be awarded based the	Up to 5	0



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	adequacy of the proposed budget		
Leverage of outside resources (outside funding/financing requested)	(i) 10 points if this ratio is greater than 100% (ii) 7 points if this ratio is between 100% and 75% (iii) 5 points if this ratio is between 75% and 50% (iv) 3 points if this ratio is between 50% and 25% (v) 1 points if this ratio is lower than 25%	10	1
Extent of grant funding (Grant funds/loan funds)	(i) 0 points if this ratio equals 100% (ii) 1 points if this ratio is between 100% and 75% (iii) 3 points if this ratio is between 75% and 50% (iv) 5 points if this ratio is lower than 50% (v) 10 points if no grant funds are requested	10	0
<b>Total Points</b>		100	1





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## J. BTOP Certification Requirements

### Certification (Requested for BTOP)

Please refer to upload section at the end of the document regarding following uploads.

1. U.S. Department of Commerce, Broadband Technology Opportunities Program
2. SF-424D Assurances—Construction Programs (Schedule N)
3. CD-511, Certification Regarding Lobbying (Attachment O)
4. SF-LLL, Disclosure of Lobbying Activities (Attachment P)
5. CD-512, Certification Regarding Lobbying—Lower-Tier Covered Transactions (Attachment Q) This certification will not be required until the time of the grant award, because it applies to subcontractors, etc.

## K. BIP Certification Requirements

### Certification (Requested for BIP)

Please refer to upload section at the end of the document regarding following uploads.

1. Equal Opportunity and Nondiscrimination Certification
2. Certification Regarding Architectural Barriers
3. Uniform Relocation Assistance and Real Property Acquisition - Policies Act of 1970 Certification
4. Certification Regarding Debarment, Suspension, and Other Responsibility Matters – Primary Covered Transactions
5. Certification Regarding Lobbying for Contracts, Grants, Loans, and Cooperative Agreements



**Broadband Infrastructure Application  
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- 6. Network Design and Implementation Plan Certification (to be complete for projects requesting more than \$1 million in federal assistance)

## L. Schedules

### Schedule: A-1 Congressional Districts

**1. State the Congressional District of the Applicant's headquarters**

West Virginia - 2

**2. State the Congressional District for each area covered by the Project.**

West Virginia - 1

West Virginia - 2

West Virginia - 3

## M. Proposed Funded Service Area Details (BIP & BTOP)

### 13. Proposed Funded Service Area (BIP - Last Mile Projects):

**Proposed Funded Service Area Name:**

**Census Blocks in Proposed Funded Service Area:**

**Community Name:**

**Rural Classification of the Community:**

**BIP - Service Status:**

<b>BIP - If Service Status is "Underserved" please select at least one applicable option from this list.</b>
--

**BTOP – Service Status:**



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<b>Task:</b> Submit Application - Infrastructure Programs		<b>Applicant Name:</b> Ms. Kelley M Goes	

**BTOP - If Service Status is "Underserved" please select at least one applicable option from this list.**

- Total Square Miles of Community:**
- Total Population :**
- Total Number of Households:**
- Total Number of Businesses:**
- Total Number of Critical Community Facilities, Anchor Institutions and Public Safety Entities:**

**14. Proposed Service Area (BTOP - Middle Mile Project):**

- Middle Mile Span Name:** State of West Virginia
- Census Blocks in Middle Mile Span:** West Virginia has 82,000 census blocks serving 290 communities.
- Note:** This request is for statewide middle mile and last mile (when funded) will be statewide.
- Last Mile Service Area Name:** State of West Virginia
- Community Name:** State of West Virginia
- Rural Classification of the Community:** Rural
- BIP – Service Status:**

**BIP - If Service Status is "Underserved" please select at least one applicable option from this list.**  
The rate of broadband subscribership for the census-designated community [or other area] is 40% of households or less.

**BTOP - Service Status:** Underserved

**BTOP - If Service Status is "Underserved" please select at least one applicable option from this list.**  
The rate of broadband subscribership for the proposed funded service area is 40% of households or less.

- Total Square Miles of Service Area:** 24,216
- Total Population :** 1,808,344
- Total Number of Households:** 736,481
- Total Number of Businesses:** 110,195
- Total Number of Critical Community Facilities, Anchor Institutions and Public Safety Entities:** 1,064



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<b>Task:</b> Submit Application - Infrastructure Programs		<b>Applicant Name:</b> Ms. Kelley M Goes	

## N. Uploads

In order to improve system performance and help ensure that all applicants are able to complete their applications by the deadline, we have changed the way your application PDF is created. This PDF contains all of the information you entered throughout the Easygrants data entry screens. PDF copies of all documents that have been uploaded can be viewed and printed separately from the **Main page of the application after you submit**. These will continue to be available to you in read-only format after your application has been submitted.

Service Area  
Last Mile Services Provider  
Technology Platform  
Service Tier  
Downstream Speed (Mbps)  
Price  
Downstream Speed (Mbps)  
Price

Service Offering	Distance Band or Point to Point	Minimum Peak Load Network Bandwidth Capacity (Mbps)	Monthly/Yearly Pricing (\$)	Other
T-1	Point to Point	1.544Kbps	\$ 400.00 MRC	
T-3	Point to Point	44.736 Mbps	\$ 2000.00 MRC	

<Applicant Service Area Name>

Service Area	Middle Mile Services Provider	Technology Platform	Service Tier	Point-to-Point
Service Area 1/ Census community 1	Provider A	Entry Level Plan	T-1	Point to Point
		Highest Speed Plan	T-3	Point to Point
		Other Plans (e.g., Mid-Tier Plan)		
	Provider B	Entry Level Plan	T-1	Point to Point
		Highest Speed Plan	T-3	Point to Point
		Other Plans (e.g., Mid-Tier Plan)		
Service Area 2/ Census community 2	Provider A	Entry Level Plan	T-1	Point to Point
		Highest Speed Plan	T-3	Point to Point
		Other Plans (e.g., Mid-Tier Plan)		
	Provider B	Entry Level Plan	T-1	Point to Point
		Highest Speed Plan	T-3	Point to Point
		Other Plans (e.g., Mid-Tier Plan)		

Minimum Peak Load Network Bandwidth	Pricing	Other Comments
1.544Kbps	\$400.00 + \$2.20 per Mile MRC	
44.736 Mbps	\$2000.00 + \$11.00 per mile MRC	
1.544Kbps	\$ 425.00+ \$18.00 per mile MRC	
44.736 Mbps	\$ 5000.00 + ICB Channel term & milage MRC	
1.544Kbps	\$400.00 + \$2.20 per Mile MRC	
44.736 Mbps	\$2000.00 + \$11.00 per mile MRC	
1.544Kbps	\$ 425.00+ \$18.00 per mile MRC	
44.736 Mbps	\$ 5000.00 + ICB Channel term & milage MRC	



**ATTACHMENT C – COMPETITOR TABLE – LAST MILE**

**Existing Last Mile Broadband Service Providers and Services Offered:** Please complete a table describing the competing last mile providers’ broadband service offerings being advertised in each proposed funded service area. (BIP applicants should complete this table for each census designated community within the proposed funded service area) . For each competitor, explain the following: a) technology; b) service tiers; c) advertised speeds for residential and business; d) pricing. Include any other comments to explain your findings, if necessary.

<Applicant Service Area Name>									
Service Area	Last Mile Services Provider	Technology Platform	Service Tier	Advertised Residential Offering		Advertised Business Offering		Other Comments	
				Downstream Speed (Mbps)	Price	Downstream Speed (Mbps)	Price		
Service Area 1/ Census community 1	Provider A		Entry Level Plan						
			Highest Speed Plan						
			Other Plans (e.g., Mid-Tier Plan)						
	Provider B		Entry Level Plan						
			Highest Speed Plan						
			Other Plans (e.g., Mid-Tier Plan)						
Service Area 2/ Census community 2	Provider A		Entry Level Plan						
			Highest Speed Plan						
			Other Plans (e.g., Mid-Tier Plan)						
	Provider B		Entry Level Plan						
			Highest Speed Plan						
			Other Plans (e.g., Mid-Tier Plan)						

**ATTACHMENT C – COMPETITOR TABLE – MIDDLE MILE**

**Existing Middle Mile Broadband Service Providers and Services Offered:** Please complete a table describing the competing middle mile providers’ broadband service offerings being advertised in the last mile service areas associated with the proposed middle mile project. **For BIP**, please provide this information for each census designated community within each last mile service area. For each competitor, explain the following: a) technology; b) service tiers; c) point-to-point of the competitor’s service offering; d) speed; and e) pricing. Include any other comments to explain your findings if necessary.

