

The City of Hartford acting through its Metro Hartford Information Services (MHIS) seeks to expand its broadband network in order to provide improved access to on-line information and software applications at a reduced cost by extending its existing broadband fiber optic and Wi-Fi networks to organizations and businesses located within and around the city of Hartford and serving the greater Hartford area. If funded, MHIS will establish a metropolitan network to enable the most sophisticated and effective modes of communication, management, collaboration, and transmission of information between and among included businesses, service providers, residents, and government personnel.

Specifically, the City expects that the proposed Broadband Technologies Opportunity Program (BTOP) grant will expand Hartford's existing high-speed fiber optic and Wi-Fi networks to include access and seamless communications for approximately 78 sites that house Community Based Organizations, Area Health Education Centers, Public Housing Projects, Homeless Shelters, Recreational and Senior Centers, Programs for Infants, Young Children and Youth, Public Safety Departments, and selected businesses. Through the implementation of an extensive, state-of-the-art high speed broadband network the City will lay a foundation for building a virtual community where the costs and complexity of voice, video and data transmission are transparent to the user.

MHIS currently operates a ninety-six (96)-site fiber optic broadband network for the Hartford Public Schools, Public Libraries and twenty-two other operating departments, including police, fire and emergency management services. This network has been in operation for more than ten years. The network operations staff at MHIS designs, coordinates, and manages all aspects of the network including access and security. MHIS also maintains maintenance contracts with utility providers for underground and overhead break/fix services.

While the designated service area will be the City of Hartford, CT inclusive of its seventeen neighborhoods, the proposed network standards will enable interoperability with surrounding city and town networks.

The City of Hartford operates a two-staged multi disciplined Public Safety Answering Point (PSAP) servicing all emergency and routine requests for police, fire and emergency medical services. This facility is the focal point between the citizens of Hartford and the jurisdiction's public safety providers. The ability for this location to communicate in a secure and efficient manner with public safety personnel located throughout the city is critical to maintaining public safety. Presently, not all public safety buildings (police and fire) have dedicated network connectivity to the PSAP. One of the goals of this project is to provide fiber optic connection between the PSAP and all locations utilized for police and fire operations.

Enhancing the current network will allow police and fire personnel access to a street surveillance camera system currently not accessible from area outside of the PSAP

facility. Providing this access to the city's public safety providers will greatly enhance police investigations and on scene management for fire suppression activities. In addition, the increased bandwidth will allow PSAP personnel to send call for service information to police and fire responders in a faster, decreasing response times to calls for service.

Also, identified for connection to the fiber optic network are the city's six pumping stations that are used to monitor the 7.4 miles of dike used to control and prevent flooding of residents and business. Adding these locations to the network and the ability to remotely monitor these systems from the PSAP greatly enhance the city's Flood Control Program. In the event of a flooding situation, the PSAP would have immediate notification, streamlining the dispatch of public safety resources, but also would be able to promptly order an evacuation of the impacted area utilizing the city's emergency notification system.

As Connecticut's capital city known as the "Insurance City", Hartford is home to approximately one hundred and twenty thousand residents and thirty-three hundred businesses. Classic to other large cities, its population swells to several times its resident population during the weekly workday hours causing extensive non-tax supported workloads on the city's Public Works and Public Safety Departments. This proposed technology network will leverage critical support to the field operations of mobile workers who must expediently and securely connect back to their organizations. The network will also facilitate business continuity and disaster recovery support for small disadvantaged businesses and community-based organizations that have no current means to co-locate their data for business operations causing them to fail when communications and or data are disrupted.

The proposed service will be high-speed, public, private, and secure network access that can be used for voice, video and data applications utilizing an appropriate number of fiber strands that will leverage the physical infrastructure while segregating the traffic in a very secure manner. Through the use of VLANs, MHIS will aggregate bandwidth across common strands of fiber while securing networks used for public safety, schools, and public health education.

The city of Hartford is 374 yrs old. It is 17.5 square miles in size and was completely built-out by about 1915. Given these parameters, fiber optic transmission is considered as the most effective method of broadband delivery for this environment as it provides the fastest speeds and the most secure and flexible upgrade paths. The network standard is Ethernet. We will deploy 10/100mb to the desktop. The distribution backbone will be Gigabit Ethernet with aggregation points of up to 10 gigabit at the data center. Common use and open space areas will be designated as Wi-Fi hot spots that will also be connected to the Ethernet backbone. All equipment and protocols will comply with appropriate IEEE or IETF standards.

The estimated cost of the overall infrastructure of the proposed extended broadband system is \$6,529,757.

We expect to add no less than one subscriber organization for every new building site connected to our broadband network. Eight sites have multiple programs. The number of individual users at these program sites varies according to the size of the organization. This number is expected to increase 15% annually for the next five years.

We estimate that for every \$3,000,000 spent for broadband access approximately 36 jobs will be created or saved. Along with long-range economic benefits, this project will stimulate the current economy by providing seventy-eight (78) jobs. The jobs created will be in the fields of project management, construction, management and manufacturing. However, the number of soft jobs: those that would be potentially created as a result of the newly created capabilities for job search, communications, and collaboration, are estimated to be more than double given the new opportunities afforded people who otherwise not have broadband access.

We base this job creation estimation upon research performed by the Information Technology innovation Foundation (ITIF) in partnership with the Gartner Group who estimate that 3.6 job would be created for every \$300,000 spent on broadband infrastructure. However with efficiencies the number of jobs created could be less.

We have completed the application and attached all supplementary documentation. We have prepared a reasonable budget for eligible costs, are fully prepared to promptly start the project and we are committed to completing it within two years. We have demonstrated that the project advances at least one statutory purpose for BTOP and we are requesting a waiver of the 20% match based upon our financial analysis of our eligibility to do so.

Program income will be reinvested into eligible program objectives and is projected to be break-even by year 2013. We believe this demonstrates that the grant program will sustain itself without ongoing federal assistance after the funding period has ended.