

## Broadband USA Applications Database

**Applicant Name:** Citynet, LLC

**Project Title:** West Virginia Broadband Initiative

**Project Type:** Middle Mile

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### Executive Summary

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8. Executive Summary of Project for BIP and BTOP: This Middle Mile Project is designed to provide broadband infrastructure throughout a 25 county region predominately located in north-central West Virginia. All of said counties are either Unserved or Underserved and are disadvantaged or totally void of broadband service opportunities. Citynet's proposed network will be capable of: (a) extending core Internet backbone infrastructure throughout the region, (b) providing next-generation high capacity transport solutions, (c) delivering a robust fiber optic infrastructure, and (d) significantly reducing broadband transport costs (i.e., transport capacity, backhaul capacity, etc.). This Project seeks to resolve core barriers by delivering a Middle Mile Network solution that supports a dense fiber optic backbone and is powered by next-generation transport technologies. The Network is designed to provide a fully route diverse system that will economically enable Broadband expansion to over 144 separate communities. The Network will provide immediate relief and added opportunities for all Last Mile providers in the region and also will provide a highly durable long-term data super-highway system to support future innovations and growth. The single largest challenge faced by Rural Last Mile providers is rooted in the high-cost of legacy transport solutions which typically account for 40% of their operating budgets. This Project purposefully and directly resolves this core barrier by reducing these costs by 70% to 90%. For example, transport costs (i.e., tariffed DS3 rates) in rural West Virginia average \$7,000 to \$10,000 per month versus \$1,000 to \$1,500 that will result from completion of Citynet's Project. The underlying effects of this strategy are profound and warrant extra consideration for similar application in other Rural Areas throughout West Virginia and the United States. By lowering this core economic barrier for Last Mile providers, hundreds of Unserved Rural Areas become economically viable for broadband service. These effects are further expanded to Underserved Areas by stimulating competition and by delivering vast improvements in End-User bandwidth performance. This opportunity is made possible for several key reasons: (a) Citynet can leverage its existing business operation in the region, (b) a transport network strategy involves highly fixed operating costs with virtually limitless expansion opportunity, (c) by extending and aggregating regional transport services, Citynet can drastically reduce the transport/backhaul cost while delivering technically superior solutions, and (d) by leveraging federal capital dollars the core capital costs savings will be passed down to the entire broadband community (raw cost > transport network > service providers > end-users). This Middle Mile Project also is designed to maximize social benefits through a unique partnership with the State of West Virginia. Pursuant to the West Virginia Partnership Program, the State of West Virginia will receive 25% of the fiber strands to be utilized by any State-based governmental agency. This will enable advanced broadband solutions in support of state based initiatives such as: WVnet, WV Healthcare Alliance, West Virginia University