<Applicant Service Area Name>								
Service Area	Middle Mile Services Provider	Technology Platform	Service Tier	Point-to-Point	Minimum Peak Load Network Bandwidth Capacity	Pricing	Other Comments	
Service Area 1/ Census community 1	<b>Provider A</b>		Entry Level Plan					
			Highest Speed Plan					
			Other Plans (e.g., Mid-Tier Plan)					
	<b>Provider B</b>		Entry Level Plan					
			Highest Speed Plan					
			Other Plans (e.g., Mid-Tier Plan)					
Service Area 2/ Census community 2	<b>Provider A</b>		Entry Level Plan					
			Highest Speed Plan					
			Other Plans (e.g., Mid-Tier Plan)					
	<b>Provider B</b>		Entry Level Plan					
			Highest Speed Plan					
			Other Plans (e.g., Mid-Tier Plan)					



*State of West Virginia*  
*Joe Manchin III*  
*Governor*

Office of the Governor  
State Capitol  
1900 Kanawha Boulevard, East  
Charleston, WV 25305

Telephone: (304) 558-2000  
Toll Free: 1-888-438-2731  
FAX: (304) 342-7025  
[www.wv.gov.org](http://www.wv.gov.org)

August 13, 2009

Administrator  
Rural Utilities Service  
U. S. Department of Agriculture  
Washington, D. C. 20250-1500

Assistant Secretary  
National Telecommunications and Information Administration  
U.S. Department of Commerce  
Washington, D.C. 20230

Dear Sirs:

I am General Counsel for Governor Joe Manchin III (the "Applicant"). In such capacity, I acted as counsel to the Applicant in connection with his ability to apply to the Broadband Initiatives Program and the Broadband Technology Opportunities Program and in the review of the grant agreement, as referenced in the Notice of Funds Availability. I am of the opinion that:

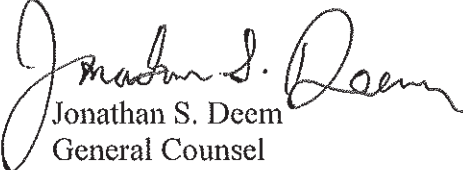
(a) the Applicant has the authority:

- (1) to execute and deliver the grant agreement; and
- (2) to perform all acts required to be done by it under said agreement;

(b) no legal proceedings have been instituted or are pending against the Applicant, the outcome of which would adversely affect the Applicant's ability to perform the duties under the grant agreement; and

(c) all other items contained in the proposed form for this correspondence do not apply to our grant agreement and are therefore omitted.

Sincerely,

  
Jonathan S. Deem  
General Counsel

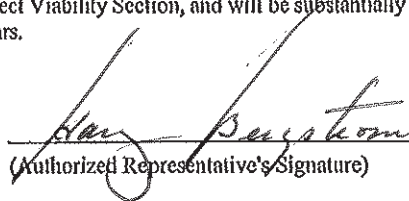
**Broadband Infrastructure Application Submission  
to RUS (BIP) and NTIA (BTOP)**

**Network Design and Implementation Plan Certification (to be complete for projects requesting  
more than \$1 million in federal assistance)**

**U.S. Department of Agriculture and U.S. Department of Commerce  
BIP and BTOP Program**

We the undersigned, certify that the proposed broadband system will work as described in the System Design and Network Diagram sections, and can deliver the proposed services outlined in the Service Offerings Section. Moreover, the system, as designed, can meet the proposed build-out timeframe based on the resources designated in Project Viability Section, and will be substantially complete in two years, and complete within three years.

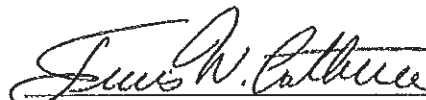
\_\_\_\_\_  
(Date)

  
(Authorized Representative's Signature)

Harry L. Bergstrom  
Name: \_\_\_\_\_

Deputy Chief of Staff  
Title: \_\_\_\_\_

August 7, 2009  
\_\_\_\_\_  
(Date)

  
(Certifying Engineer's Signature)  
Francis W. Catherine (WVA PB #13181)

Name: \_\_\_\_\_  
Assistant Operations Manager

Title: \_\_\_\_\_

Time Period	Quarter	List All Relevant Milestones	Support for Reasonableness/Data Points
Year 0		Existing Microwave Network consists of 84 towers with 96 links. Bandwidth will be added to each site. In order to provide effective statewide coverage 12 additional towers will need to be added to it. In addition fiber connections will be installed or upgraded at 1063 Strategic Institutions and 1 Business.	The Microwave Network's pricing includes the 12 new 340 ft. towers with radios, engineering and licensing fees, physical path surveys and all FCC Coordination and licensing. Broadband Fiber construction includes fiber connectivity, WAN Network Electronics Equipment and Professional services for 1064 locations
2010	1st	Install 1 new Microwave towers, upgrade 12 existing Microwave towers and install and/or upgrade fiber connections to 130 Strategic Institutions	
	2nd	Install 2 new Microwave towers, upgrade 12 existing Microwave towers and install and/or upgrade fiber connections to 130 Strategic Institutions	
	3rd	Install 1 new Microwave tower, upgrade 12 existing Microwave towers and install and/or upgrade fiber connections to 130 Strategic Institutions	
	4th	Install 2 new Microwave towers, upgrade 12 existing Microwave towers and install and/or upgrade fiber connections to 129 Strategic Institutions and 1 Business	
2011	1st	Install 1 new towers, 12 existing towers and install and/or upgrade fiber connections to 130 Strategic Institutions	
	2nd	Install 1 new tower, 12 existing towers and install and/or upgrade fiber connections to 130 Strategic Institutions	
	3rd	Install 1 new tower, 12 existing towers and install and/or upgrade fiber connections to 130 Strategic Institutions	
	4th	Install 1 new tower, 11 existing towers and install and/or upgrade fiber connections to 130 Strategic Institutions	
2012	1st	Install 1 new tower, 24 Strategic Institutions	All the fiber connections will be completed.
	2nd	Install 1 new tower.	The Microwave tower installations will be completed.
	3rd		
	4th		

	Year 0	2010				2011				2012			
		Qtr. 1	Qtr. 2	Qtr. 3	Qtr. 4	Qtr. 1	Qtr. 2	Qtr. 3	Qtr. 4	Qtr. 1	Qtr. 2	Qtr. 3	Qtr. 4
<b>Infrastructure Funds</b>	\$126,323,297	\$14,075,892	\$15,086,892	\$14,075,892	\$23,054,455	\$14,075,892	\$14,075,892	\$14,075,892	\$13,855,892	\$2,935,596	\$1,011,000	\$0	\$0
Infrastructure Funds Advanced (estimate)	\$107,374,803	\$11,964,509	\$12,823,859	\$11,964,509	\$19,596,287	\$11,964,509	\$11,964,509	\$11,964,509	\$11,777,509	\$2,495,256	\$659,350	\$0	\$0
Percentage of Total Funds	85%	11%	23%	29%	45%	54%	73%	73%	82%	95%	100%	100%	100%
Entities Passed & %		143 & 13%	287 & 26%	430 & 37%	574 & 49%	717 & 61%	860 & 73%	1003 & 86%	1145 & 98%	1170 & 100%	1171 & 100%		
Microwave Towers (new)	\$971,000 (per site)	\$971,000	\$1,942,000	\$971,000	\$1,942,000	\$971,000	\$971,000	\$971,000	\$971,000	\$971,000	\$971,000		
Microwave Towers Links (existing)	\$200,000 (per site)	\$2,400,000	\$2,400,000	\$2,400,000	\$2,400,000	\$2,400,000	\$2,400,000	\$2,200,000	\$2,200,000	\$2,200,000			
Radio System Maintenance Spares	\$20,000 (per radio)	\$280,000	\$320,000	\$280,000	\$320,000	\$280,000	\$280,000	\$280,000	\$280,000	\$40,000	\$40,000		
Households													
Percentage of Total Households													
Businesses	1 @ \$8,000,000				1								
Percentage of Total Businesses													
Strategic Institutions (Comm. Anchor, Public Safety, etc)	1064	130	130	130	129	130	130	130	130	24			0
Fiber Construction Costs	\$80,191.48 (per location)	\$10,424,892	\$10,424,892	\$10,424,892	\$18,392,455	\$10,424,892	\$10,424,892	\$10,424,892	\$10,424,892	\$1,924,596	\$0	\$0	\$0
Percentage of Total Institutions	100%	12%	24%	37%	49%	61%	73%	85%	98%	100%	100%	100%	100%

DETAIL OF PROJECT COSTS

PLEASE COMPLETE THE TABLE BELOW FOR THE DIFFERENT CATEGORIES OF EQUIPMENT THAT WILL BE REQUIRED FOR COMPLETING THE PROJECT. EACH CATEGORY SHOULD BE BROKEN DOWN TO THE APPROPRIATE LEVEL FOR IDENTIFYING UNIT COST

SERVICE AREA or COMMON NETWORK FACILITIES:	Eligibility (Yes/No)	Unit Cost	No. of Units	Total Cost	Support of Reasonableness
<b>NETWORK &amp; ACCESS EQUIPMENT</b>					
<b>Switching</b>					
<b>Routing</b>	Yes	25,760.00	1064	27,408,640.00	
<b>Transport</b>					
<b>Access</b>					
<b>Other</b>					
<b>OUTSIDE PLANT</b>					
<b>Cables</b>	yes	32,439.00	1063	34,482,657.00	
<b>Conduits</b>	Yes	8,000,000.00	1	8,000,000.00	
<b>Ducts</b>					
<b>Poles</b>					
<b>Towers</b>	Yes	551,000.00	12	6,612,000.00	
<b>Repeaters</b>	Yes	200,000.00	24	4,800,000.00	
	Yes	200,000.00	95	19,000,000.00	

**DETAIL OF PROJECT COSTS**

SERVICE AREA or COMMON NETWORK FACILITIES:		Eligibility (Yes/No)	Unit Cost	No. of Units	Total Cost	Support of Reasonableness
<b>NETWORK &amp; ACCESS EQUIPMENT</b>						
Other	Critical Spares	Yes	2,380,000.00	1	2,380,000.00	
<b>BUILDINGS</b>						
New Construction						
Pre-Fab Huts						
Improvements & Renovation						
Other						
<b>CUSTOMER PREMISE EQUIPMENT</b>						
Modems						
Set Top Boxes						
Inside Wiring						
Other						
<b>BILLING SUPPORT AND OPERATIONS SUPPORT SYSTEMS</b>						
Billing Support Systems						
Customer Care Systems						
Other Support						



**DETAIL OF PROJECT COSTS**

SERVICE AREA or COMMON NETWORK FACILITIES:		Eligibility (Yes/No)	Unit Cost	No. of Units	Total Cost	Support of Reasonableness
<b>OPERATING EQUIPMENT</b>						
Vehicles						
Office Equipment/ Furniture						
Other						
<b>PROFESSIONAL SERVICES</b>						
Engineering Design	Tower Design	Yes	20,000.00	12	240,000.00	
Project Management	Project Mgmt., Engineering	Yes	21,992.00	1064	23,400,000.00	
Consulting						
Other						
<b>TESTING</b>						
Network Elements						
IT System Elements						
User Devices						
Test Generators						
Lab Furnishings						
Servers/ Computers						

