Broadband USA Applications Database

Applicant Name: NTELOS Telephone Inc.

Project Title: Alleghany Broadband Now Initiative

Project Type: Last Mile Non-Remote

_____Executive Summary_____

The Alleghany Broadband Now Initiative will bring much-needed broadband services and infrastructure to unserved and underserved households, businesses and critical community facilities in rural Alleghany County, Virginia. NTELOS Telephone, Inc. (previously CFW Telephone Company), which has been serving the people of Alleghany County for more than 100 years, is applying for funding to build a "future proof" fiber-to-the-home network that will serve the needs of county residents for decades to come. The reason several portions of the county are unserved and underserved is simple: the low-density of households typical for rural areas combined with a mountainous terrain and dense forests prevent cost-effective wireline or wireless broadband coverage. As a result, many residents are limited to dial-up access while others have limited access to copper DSL or cable modem-based broadband services. The economics of building and sustaining a broadband infrastructure and services to this type of market and geography are prohibitive without grant funding – exactly as the ARRA of 2009 anticipated. In fact, the cost of providing broadband is so high that the loan/grant funding structure with BIP would be uneconomical. Only through BTOP can this project become a reality. If grant funding is not provided, these areas will never gain cost effective access to broadband. That is the opportunity for this project: to extend high-speed broadband services to the homes, businesses and critical community facilities of rural Alleghany County. It is important to note that some parts of the county, specifically the city of Covington and the towns of Clifton Forge and Iron Gate, are already considered "served" with NTELOS' broadband services. The Alleghany Broadband Now Initiative does not include these areas in our proposed service area. The project addresses only the unserved and underserved areas that truly require funding assistance to build-out broadband. More important than the general benefit of gaining access to broadband services are the multiple long-term benefits that will accrue to Alleghany County by building and extending a "future proof" fiber-based broadband infrastructure, including: • enabling home-based jobs for disabled or disadvantaged citizens who may be limited in their ability to leave their homes; • enabling home-based jobs for those who cannot find local employment in the county's business base; • enabling home-based job training to help workers learn new occupations; • fostering job-creating economic development by attracting new businesses and employees that require access to robust broadband Internet, data and video services • supporting the requirements for today's and tomorrow's telemedicine capabilities – both in-home and at medical facilities – that cost-effectively provide the kind of health care currently not attainable to residents of Alleghany County; • improving education opportunities for children by enabling broadband communications for homes and educational facilities; • improving communication capabilities of public safety personnel and facilities. The proposed service area is comprised of a majority of Alleghany County, Virginia minus the city of Covington and the towns

of Clifton Forge and Iron Gate. The western edge of the county borders the state of West Virginia while the nearest city, Roanoke, is about one hour southeast of the county. There are no census-designated communities or places within the proposed service area. The proposed service area will serve a population of almost 9,200 people residing in an estimated 4,216 households. Of those, approximately 172 households meet the definition of unserved with the remainder qualifying as underserved. The project will also make broadband service available to approximately 233 businesses and 36 community entities that would be considered community anchor institutions, public safety entities, and critical community organizations. While a portion of these already have access to broadband services, the new very high-speed fiber-based services provided with this project will enable more cost-effective and secure communications, including video and non-Internet data services using Fiber-to-the-Home (FTTH) technology. In fact, that is one of the key benefits of the project's "future proof" fiber optic broadband design – significantly higher bandwidth capabilities than copper or wireless-based solutions can offer. With the completion of the Alleghany Broadband Now Initiative, NTELOS will offer new, very high-speed broadband services delivering 10 - 20 Mbps download speeds and 3 - 5 Mbps uploads. The combined per Mbps pricing with the new broadband services enabled with this project will be up to 90% LESS than today's pricing, making robust broadband not only more available but also more affordable. Even better: The tremendous bandwidth capacity of the proposed last-mile fiber network will be able to support future high-bandwidth applications and services for decades to come. With this project, customers will have access to bundled voice and video services along with high-speed broadband service. In many parts of the proposed service area, satellite TV is the only option for TV service today. The video service enabled by this project will include high definition (HD) and standard definition (SD) digital TV, digital music channels, and movies-on-demand. Customers served by the Alleghany Broadband Now Initiative will enjoy affordable rates, a broad array of capabilities, and an economical alternative to satellite. The proposed technology solution that the Alleghany Broadband Now Initiative will utilize is both proven and "future proof." The system will utilize standards-based IP/MPLS over fiber to deliver services. We will use Gigabit-capable Passive Optical Network (GPON) technology, utilizing a point-to-multipoint fiber network architecture and optical splitters to allow a single fiber to serve multiple customer premises, thereby dramatically lowering the overall costs of deployment. It is 'future proof' from the standpoint that no current technology offers the kind of bandwidth and economic life that fiber-optic-based solutions offer. At best, copper-based solutions are a short-term fix that would need to be revamped within a few years, and wireless solutions will require expensive and extensive upgrades to keep pace with fiber. In coming years, lasers and electronics will continue to improve and offer even greater efficiencies – if needed – for delivering broadband, and the fiber itself is a proven technology with a very long lifespan. We expect that the network will serve Alleghany County for decades to come. Our solution is also proven because we are already using the same approach in other parts of our territory, where subscribers of all types are benefiting from its reliability and very high capacity. NTELOS is currently serving over 1,500 subscribers with the same fiber-to-the-home solution as we are proposing for the Alleghany Broadband Now Initiative. The NTELOS organization has the people, processes, and support systems necessary to deploy and sustain the broadband services and underlying technology described in this application for funding. We have been providing broadband services to our customers for over 11 years now – first using ADSL technology and more recently using fiber-to-the-home. Our people know the technology, the market and the geographic challenges. We know what needs to happen and how to

make it happen – we've done it before. In all of its current service areas, NTELOS is already complying with the non-discrimination and interconnection requirements as detailed in the NOFA. NTELOS will continue to negotiate in good faith with potential service providers that would use the company's facilities to provide additional choice of service providers. NTELOS will also continue to comply with all non-discrimination and interconnection requirements as described in the NOFA. We estimate the overall cost of this project to be $16,124,175 through completion, which equates to roughly $3,825 per household passed. The relatively high cost is a direct result of the long distances required to reach households, the low density of homes, and the rough, winding terrain. We believe, however, that given the "future proof" nature and long expected life of the majority of the infrastructure, our network solution will ultimately prove to be the most cost-effective approach to serving the needs of Alleghany County citizens for decades to come, and to help in the area's revitalization. The Alleghany Now Broadband Initiative is ready to move forward pending funding approval by the NTIA for BTOP. We have not only the engineering, operations, and procurement plans in place but also the people, processes and systems to quickly deploy and manage the project and resulting services. Finally, as a result of the Alleghany Now Broadband Initiative, 109 valuable new jobs will be created in Alleghany County. Over the longer-term, many jobs will also be saved. Our estimate of the jobs impact includes forty (40) jobs directly created, including four (4) engineering jobs, twenty-nine (29) construction jobs, six (6) operations jobs, and one (1) sales job. Another sixty-nine (69) indirect jobs will likely be created, according to a 2007 Brookings Institution study by Robert Crandall, Robert Litan, and William Lehr, which says every 1% increase in broadband penetration in a state increases employment by 0.2 to 0.3% per year.