

## Broadband USA Applications Database

**Applicant Name:** Muni-Link

**Project Title:** OMNINET PUBLIC SAFETY / SAFE SCHOOLS COMMUNICATIONS NETWORK

**Project Type:** Middle Mile

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### Executive Summary

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Muni-Link, 501.c3 corporation is seeking stimulus funding to construct a wireless communication project named "OmniNet" in the Woodland Hills School District region of Allegheny County, Pennsylvania. The OmniNet will provide an open broadband network to serve school security applications and public safety communications. OmniNet will also enable wireless broadband connectivity to users and devices within the wireless zone. Muni-Link is the prime developer and will administrate, own, and manage the project throughout the network's lifecycle. From September through June, during most of the workday, 25% to 40% of the community population, indeed some of the most vulnerable members, are in school and under the protection of school security personnel. Recent high-school shootings and other violence have shocked and saddened communities across the country. Sexual predators destroy lives. The trend for schools responsible for the safety of students is toward proactive, preventive security made possible by identification, access, location monitoring, and surveillance technologies. In partnership with the school districts, police agencies, and the Allegheny County District Attorney, OmniNet will provide broadband coverage in and around all public schools located in the Woodland Hills School District and across 100 percent of the 12 municipalities in the 13 square mile district. The OmniNet will enable inexpensive command-and-control communications through a variety of devices used daily by public safety and school security personnel and will tie in to regional public safety network for comprehensive emergency management. Goals of the OmniNet project: 1. Protect students from sexual-predators and gang members on parole or probation. 2. Provide video surveillance throughout school properties. 3. Support and integrate ID access, intrusion detection, and alarm systems. 4. Connect schools and police with robust, reliable, and interoperable communications network. 5. Create regional Wi-Fi coverage for mobile wireless broadband connectivity for student, staff and public use across and around schools and municipal facilities. Muni-Link is committed to building a carrier-neutral, open access, communications network that is open to any competing commercial or institutional service providers wanting to gain access to and provide safety and educational services using a single, common infrastructure. OmniNet will be a standards based IP network and can accommodate any communication that is legal and technically feasible. The OmniNet will be built to and operated to specifications that favor public safety and vulnerable student populations. To provide for dependable peak usage during emergencies or crisis, significant excess capacity and redundancy will be built into the system and critical safety and health applications will receive priority and the full capacity of the network on demand. The OmniNet network will connect 8 school buildings in Woodland Hills School District to local municipal police facilities for redundant 24/7 security services protecting over 16,000 students. Integrated security technologies are dependant on a high capacity, secure, and dependable public safety communication network. Security

systems do not stand alone but rather integrate into a system of systems to provide information for emergency and security management. The most advanced electronic security systems log and coordinate all security activities. Computerized systems allow automatically generated emergency calls to 911 emergency service and details and location are automatically transmitted to first-responders dispatch. The goals of the American Recovery and Reinvestment Act of 2009 (ARRA), are to stimulate the economy in the short term and invest in education, infrastructure, and other essential public services to ensure the long-term economic health of our nation. Of the 49,000 persons living in the Woodland Hills School District region, over 50% are low/moderate income levels and over 25% are disabled. Since the collapse of the steel industry in the 1980s, unemployment in the Woodland Hills School District has been high and economic development has been slow. Vacant building and brownfields abound. While the demand and expense of providing public safety and public services has risen, tax revenue has declined. Along with municipal financial issues, government fragmentation causes much inefficiency in the Woodland Hills School District region. The Woodland Hills School District includes the municipalities of Braddock, Braddock Hills, Chalfant, Churchill, East Pittsburgh, Edgewood, Forest Hills, North Braddock, Rankin, Swissvale, Turtle Creek and Wilkins Township. The OmniNet network will provide a common platform to enable the sharing of costs related to technology applications and communications solutions for school security and public safety. The OmniNet system is a hybrid design using protocols and frequencies appropriate to the application. CONXX, Inc. provides the network technology integrating the best features of carrier-grade telecommunications with wireless technologies. The CONXX platform is a proven technology providing services to thousands of concurrent users in Cambria County, PA and Allegany County, MD. The physical infrastructure for middle-mile components will consist of point-to-point base stations operating at 4.9GHz, 5.4GHz, and 5.8GHz, delivering at least 100Mbps to their endpoints for backhaul, interoffice transport, Internet connectivity, special access. Edge Wi-Fi access points using smart antenna technology operating at 2.4GHz will deliver two-way data transmission with speeds of at least 3Mbps downstream and 3Mbps upstream to end users and end user devices. The OmniNet is scalable and can be expanded based on aggregate demand. Additionally, the OmniNet will provide a core and foundation for future expansion to accommodate the implementation of widest range of technological solutions: 1. Telemedicine and personal health monitoring. 2. Energy saving and smart-grid applications. 3. Low-latency mobile and nomadic broadband connectivity. 4. Wi-Fi hotspots will promote broadband adoption and use. Excess broadband capacity will be made available for public use to community anchor institutions; schools, libraries, medical and healthcare providers, colleges and other institutions of higher education, and other community support organizations, to low-income, aged, and unemployed populations and to provide educational and employment opportunities. School security, education, and public safety will drive the demand for robust and reliable communications. OmniNet will be the model for interoperable, next-generation, public/municipal service networks for the 21st century.