**DETAIL OF PROJECT COSTS**

SERVICE AREA or COMMON NETWORK FACILITIES:	OTHER UPFRONT COSTS	Eligibility (Yes/No)	Unit Cost	No. of Units	Total Cost	Support of Reasonableness
Site Preparation						
Other						



Business Customers	YEAR 0				YEAR 1				YEAR 2				YEAR 3				YEAR 4				YEAR 5			
	T1	Qtr. 1	Qtr. 2	Qtr. 3	Qtr. 4	Qtr. 1	Qtr. 2	Qtr. 3	Qtr. 4	Qtr. 1	Qtr. 2	Qtr. 3	Qtr. 4	Qtr. 1	Qtr. 2	Qtr. 3	Qtr. 4	Qtr. 1	Qtr. 2	Qtr. 3	Qtr. 4			
Net add-ons	13	5	5	7	7	5	4	4	3	5	5	3	2											
Cumulative subscribers		18	23	30	37	42	46	50	53	58	63	66	68											
<b>10 Meg</b>																								
Net add-ons	10	5	5	5	5	2	2	2	2	1	1	1	1											
Cumulative subscribers		15	20	25	30	32	34	35	38	39	40	41	41											
<b>Service Type #3</b>																								
Net add-ons																								
Cumulative subscribers																								

Strategic Institution	YEAR 0				YEAR 1				YEAR 2				YEAR 3				YEAR 4				YEAR 5			
	10 Meg	Qtr. 1	Qtr. 2	Qtr. 3	Qtr. 4	Qtr. 1	Qtr. 2	Qtr. 3	Qtr. 4	Qtr. 1	Qtr. 2	Qtr. 3	Qtr. 4	Qtr. 1	Qtr. 2	Qtr. 3	Qtr. 4	Qtr. 1	Qtr. 2	Qtr. 3	Qtr. 4			
Net add-ons		25	50	50	75	65	65	65	65	66	65	65	65											
Cumulative subscribers		25	75	125	200	265	330	395	460	526	591	656	721											
<b>100 MEG</b>																								
Net add-ons		0	25	25	25	50	50	50	75	7	7	7	7											
Cumulative subscribers		0	25	50	75	125	175	225	300	307	314	321	328											
<b>Service Type #3</b>																								
Net add-ons																								
Cumulative subscribers																								

Numbers in 1,000 and rounded.

Submitted in lieu of

Attachment K: Income

Attachment L: Balance Sheet

Attachment M: Cash Flow

And Financial Assumptions

This grant request is for the State of West Virginia. For this reason, financial sections, commensurate with private industry are not applicable. In lieu, of these statements, we are attaching the following:

PDF financial files for FY 2002 through FY 2006

WEB links for

FY 2007 <http://www.wvfinance.state.wv.us/FARS/cafr/cafr2007/Complete%20CAFR.pdf>

FY 2008. <http://www.wvfinance.state.wv.us/FARS/cafr/cafr2008/cafr2008.pdf>

Note that the West Virginia Fiscal Year ends 30 June. For this reason, 2009 reports are not yet complete. We believe you will find these financial statements adequate to meet full and reasonable accounting standards for this grant.

For your review, the FY 2010 budget is also attached with the PDF financial files.

Note: Rather than convolute each attachment with repetitive data, we are only attaching the PDF financial files to the income statement – Attachment K.

Further: <http://www.wvdhsem.gov/broadband.htm> will give you a detailed accounting for the State of West Virginia for FY years 2004, 2005 and 2006.

Note: Grants upload would not permit files this large to be converted to PDF and uploaded; therefore, the links.

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### CERTIFICATION REGARDING LOBBYING

Applicants should also review the instructions for certification included in the regulations before completing this form. Signature on this form provides for compliance with certification requirements under 15 CFR Part 28, "New Restrictions on Lobbying." The certifications shall be treated as a material representation of fact upon which reliance will be placed when the Department of Commerce determines to award the covered transaction, grant, or cooperative agreement.

#### LOBBYING

As required by Section 1352, Title 31 of the U.S. Code, and implemented at 15 CFR Part 28, for persons entering into a grant, cooperative agreement or contract over \$100,000 or a loan or loan guarantee over \$150,000 as defined at 15 CFR Part 28, Sections 28.105 and 28.110, the applicant certifies that to the best of his or her knowledge and belief, that:

(1) No Federal appropriated funds have been paid or will be paid, by or on behalf of the undersigned, to any person for influencing or attempting to influence an officer or employee of any agency, a Member of Congress in connection with the awarding of any Federal contract, the making of any Federal grant, the making of any Federal loan, the entering into of any cooperative agreement, and the extension, continuation, renewal, amendment, or modification of any Federal contract, grant, loan, or cooperative agreement.

(2) If any funds other than Federal appropriated funds have been paid or will be paid to any person for influencing or attempting to influence an officer or employee of any agency, a Member of Congress, an officer or employee of Congress, or an employee of a member of Congress in connection with this Federal contract, grant, loan, or cooperative agreement, the undersigned shall complete and submit Standard Form-LLL, "Disclosure Form to Report Lobbying," in accordance with its instructions.

(3) The undersigned shall require that the language of this certification be included in the award documents for all subawards at all tiers (including subcontracts, subgrants, and contracts under grants, loans, and cooperative agreements) and that all subrecipients shall certify and disclose accordingly.

This certification is a material representation of fact upon which reliance was placed when this transaction was made or entered into. Submission of this certification is a prerequisite for making or entering into this transaction imposed by section 1352, title 31, U.S. Code. Any person who fails to file the required certification shall be subject to a civil penalty of not less than \$10,000 and not more than \$100,000 for each such failure occurring on or before October 23, 1996, and of not less than \$11,000 and not more than \$110,000 for each such failure occurring after October 23, 1996.

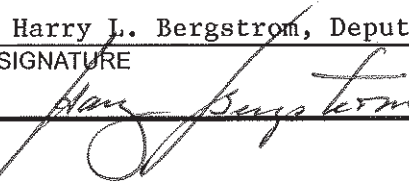
#### Statement for Loan Guarantees and Loan Insurance

The undersigned states, to the best of his or her knowledge and belief, that:

In any funds have been paid or will be paid to any person for influencing or attempting to influence an officer or employee of any agency, a Member of Congress, an officer or employee of Congress, or an employee of a Member of Congress in connection with this commitment providing for the United States to insure or guarantee a loan, the undersigned shall complete and submit Standard Form-LLL, "Disclosure Form to Report Lobbying," in accordance with its instructions.

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**As the duly authorized representative of the applicant, I hereby certify that the applicant will comply with the above applicable certification.**

NAME OF APPLICANT	AWARD NUMBER AND/OR PROJECT NAME
EXECUTIVE OFFICE OF THE STATE OF WEST VIRGINIA	
PRINTED NAME AND TITLE OF AUTHORIZED REPRESENTATIVE	
Harry L. Bergstrom, Deputy Chief of Staff	
SIGNATURE	DATE
	8-12-2005



## INSTRUCTIONS FOR COMPLETION OF SF-LLL, DISCLOSURE OF LOBBYING ACTIVITIES

This disclosure form shall be completed by the reporting entity, whether subawardee or prime Federal recipient, at the initiation or receipt of a covered Federal action, or a material change to a previous filing, pursuant to title 31 U.S.C. section 1352. The filing of a form is required for each payment or agreement to make payment to any lobbying entity for influencing or attempting to influence an officer or employee of any agency, a Member of Congress, an officer or employee of Congress, or an employee of a Member of Congress in connection with a covered Federal action. Complete all items that apply for both the initial filing and material change report. Refer to the implementing guidance published by the Office of Management and Budget for additional information.

1. Identify the type of covered Federal action for which lobbying activity is and/or has been secured to influence the outcome of a covered Federal action.
2. Identify the status of the covered Federal action.
3. Identify the appropriate classification of this report. If this is a followup report caused by a material change to the information previously reported, enter the year and quarter in which the change occurred. Enter the date of the last previously submitted report by this reporting entity for this covered Federal action.
4. Enter the full name, address, city, State and zip code of the reporting entity. Include Congressional District, if known. Check the appropriate classification of the reporting entity that designates if it is, or expects to be, a prime or subaward recipient. Identify the tier of the subawardee, e.g., the first subawardee of the prime is the 1st tier. Subawards include but are not limited to subcontracts, subgrants and contract awards under grants.
5. If the organization filing the report in item 4 checks "Subawardee," then enter the full name, address, city, State and zip code of the prime Federal recipient. Include Congressional District, if known.
6. Enter the name of the Federal agency making the award or loan commitment. Include at least one organizational level below agency name, if known. For example, Department of Transportation, United States Coast Guard.
7. Enter the Federal program name or description for the covered Federal action (item 1). If known, enter the full Catalog of Federal Domestic Assistance (CFDA) number for grants, cooperative agreements, loans, and loan commitments.
8. Enter the most appropriate Federal identifying number available for the Federal action identified in item 1 (e.g., Request for Proposal (RFP) number; Invitation for Bid (IFB) number; grant announcement number; the contract, grant, or loan award number; the application/proposal control number assigned by the Federal agency). Include prefixes, e.g., "RFP-DE-90-001."
9. For a covered Federal action where there has been an award or loan commitment by the Federal agency, enter the Federal amount of the award/loan commitment for the prime entity identified in item 4 or 5.
10. (a) Enter the full name, address, city, State and zip code of the lobbying registrant under the Lobbying Disclosure Act of 1995 engaged by the reporting entity identified in item 4 to influence the covered Federal action.  
  