(Internet2/National Lambda Rail), West Virginia Office of Homeland Security, and others. Citynet believes this is a highly unique and creative solution to ensure maximum utilization and social benefit of the system. (a) Opportunity The Proposed System Seeks to Address: The opportunities proposed in this Middle Mile Project include: (i) resolving core infrastructure needs in the areas covered by the project, (ii) providing affordable next-generation broadband transport solutions, (iii) resolving the core economic barrier for Last Mile service providers and thus economically enabling hundreds of Unserved and Underserved markets, (iv) economically empowering the entire region, (v) enabling key social institutions, (vi) providing a unique asset partnership with the State of West Virginia, and (vii) stimulating competition and choice for all End-User subscribers throughout the region. (b) Description of the Proposed Funded Service Area: This Middle Mile Network covers a 25 county service area and directly enables 144 communities in the region. Of those 25 counties, 19 are classified as Unserved and 6 are classified as Underserved. (c) Number of Households and Businesses Passed: Relevant statistics for this Project include the following: total population of 408,531, 190,273 households, 33,355 businesses, 940 cellular towers and 1,541 social institutions in the 144 communities (more than 14,800 Census Blocks) the network will serve. The core transport network also will open up the entire geographic region, adding thousands of additional subscriber potentials through new Last Mile network extensions within the region. (d) Number of Community Anchor Institutions: The Network system provides broadband access opportunities to a total of 1,541 key social institutions: 579 schools, 75 hospitals, 96 libraries/museums, 320 safety facilities, 280 government offices, 120 post offices, 55 ILEC central offices, and 16 E911 Centers. (e) Proposed Services and Applications for the Proposed Funded Service Area: This Project will provide a diverse set of broadband transport services including: (a) fiber optic cable leases, (b) point-to-point optical wave services, (c) DS3, OC3, OC12 and OC48 SONET transport services, (d) Gigabit and Fast Ethernet Services, and (e) DS1, DS3, OC3, OC12 and Ethernet based Internet Services. Applications for the Network include: (a) broadband transport, (b) Internet access services, (c) video services, (d) voice services, (e) wireless voice and data applications, (f) private Intranet business networks, (g) security services, (h) data recovery and backup services, and (i) route protection and diversity services. (f) Approach to addressing non-discrimination and interconnection obligations: This Network system is purposely designed as a competitive enabler for all service providers in the region (i.e., Last Mile providers, telecom carriers, cable operators, etc.). At the physical layer, the network will be equally accessible by all potential users in regard to price, terms and access. At the IP layer, Citynet maintains and publishes use standards in compliance with FCC guidelines. The Company does not filter, limit or prioritize IP bandwidth services by individual, application or source and deems network neutrality as a key enablement requirement for Internet expansion and utility. (g) Type of Broadband Network that will be deployed: The Middle Mile Network will consist of 600 route miles utilizing 144 fiber count non-dispersion shifted fiber cables. The transport layer will include an expandable core Dense Wave Division Multiplexing ("DWDM") system, initially capable of carrying 800 gigabits of capacity and multiple SONET ring systems. The Internet layer will include 7 core Internet gigabit routers that will expand core Internet backbone facilities throughout the region. Combined these systems provide a powerful bandwidth transport engine that extend these capabilities to over 144 communities in the region with approximately 600 access points. (h) Qualification of the Applicant: Citynet is a leading competitive local exchange carrier ("CLEC") based in West Virginia and has extensive experience in addressing broadband challenges throughout the region. The Company successfully built one of the

premier regional transport network businesses in the Mid-Atlantic United States covering 13 states and 8,000 route miles of fiber optic cables which was successfully sold in 2008 for many times its original investment. The Company is now prepared to leverage its combined knowledge, experience and existing business operations to tackle the more defined challenges of Rural communities in West Virginia made possible by the BIP and BTOP programs. This expertise and experience provides the Company with an advantaged position to address this critical Middle Mile Project and to accomplish this effort in a highly sustainable and durable manner. (i) Overall Infrastructure Cost of the Broadband System: The total capital investment required to implement this Middle Mile Network is \$43,112,922, broken down as follows: 71% for construction of the 600 mile fiber route system, 12% for core network transport equipment, 7% for market access facilities, 7% of network construction labor, 1% for collocation facility improvements, 1% for OSS and Management Software systems and 1% for pre-application expenses. (j) Overall Expected Subscriber Projections for the Project: The five year operating forecast (5 years of full operation) demonstrate projected subscriber use of: 106,956 households, 7,467 businesses, and over 500 social institutions. These subscriber estimates will expand in proportion to the continued expansion of the regional network system itself. Network expansion will be realized through new Last Mile network extensions within the region and future capital expansions of the fiber routes. (k) Number of Jobs Estimated to be Created or Saved: This Project will create an estimated 77 new jobs throughout the capital deployment and construction phase and an additional estimated 81 new jobs for on-going business operations. Indirectly, however, this Project will enable more than one thousand high-job creation businesses and institutions throughout the region. While it is difficult to accurately estimate the exact number, this Project will likely produce or save hundreds of jobs throughout the region and is perhaps the single largest economic develop opportunity in the region's history.