(b) Enter the full names of the individual(s) performing services, and include full address if different from 10 (a). Enter Last Name, First Name, and Middle Initial (MI).
11. The certifying official shall sign and date the form, print his/her name, title, and telephone number.

According to the Paperwork Reduction Act, as amended, no persons are required to respond to a collection of information unless it displays a valid OMB Control Number. The valid OMB control number for this information collection is OMB No. 0348-0046. Public reporting burden for this collection of information is estimated to average 10 minutes per response, including time for reviewing instructions, searching existing data sources, gathering and maintaining the data needed, and completing and reviewing the collection of information. Send comments regarding the burden estimate or any other aspect of this collection of information, including suggestions for reducing this burden, to the Office of Management and Budget, Paperwork Reduction Project (0348-0046), Washington, DC 20503.

**DISCLOSURE OF LOBBYING ACTIVITIES**

Approved by OMB  
0348-0046

Complete this form to disclose lobbying activities pursuant to 31 U.S.C. 1352  
(See reverse for public burden disclosure.)

<b>1. Type of Federal Action:</b> <input type="checkbox"/> a. contract <input checked="" type="checkbox"/> b. grant c. cooperative agreement d. loan e. loan guarantee f. loan insurance	<b>2. Status of Federal Action:</b> <input type="checkbox"/> a. bid/offer/application <input checked="" type="checkbox"/> b. initial award c. post-award	<b>3. Report Type:</b> <input type="checkbox"/> a. initial filing <input type="checkbox"/> b. material change <b>For Material Change Only:</b> year _____ quarter _____ date of last report _____
<b>4. Name and Address of Reporting Entity:</b> <input checked="" type="checkbox"/> Prime <input type="checkbox"/> Subawardee Tier _____, if known:  EXECUTIVE OFFICE OF THE STATE OF WEST VIRGINIA 1900 KANAWHA BLVD CHARLESTON, WEST VIRGINIA 25305 Congressional District, if known:	<b>5. If Reporting Entity in No. 4 is a Subawardee, Enter Name and Address of Prime:</b>  Congressional District, if known:	
<b>6. Federal Department/Agency:</b>	<b>7. Federal Program Name/Description:</b>  CFDA Number, if applicable: _____	
<b>8. Federal Action Number, if known:</b> OMB CONTROL # 0660-0031	<b>9. Award Amount, if known:</b> \$	
<b>10. a. Name and Address of Lobbying Registrant</b> (if individual, last name, first name, MI):  N/A	<b>b. Individuals Performing Services</b> (including address if different from No. 10a) (last name, first name, MI):  N/A	
<b>11.</b> Information requested through this form is authorized by title 31 U.S.C. section 1352. This disclosure of lobbying activities is a material representation of fact upon which reliance was placed by the tier above when this transaction was made or entered into. This disclosure is required pursuant to 31 U.S.C. 1352. This information will be reported to the Congress semi-annually and will be available for public inspection. Any person who fails to file the required disclosure shall be subject to a civil penalty of not less that \$10,000 and not more than \$100,000 for each such failure.	Signature: <u></u> Print Name: <u>Harry L. Bergstrom</u> Title: <u>Deputy Chief of Staff</u> Telephone No.: <u>(304) 558-2000</u> Date: <u>8-12-2009</u>	
<b>Federal Use Only:</b>		Authorized for Local Reproduction Standard Form LLL (Rev. 7-97)

### CERTIFICATION REGARDING LOBBYING LOWER TIER COVERED TRANSACTIONS

Applicants should review the instructions for certification included in the regulations before completing this form. Signature on this form provides for compliance with certification requirements under 15 CFR Part 28, "New Restrictions on Lobbying."

#### LOBBYING

As required by Section 1352, Title 31 of the U.S. Code, and implemented at 15 CFR Part 28, for persons entering into a grant, cooperative agreement or contract over \$100,000 or a loan or loan guarantee over \$150,000 as defined at 15 CFR Part 28, Sections 28.105 and 28.110, the applicant certifies that to the best of his or her knowledge and belief, that:

(1) No Federal appropriated funds have been paid or will be paid, by or on behalf of the undersigned, to any person for influencing or attempting to influence an officer or employee of any agency, a Member of Congress in connection with the awarding of any Federal contract, the making of any Federal grant, the making of any Federal loan, the entering into of any cooperative agreement, and the extension, continuation, renewal, amendment, or modification of any Federal contract, grant, loan, or cooperative agreement.

(2) If any funds other than Federal appropriated funds have been paid or will be paid to any person for influencing or attempting to influence an officer or employee of any agency, a Member of Congress, an officer or employee of Congress, or an employee of a member of Congress in connection with this Federal contract, grant, loan, or cooperative agreement, the undersigned shall complete and submit Standard Form-LLL, "Disclosure Form to Report Lobbying," in accordance with its instructions.

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This certification is a material representation of fact upon which reliance was placed when this transaction was made or entered into. Submission of this certification is a prerequisite for making or entering into this transaction imposed by section 1352, title 31, U.S. Code. Any person who fails to file the required certification shall be subject to a civil penalty of not less than \$10,000 and not more than \$100,000 for each such failure occurring on or before October 23, 1996, and of not less than \$11,000 and not more than \$110,000 for each such failure occurring after October 23, 1996.

#### Statement for Loan Guarantees and Loan Insurance

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In any funds have been paid or will be paid to any person for influencing or attempting to influence an officer or employee of any agency, a Member of Congress, an officer or employee of Congress, or an employee of a Member of Congress in connection with this commitment providing for the United States to insure or guarantee a loan, the undersigned shall complete and submit Standard Form-LLL, "Disclosure Form to Report Lobbying," in accordance with its instructions.

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As the duly authorized representative of the applicant, I hereby certify that the applicant will comply with the above applicable certification.

NAME OF APPLICANT

AWARD NUMBER AND/OR PROJECT NAME

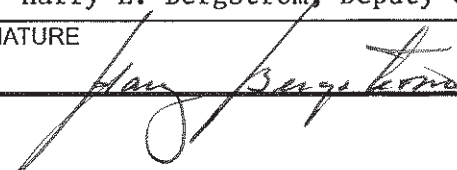
EXECUTIVE OFFICE OF THE STATE OF WEST VIRGINIA

PRINTED NAME AND TITLE OF AUTHORIZED REPRESENTATIVE

Harry L. Bergstrom, Deputy Chief of Staff

SIGNATURE

DATE



8-12-2009

## UPDATE ON THE BROADBAND DEPLOYMENT COUNCIL

The Broadband Deployment Council (BDC) was envisioned by Governor Manchin and created by legislation in 2008. The legislature funded the BDC in the amount of \$5 million during special session that same year so that the BDC could begin its work in completing broadband build out in West Virginia.

The stated purpose of the legislation is to provide broadband access to all West Virginia citizens by the end of 2010. A systematic and organized approach is necessary in West Virginia because of the state's challenging topographical and demographical realities. Further, the state regards broadband as necessary infrastructure on par with water, sewer, and roads and modeled the legislation after existing bodies that plan, finance, and regulate that infrastructure while recognizing that broadband is so unique that it required its own specialized treatment. The BDC is made up of state officials and industry representatives, including cable operators, telecommunications companies, fiber providers, a CWA representative, equipment manufacturers, and legislators from the House and Senate who serve *ex officio*.

The legislation codifies the state's belief that broadband build out should be technology agnostic and also sets the minimum bandwidth that qualifies as broadband in West Virginia, which was specifically designed to follow the FCC guidelines. The legislation also includes reporting requirements for government entities so that the state has an accurate, annual assessment of broadband infrastructure and utilization by public entities. The comprehensive vision of the legislation pulls in education, healthcare, administration, and public safety so that maximum leverage and coordination of infrastructure can be achieved. The development of programs to encourage broadband demand is also addressed.

In order to accomplish this goal, the legislation sets forth specific responsibilities and duties. First, the BDC is required to retain a third party expert consultant to assess the status of broadband deployment and then provide strategies to provide service to unserved areas (defined by the legislation as any service that is below 200 kbps). These strategies are to be technology agnostic and designed to encourage private investment for the build out. The mapping project that was begun by Connected Nation with funding from Verizon must also be completed and updated. Finally, the legislation contemplates that once unserved areas are identified, the BDC would have funding to fill in "gaps" in the proposed technological solution for that area.

The purpose of the funding provided by the legislature was to be able to retain the independent third-party consultant, complete the mapping process, and to provide seed funding for projects should there be funds remaining. The BDC has begun its work pursuant to the statutory mandates and is in need of the money and the authority to spend the money.

The BDC crafted and approved an Expression of Interest that was widely dispersed. A pre-bid conference was held and was well attended. A subcommittee of the BDC was formed, comprised of the CWA representative, the Director of Public Safety, the Secretary of Commerce, a public member, and

the president of Verizon West Virginia, to evaluate the submissions in response to the EOI. Interviews were conducted by the subcommittee and a full report was made to the BDC. The BDC then made its selection for the independent consultant. The competitive process was completed in the late spring of 2009, L. Robert Kimball & Associates, Inc. was selected as the state's consultant.

The BDC then commenced negotiating a contract with Kimball for services. Kimball began working for the BDC in preparation for application for ARRA funding for a state broadband project. The requirements for application are extremely technical and require sign off by a certified engineer. Further, the mapping completed as a result of the application – for the benefit of any applicant and working in cooperation with providers – has improved the snapshot of state coverage. The ARRA requirements have created the requirement for more detail, however, by changing the definition of broadband to 768 kbps – a challenge that the BDC legislation foreshadowed. Once the applications for ARRA money are complete, the work will continue along the state's charted path in harmony with the assistance from ARRA.

In summation, the state is moving forward pursuant to the statute in systematically creating a plan to deploy broadband to those areas of the state without access. The feedback from numerous entities, including providers, consultants and federal agencies, is that the state of West Virginia is uniquely poised to take full advantage of ARRA funding and build out through the BDC structure and the vision of the BDC legislation. The funding is essential to continue this work and to meet the legislation's deadline of 2010.

Certification Requirements for BTOP

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U.S. Department of Commerce  
Broadband Technology Opportunities Program

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Executive Office, State of West Virginia

(i) I certify that I am authorized to submit this grant application on behalf of the eligible entity(ies) listed on this application, that I have examined this application, that all of the information and responses in this application, including certifications, and forms submitted, all of which are part of this grant application, are material representations of fact and true and correct to the best of my knowledge, that the entity(ies) that is requesting grant funding pursuant to this application and any subgrantees and subcontractors will comply with the terms, conditions, purposes, and federal requirements of the grant program; that no kickbacks were paid to anyone; and that a false, fictitious, or fraudulent statements or claims on this application are grounds for denial or termination of a grant award, and/or possible punishment by a fine or imprisonment as provided in 18 U.S.C. §1001 and civil violations of the False Claims Act.

(ii) I certify that the entity(ies) I represent have and will comply with all applicable federal, state, and local laws, rules, regulations, ordinances, codes, orders and programmatic rules and requirements relating to the project. I acknowledge that failure to do so may result in rejection or deobligation of the grant or loan award. I acknowledge that failure to comply with all federal and program rules could result in civil or criminal prosecution by the appropriate law enforcement authorities.

(iii) I certify that the entity(ies) I represent has and will comply with all applicable administrative and federal statutory, regulatory, and policy requirements set forth in the DOC Pre-Award Notification, published in the Federal Register on February 11, 2008 (73 FR 7696), as amended; DOC Financial Assistance Standard Terms and Conditions (Mar. 8, 2009); DOC American Recovery and Reinvestment Act Award Terms (April 9, 2009); and any Special Award Terms and Conditions that are included by the Grants Officer in the award."

August 18 2009  
(Date)

  
(Authorized Representative's Signature)

JOE MANCHIN III  
Name:  
GOVERNOR, State of West Virginia  
Title:



Submitted in lieu of

Attachment K: Income

Attachment L: Balance Sheet

Attachment M: Cash Flow

And Financial Assumptions

This grant request is for the State of West Virginia. For this reason, financial sections, commensurate with private industry are not applicable. In lieu, of these statements, we are attaching the following:

PDF financial files for FY 2002 through FY 2006

WEB links for

FY 2007 <http://www.wvfinance.state.wv.us/FARS/cafr/cafr2007/Complete%20CAFR.pdf>

FY 2008. <http://www.wvfinance.state.wv.us/FARS/cafr/cafr2008/cafr2008.pdf>

Note that the West Virginia Fiscal Year ends 30 June. For this reason, 2009 reports are not yet complete. We believe you will find these financial statements adequate to meet full and reasonable accounting standards for this grant.

For your review, the FY 2010 budget is also attached with the PDF financial files.

Note: Rather than convolute each attachment with repetitive data, we are only attaching the PDF financial files to the income statement – Attachment K.

Further: <http://www.wvdhsem.gov/broadband.htm> will give you a detailed accounting for the State of West Virginia for FY years 2004, 2005 and 2006.

Note: Grants upload would not permit files this large to be converted to PDF and uploaded; therefore, the links.



## Explanation of Historical Data

### State of West Virginia

As noted in previous sections throughout the grant application, this request is for a middle mile solution by the State of West Virginia. As a government entity, the State of West Virginia, does not track or use financial practices in the same manner as a for profit business. However, we do use accepted accounting procedures similar to other states. Links are attached rather than hard copy to make appropriate data easily available.

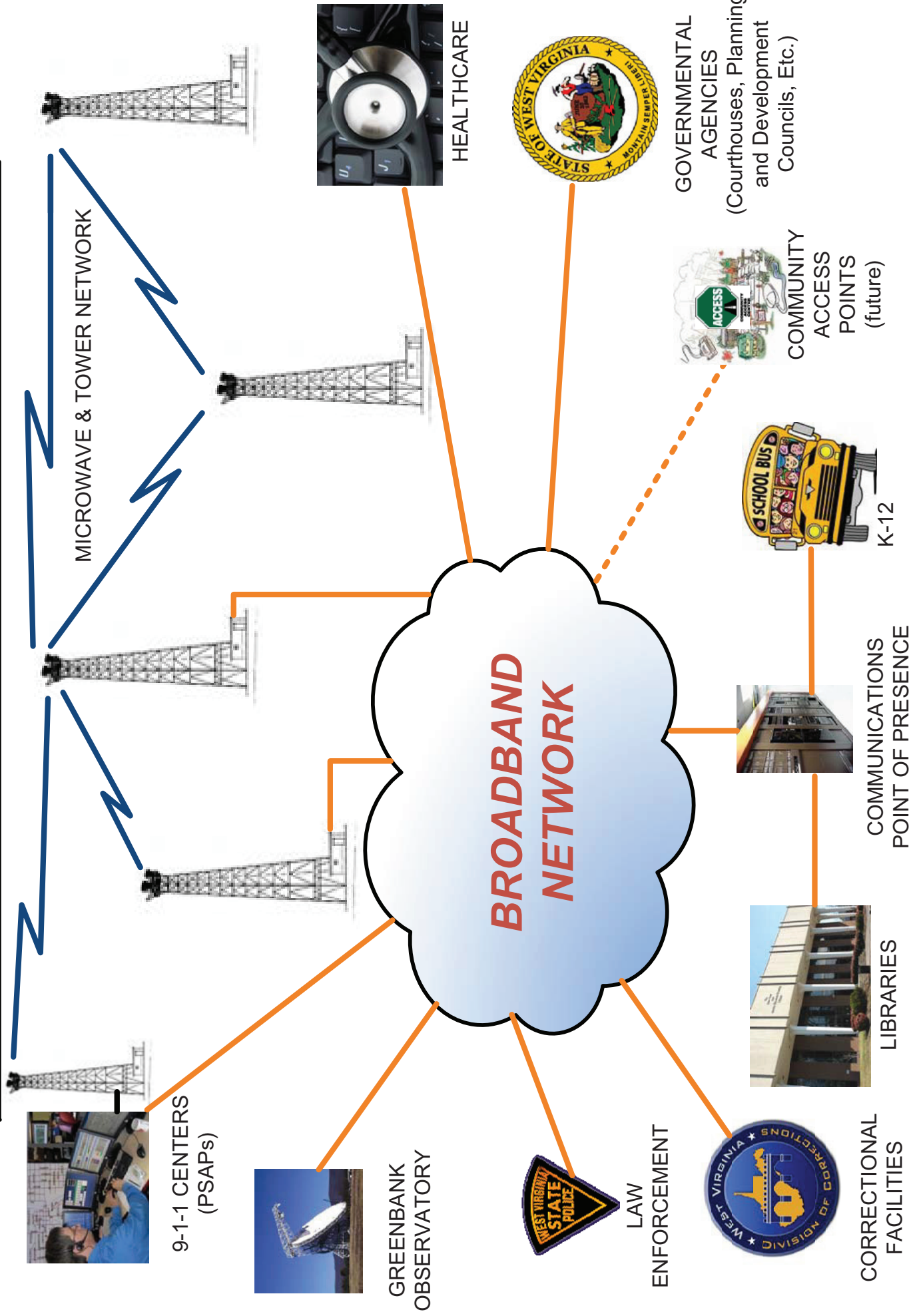
At the bottom this page are two internet links leading you to the WV FY 2007 and 2008 Comprehensive Annual Financial Report. Since FY 2009 closed at the end of June, data for FY 2009 is not yet available.

<http://www.wvfinance.state.wv.us/FARS/cafr/cafr2008/cafr2008.pdf> (For 2008)

<http://www.wvfinance.state.wv.us/FARS/cafr/cafr2007/Complete%20CAFR.pdf> (For 2007)

# WEST VIRGINIA

## STATEWIDE BROADBAND INFRASTRUCTURE PROJECT – MIDDLE MILE NETWORK OVERVIEW

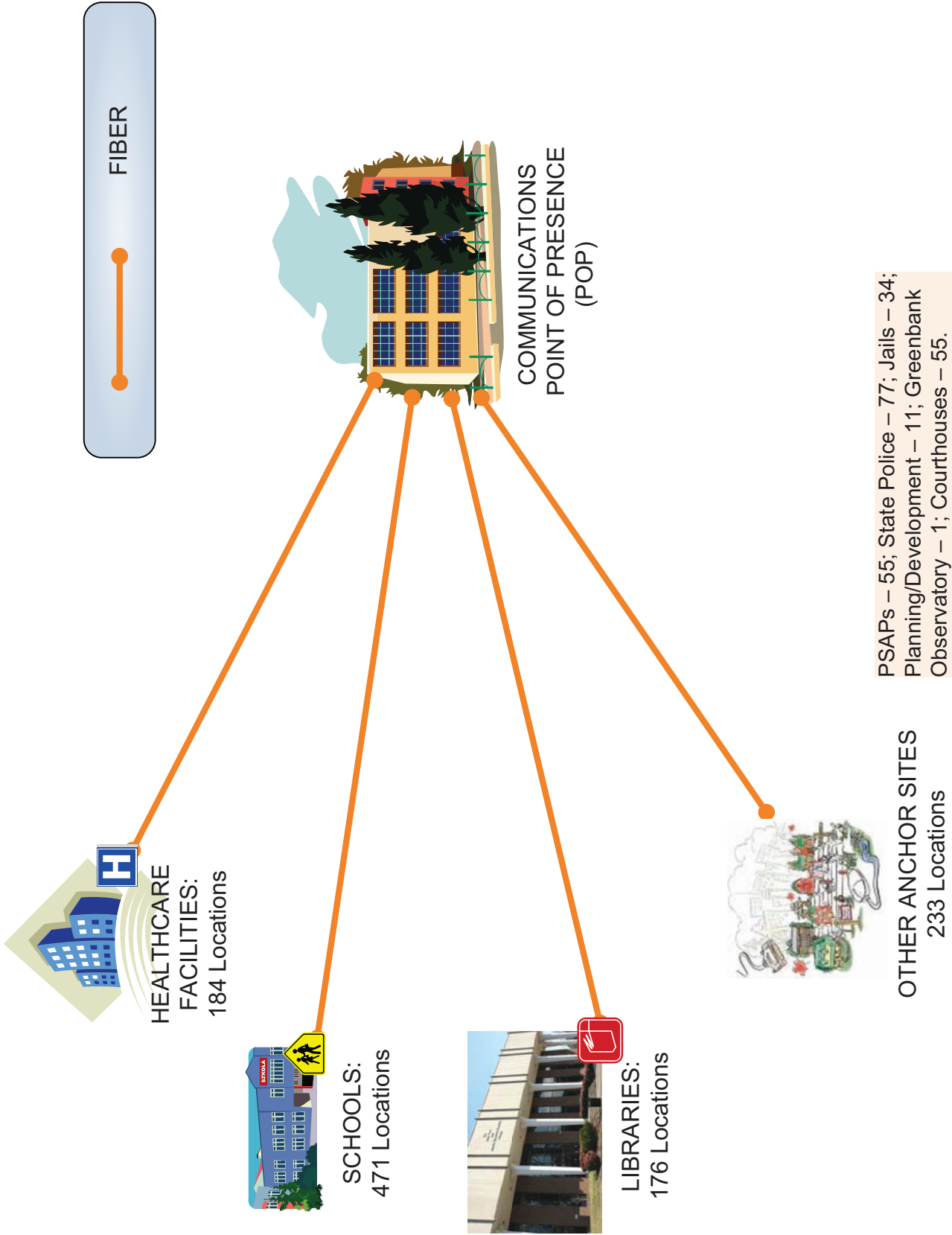


# WEST VIRGINIA

## STATEWIDE BROADBAND INFRASTRUCTURE PROJECT – MIDDLE MILE

COMMUNITY ANCHOR BREAKDOWN

### Proposed Fiber Connectivity

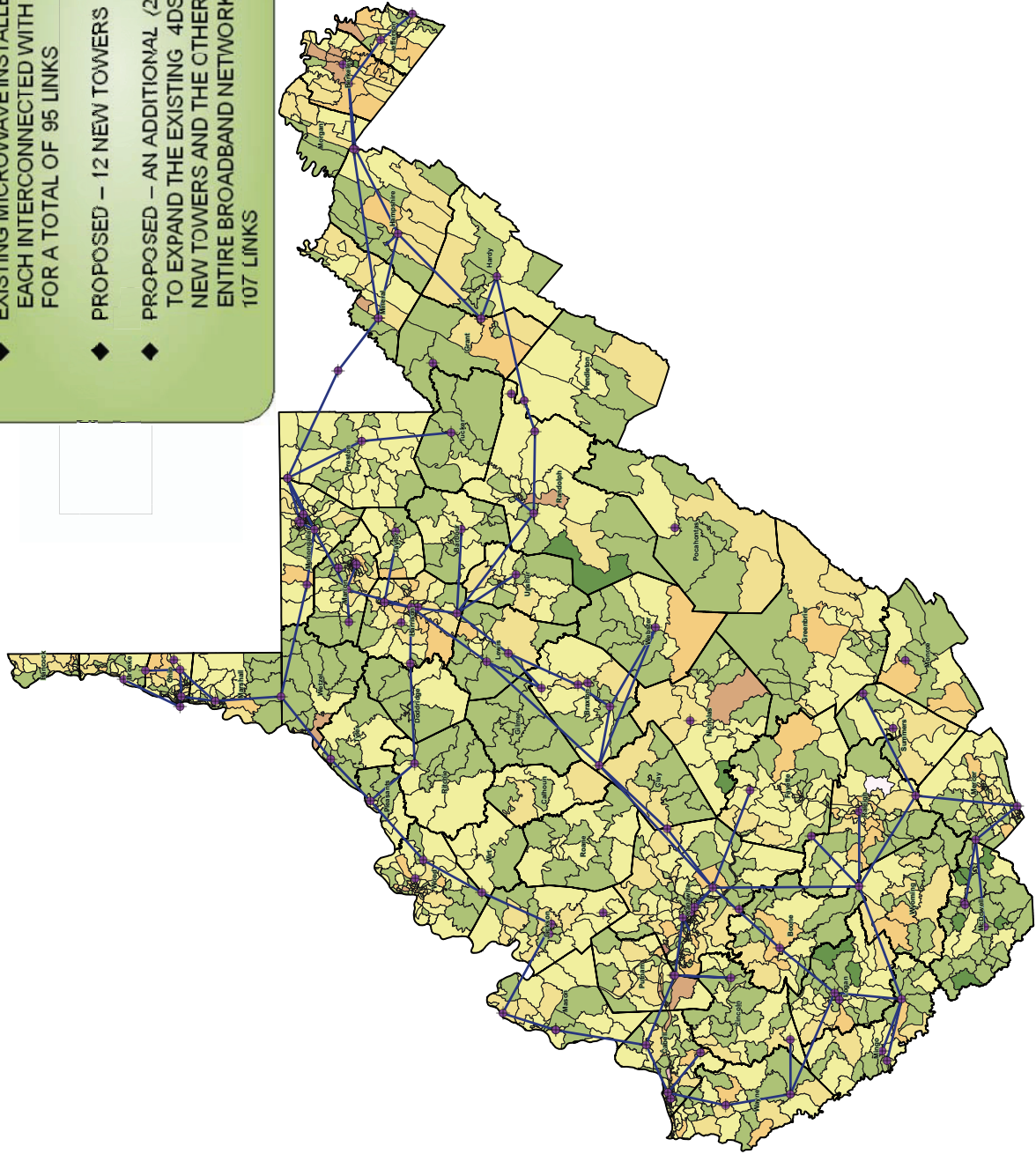




# WEST VIRGINIA STATEWIDE BROADBAND INFRASTRUCTURE PROJECT – MIDDLE MILE TOWERS & MICROWAVE PATHS



- ◆ EXISTING MICROWAVE INSTALLED – 84 TOWERS, EACH INTERCONNECTED WITH A 4DS3 (4x45 MB), FOR A TOTAL OF 95 LINKS
- ◆ PROPOSED – 12 NEW TOWERS
- ◆ PROPOSED – AN ADDITIONAL (2) 4DS3 (4x45 MB); ONE TO EXPAND THE EXISTING 4DS3 NETWORK TO THE NEW TOWERS AND THE OTHER TO AUGMENT THE ENTIRE BROADBAND NETWORK, FOR A TOTAL OF 107 LINKS



### Legend

- IRP Towers
- Microwave Paths
- Counties

### WV Census Blocks POP2000

	0 - 499
	500 - 999
	1000 - 1499
	1500 - 1999
	2000 - 2999
	3000 - 3999
	4000 - 4999
	5000 - 6999
	7000 - 7962

## Senior Management Team Track Record Summary

The WV Broadband Senior Management team consists of individuals from Education, Health and Human Resources, Public Safety, Commerce, Corrections/Prisons, Governor's Office of Technology,

The track record of this team lending credibility to this project follows:

The Broadband Senior Leadership team is led by Secretary of Commerce Kelley Goes. Ms. Goes serves West Virginia in a manner that causes the state to be nationally recognized in commerce areas of responsibility and interest. Early in her position, she realized the need for broadband access for all West Virginians and this, coupled with Governor Joe Manchin's vision for the same effectively paved the way for a Broadband Council that has been formed (prior to this grant) to pave the way in this area.

Broadband Specific: Secretary of Commerce Goes, Mr. Gianato, Mr. Schafer, Mr. Todorovich, Ms. Thomas, Mr. White and Ms. Williams have vast experience in IT related areas.

Representing Commerce, Public Safety, Education, Libraries and Health and Human Services, these individuals, as attested by their biographies, have a proven history of IT related successes. They will lend a technical expertise to the overall team effectiveness. Cabinet Secretary Goes and Mr. Gianato were personally chosen by Governor Manchin to lead the West Virginia Broadband Council.

Major Project and Leadership Specific: Each member of this leadership team was chosen because of their respective leadership capabilities. For instance, Mr. Schafer leads the Governor's Office of Technology and was chosen because of successes with NiSource. Mr. Gianato serves as the WV Director of Homeland Security and Emergency Management with previous experience in IT and public safety. Cabinet Secretary Walker leads West Virginia in health care related issues, specifically broadband offerings planning and design in HIN and HER, marking WV as among best in the nation. Dr. McClanahan led the WV K1-K12 schools to unparalleled heights in coordinating all activities of a statewide school system. Mr. Todorovich led the WV National Guard in multiple endeavors such as RCAS, Distance Learning, National Level Contingency of Operation Planning (COOP) activities, and mobile communications/emergency planning at Hurricane Katrina by serving as the IT officer for Task Force Belle Chasse.

As may be seen by the above summary, the leadership team is educated, experienced, dedicated, and able to execute this endeavor with huge successes for the nation and state. Although the entire team has not been mentioned in this summary, it is very reflective of the potential of the whole.

Allen, Vicki

Vicki Allen is an Assistant Director in the Office of Instructional Technology at the West Virginia Department of Education. She has an A.B. in Elementary Education and a Masters Degree in Elementary Leadership. With ten years of teaching experience and a passion for the integration of technology into teaching, Vicki came to the West Virginia Department of Education in 1997. She has worked with professional development programs, technology planning for hardware purchases and managing state contracts. In her current position, Vicki oversees projects associated with the K12 telecommunications network. These projects include statewide applications for federal E-rate program for WV schools, management of the K12 email system, purchasing of statewide Internet access for all WV public schools, Internet filtering for E-rate compliance and coordinating assignment of Domain Name Services and IP addresses.

Douglas, Brad

Brad Douglas began his employment with the West Virginia Division of Corrections in 2000 as a Research Analyst for the Office of Research & Planning. In December 2003 he was promoted to the position of Director of Research & Planning and still holds that position. Other than Research & Planning activities Brad has been involved with a number of data sharing and management projects during his career. He was project manager for the implementation of the WVDOC's Inmate Management Information System (IMIS) and has maintained an active role in expansion planning. The initial IMIS project was a \$1.2 million endeavor and implementation was very successful. Currently, hundreds of WVDOC employees use the system from more than 30 locations statewide. Brad holds a B.S. in Criminal Justice from West Virginia State University and a M.A. in Criminal Justice Leadership from Marshall University.

Gianato, James

Governor Joe Manchin appointed Jimmy Gianato, West Virginia Division of Homeland Security for the State of West Virginia, in September 2005. In his capacity as Director, Mr. Gianato has operational and planning responsibility for the state's response to all emergency and disaster operations and consequence management for incidents involving Weapons of Mass Destruction and terrorism. During federal disasters, he serves as the Governor's State Coordinating Officer with the Federal Emergency Management Agency. He also serves as the Chairman of the State Emergency Response Commission. Before assuming his present duties, Mr. Gianato has previously been involved in emergency response for over 30 years. He has served as a firefighter, EMT, and Law-Enforcement official. He received training in Incident Command, the National Incident Management System. He is a certified Fire, EMS and Law Enforcement instructor and has successfully managed numerous nationally declared disasters in McDowell County and has been deployed to other parts of the state to assist with disaster efforts during time of need. He has also served as Chairman of the WV Statewide Addressing and Mapping Board that had the responsibility of mapping and re-addressing the State of West Virginia for 9-1-1 related purposes. He has been a presenter for several organizations and conferences. For example, the 2005 All Hazards Forum, NENA, the American Business Club, and the Association

of Public Safety Officials Association and the West Virginia Coal Symposium, just to name a few. He intends to continue to attend training and learn of new and better ways to improve the Department of Homeland Security and Emergency Management in the State of West Virginia. He serves or has served on several boards and commissions including the West Virginia Retirement Board, the Commission for National and Community Service. He has a degree from New River Community and Technical College in Applied Science.

Governor Manchin relies heavily on Mr. Gianato for Broadband expertise. He serves as a member of the State of WV Broadband Council and works directly with Cabinet Secretary – Commerce, Kelley Goes on Broadband planning and applications.

Goes, Kelley

Kelley Goes has served as West Virginia's Secretary of Commerce since January 2007. Shortly thereafter, Governor Manchin charged Secretary Goes with deploying broadband throughout the state particularly to its unserved and underserved areas. Accordingly, Secretary Goes has worked with broadband providers, legislators, equipment manufacturers, educators, healthcare providers, and industry innovators to explore all aspects of deployment of broadband in rural areas and demand building for broadband services. Additionally, Secretary Goes has served as the chief liaison between the state and Cisco Systems' IBSG group building a repertoire of best practices for the state to explore. Secretary Goes attended Cisco's Public Services Summit in 2007 and was a presenter in 2008.

Nine state agencies report to Secretary Goes, representing over 3000 employees and \$275 million in budgets. Secretary Goes serves as the chair of the West Virginia Economic Development Authority, the West Virginia Jobs Investment Trust, the Broadband Deployment Council, and serves on numerous other boards.

Secretary Goes is a lawyer by training. She spent seven years in private practice focusing primarily on intellectual property and commercial litigation. She then spent four years working as an assistant attorney general for three state agencies before moving to the West Virginia Department of Commerce to serve as deputy secretary and general counsel before being appointed secretary.

Secretary Goes graduated cum laude from Vanderbilt University with a B.A. in 1991 and magna cum laude from the University of Kentucky College of Law in 1995.

Lopez, John

Mr. Lopez is currently employed by the WV Regional Jail and Correctional Facility Authority in Charleston, WV where he serves as Corrections Program Manager. His duties include planning, developing, coordinating and evaluation all treatment programs statewide for the WV Regional Jail and Correctional Facility Authority, develop and review legislation relating to correctional programs, and research and write grants for the Regional Jail Authority. He began his career with

the Regional Jail Authority in 1997. Prior to this, he was an Investigator for WV Department of Tax and Revenue. From 1995 until 1997, he served as Resident Director for Salem-Teikyo University, Salem, WV.

Mr. Lopez earned a Master's in Criminal Justice Administration from Mountain State University, Beckley, a Master of Arts in Physical Education from Salem Teikyo University, Salem, WV, an Associate degree in Printing Technology, WV Institute of Technology, Montgomery, WV and a Bachelor of Science in Management from WV Institute of Technology, Montgomery, WV.

Mr. Lopez is a proven leader possessing a vast knowledge of the principles and techniques of leadership. He has a unique and astounding knowledge of state government. His experience with grants within the Regional Jail Authority will make him a viable asset on the broadband leadership team.

McClanahan, Jack

Dr. Jack McClanahan currently serves as Deputy Superintendent of Schools for the State of West Virginia. He assumed these duties in 2005. From 2003 until accepting the position as Deputy Superintendent, he served as the Assistant State Superintendent of Schools for Administrative Services. As a professional within the field of education, he served multiple positions such as : Executive Director of Office of Professional Preparation; Principal, Ben Franklin Career Center, Deputy Superintendent, Kanawha County Schools, Junior and Senior High School Principal, and Teacher.

Dr. McClanahan received his Doctorate in Curriculum and Instruction from Virginia Polytechnical Institute, his Master's Degree in History from Marshall University, a Bachelor of Arts in History and English from Morris Harvey College. He holds a certificate from the State of West Virginia as a Teacher 7-12 – Permanent.

Dr. McClanahan will serve as a member of the state broadband leadership team and brings with him excellent qualifications, representing K1-K12. He has vast knowledge in coordinating activities of school systems, excellent in research, great knowledge in development of WVDE budgets, and experience in operating an organization with over 2,000 employees.

Miller, Terry L

Terry Miller was appointed as Director of WV Regional Jail and Correctional Facility Authority by Governor Manchin in 2007. In this role, he is responsible for overall administration of ten (10) regional jails and the central administrative office. He is responsible for the administration of a budget of over eighty seven million (\$87 million) and oversight of approximately 1,034 employees.

Mr. Miller served for approximately three years as the Director – Homeland Security State Administrative Agency with responsibility of over \$27 million in Homeland Security Funds. He coordinated with staff to facilitate the WV homeland security grants and programs to ensure compliance with the allowable uses of the funding and conformity to appropriate goals and



objectives. In this role, Mr. Miller hired, trained and coordinated with the first WV Statewide Interoperability Coordinator – giving him keen insight into overall communications problems, including broadband within the confines of West Virginia.

Terry has served in the Wood County Sheriff's Office as Day Shift Commander (Lieutenant) and, Shift Commander (Sergeant). He earned a Bachelor's Degree in Criminal Justice/Minor in Corrections from WV State College, Institute, WV. He also earned an Associate Applied Sciences Degree in Law Enforcement from Parkersburg Community College.

Mr. Miller's vast experience in the law enforcement community and related fields, including an excellent knowledge in grants execution and compliance make him ideal for the WV Broadband leadership team.

Pitrolo, James L.

Mr. Pitrolo currently serves as Legislative Director for WV Governor Joe Manchin. He served in this position since 2005. In this role, he works and is directly responsible to the Governor, serving as a principal advisor in legislative affairs and special projects. Mr. Pitrolo has been chosen to be the Governor's representative on the broadband leadership team. He comes to this team as a West Virginian with great knowledge and expertise with the rural communities located throughout our state.

Mr. Pitrolo has served as elected Director of first Exchange Bank of Mannington, elected to Board of Directors of the WV Automobile and Truck Dealers Association (also served as Chairman of the Board), Graduate of Leadership Marion, Director United Way of Marion County, West Virginia House of Delegates, awarded the TIME Magazine Quality Dealer Award and various other accolades. Noteworthy is the Small Business Association success award he received in 2002.

He earned a Bachelor's of Science in Business administration from West Virginia University and served in the U.S. Air Force as a Captain. Mr. Pitrolo's business experience and knowledge of West Virginia make him a great choice for the broadband leadership team.

Rubenstein, Jim

Mr. Rubenstein was appointed Commissioner of the West Virginia Division of Corrections in June 2001 after serving as Acting Commissioner since February 2001. He is tasked with the responsibility to oversee the day to day operations of the operations of the Division of Corrections throughout the entire State of West Virginia.

Mr. Rubenstein has over three decades in the corrections profession. Mr. Rubenstein began his career with Corrections in 1973 as a Correctional Officer at the Forestry Camp for Boys. He also served as a Recreation Coordinator, a Correctional Officer and a Counselor at the WV Industrial School for Boys. Mr. Rubenstein served in various corrections positions during his career. His qualifications and skills offer him a unique opportunity to bring insight and experience to the

Department of Corrections. His career in corrections has prepared him with the management abilities, training and development skills, and interpersonal communications expertise necessary to promote programs, technology and training within Corrections.

His experience and in depth knowledge of corrections will enable the State of West Virginia Broadband leadership team to better represent the Corrections requirements within the state.

Schafer, Kyle

With years of senior level IT experience, Kyle Schafer presents strengths in senior leadership and vision, IT outsourcing experience, IT insourcing experience, large scale consolidation experience and large system (EP) implementation, integration and support experience. This vast array of knowledge and subsequent experiences caused Governor Manchin to select Mr. Schafer as the CTO and Director of Information Systems and Communications for the State of West Virginia (May 2005). In this role, Mr. Schafer is responsible for all aspects of the State's computing and telecommunications technical environment. He manages a technical team of approximately 300 IT professionals and have indirect accountability for an additional 200 IT professionals with the goal of delivering high quality service to our 25,000 internal state employees and digital services to the state's 1.8 million residents. He is accountable for nearly \$100 million in IT related expenses each year.

Mr. Schafer worked for NiSource Columbia as Vice President and Chief Technology Officer from June 1982 until April 2005. In this role, he was responsible to set the strategic direction and tactical plans for multiple NiSource processes. Mr. Schafer has a BS degree in Computer Science from Marshall University, Huntington, WV and a MIS Degree in Technology Management from Marshall. His education, leadership, and experience make Mr. Schafer a major component of the WV Broadband leadership team.

Todorovich, Michael L.

Mike Todorovich served as the WV National Guard full time Information Technology Officer for approximately 22 years. In this role he was responsible to plan, install, implement, and maintain a robust networked computer system consisting of over 1,000 computers at over 35 physical locations in West Virginia. During his tenure with the National Guard, Mr. Todorovich earned the rank of Lieutenant Colonel. His overall accomplishments with installing the Reserve Component Automation System (RCAS) effectively caused West Virginia to be noted as first in the nation in RCAS fielding. National Guard Bureau chose West Virginia to be a "pilot" state in fielding of a Distance Learning Network (DLN). Mr. Todorovich accepted this challenge and through his efforts, West Virginia again became noted as "best in class" in DLN fielding. During his full time with the National Guard, he served on the WV Interoperable Working Group.

After retirement, Mr. Todorovich took a position as the first West Virginia Interoperable Coordinator. In this role, West Virginia achieved many successes including writing a viable statewide plan, successful award of an 8.4 million dollar Public Safety Interoperability

Communications (PSIC) (writing facilitated by him), and the first two statewide interoperable conferences.

Currently Mr. Todorovich works for the West Virginia National Guard as a state employee with the responsibility of internal and external Contingency of Operation Planning, both internal and external. His experiences will prove to be valuable as a member of the State of WV Broadband leadership team.

Mr. Todorovich has a Masters Degree from Liberty University, Lynchburg, VA in religion and a Bachelor's in Military Management from the University of Charleston.

Thomas, Darlene

Ms. Thomas is currently employed by WV Department of Health and Human Resources as an Information Systems Manager 3. In this role, she is responsible for the management of information systems services that support the enterprise goals of the department. From 1999 to 2003, Ms. Thomas was responsible for managing the 50 IS applications development, maintenance and operations for the WV DHHR (36 state, 14 contract). She has vast knowledge and practical experience in supporting in-house developed Applications for Health, Human Services, and DHHR Administration, and WV DHHR WEB team.

Ms. Thomas earned a BA in Mathematics from WVU and completed Graduate Studies, Industrial Engineering at WVU. She also worked with WV College of Graduate studies, Industrial Engineering and Systems Analysis. Not only has she been an IT professional with the State of West Virginia, beginning as a Programmer Analyst 1 in 1984 and culminating as Information Systems Manager 3 (current), she also worked for University of Missouri Extension Division in Missouri and West Virginia Computing Services in Morgantown, WV. Her skills, experience, and keen understanding of health related issues related to broadband make her a valuable asset to the WV Broadband Leadership Team.

Waggoner, J. D.

J. D. Waggoner, Executive Secretary

As the Executive Secretary of the WV Library Commission, Mr. Waggoner brings great leadership skills to the broadband leadership team. He has a Masters in Library and Information Science, University of South Carolina.

Mr. Waggoner has served as Secretary of the Library Commission since August 2002. In this position he directs the agency in its statutory role of advising and developing libraries of all types, academic, public, school and special. The most direct contact is with the 97 public library systems, which are composed of 173 facilities statewide. Mr. Waggoner has served at many levels of responsibility with the agency since he began his employment in 1968. He has vast experience in Grants planning, application, leadership, and implementation such as the following:

In 2006 the Library Commission received \$981,000 Public Access Computer Hardware Upgrade Grant from the Bill & Melinda Gates Foundation to upgrade computers in 166 public libraries.

The Bill & Melinda Gates Foundation granted the Library Commission \$424,000 in 2004 under the Staying Connected grant. The grant included train-the-trainer and broadband upgrades.

In 2003 the \$40,000 was granted from the Beaumont Foundation of America for equipment. The grant placed four mobile labs in the field for public library training.

The State Telecommunications Users Council in 2002 awarded a grant of \$991,281 to the Library Commission for upgrading data circuit lines from 56K to T1. 176 routers were replaced and new servers installed.

A \$50,000 grant from the Appalachian Regional Commission was awarded to the Library Commission for the replacement of 65 computers in twenty-seven of the State's distressed counties.

Mr. Waggoner has worked with the direction and implementation of all of the above grants. In previous years he has also implemented grants from the U. S. Department of Education, the Appalachian Regional Commission, the U. S. Department of Commerce, and additional grants from the Bill & Melinda Gates Found

Walker, Martha

Appointed Cabinet Secretary of the Department of Health and Human Resources in January 2005. Chair, Commission to Study Residential Placement of Children, the Comprehensive Behavioral Health Commission, and various other Board and Commissions. Was previously appointed to a six-year term with the Public Service Commission beginning in December 2000. Elected to the House of Delegates in 1990. Elected to the Senate in 1992 and 1996. Recipient, Outstanding Senator of the Year Award, West Virginia Association of Directors of Senior Programs, 1996; Outstanding Legislator of the Year Award for Commitment Toward Excellence to Local Public Health, 1996; Women Achievement Award, Charleston YWCA, 1999; Legislator of the Year, West Virginia Children's Coalition, 2000; Award of Merit for Commitment to West Virginia Hospitals and West Virginia Health Care, West Virginia Hospital Association, 2000; Presidential Citation, West Virginia Health Care Association, 2000. Liberty Bell Award, West Virginia Supreme Court of Appeals, 2006. Distinguished Advocacy Award, National Alliance for Mental Illness, WV, 2006. Tuttle Community Health Hero Award, Community Health Network of West Virginia, 2008. Education: West Virginia University. Member, West Virginia University Alumni Association.

Secretary Walker has been an advocate for broadband applications relating to health care and carries the torch for serving the underserved and unserved citizens of the state.

White, Harlan

Mr. White currently serves as Information Systems Manager for the West Virginia Library Commission

Since 1994, he helped designed implement manage and maintain the West Virginia Library Commissions State Library Network which is one of the largest networks in the West Virginia. He is charged as director of 11 State Government employed technicians; each assigned to strategic regions throughout West Virginia. Some of Mr. White's duties include: Manager; UNIX hardware/software maintenance; Catalog software Administration and maintenance; Router installation and maintenance; PC software/Hardware replacement and maintenance; hubs switches and cabling installation and maintenance; WAN LAN and wireless support; equipment contract support and data circuit installation and maintenance.

While working in this role, Mr. White had responsibilities in obtaining grants and ensuring the successful completion of the following projects:

- \* March, 1998: \$2.5 million U. S. Department of Education for expansion of public access computing to bring Internet access to the WV public libraries. The grant provided approximately 600 Computers to public libraries statewide.

- \* April, 1999: \$62,000 to provide a training lab at Cabell County Public Library and Kanawha County Public Library. The labs included 11 workstations and 1 server per library.

- \* September, 2001: \$92,985 to promote long-term sustainability of public access computing in public libraries. This grant assisted the agency in meeting the ongoing needs of public libraries for training in the use of information technology resources.

- \* In 2002: \$50,000 grant from the Appalachian Regional Commission for the replacement of sixty-five computers in twenty-seven of West Virginia's distressed counties.

- \* September 2002: \$991,281 grant was received from Verizon, through the State Telecommunications Users Council, for two UNIX servers large enough to accommodate the catalog software for both the northern and southern region. The grant also included upgrading 97 data circuit lines from 56k to T-1 frame relay, as well as replacing 176 outdated Xyplex routers with new Cisco 2600 routers.

- \* July 2003: \$40,000 grant from the Beaumont Foundation of America for equipment. The grant enabled the WVLC to place 4 mobile labs in the field for public library training use statewide.

- \* December, 2003: The Bill and Melinda Gates Foundation awarded a three-year "Staying Connected Grant" in the amount of \$424,000 to support public access computing sustainability efforts in West Virginia public libraries as follows: Hardware Upgrade/Replacement \$ 74,400; Broadband Connectivity Upgrade \$240,000; Training Support \$ 49,600.

- \* May 10, 2006: \$981,000 Public Access Computer Hardware Upgrade Grant from the Bill & Melinda Gates Foundation to upgrade computers previously granted by the foundation in 166 libraries.

Williams, Brenda

Brenda Williams is the Executive Director of the Office of Technology and Information Systems in the West Virginia Department of Education. She has worked in the area of instructional technology at the Department of Education since 1983. Prior to 1983, she was a classroom instructor working with students in the 5-14 grade levels and adult education as she integrated instructional technology. She has an MA+45 in Educational Administration with additional hours in Instructional Technology and a MA in Vocational Administration.

She is currently responsible for directing all statewide instructional technology and competitive programs in K-Adult public schools and classrooms. Programs and grants include state and federal funding for turnkey instructional technology solutions which provide planning, installation of hardware and software, initial and ongoing teacher staff development, infrastructure preparation, maintenance and renewal/updates of programs.

Mrs. Williams is very active on the educational technology state, regional and national levels as a member of the many past and current organizations and has served on associated board of directors, advisory committees for many of the groups.

Having served the WV Schools System in a wide range of IT responsibilities, she brings to the leadership team an outstanding understanding of Broadband (both technical and at the K1-K12 applications) that will greatly enhance the leadership team.

# West Virginia Broadband Technology Partnerships

Middle Mile This BTOP Request

This BTOP Request

Last Mile

Other Funding

