The City of Hartford, acting through its Metro Hartford Information Services (MHIS), proposes to expand its broadband network to anchor institutions and disadvantaged businesses located within and around the city of Hartford and serving the greater Hartford area. The network will provide unfiltered access to the Internet, open source productivity software, desktop utilities and tools, and social service databases and referral programs. This project is intended to create a virtual community by enabling the most sophisticated and effective modes of communication, management, and collaboration between and among businesses, schools, social service providers, residents, academic and government personnel. The inclusion of these participants is aimed at improving this community's ability to create and sustain jobs, increase education and training opportunities, improve health outcomes, public safety and cultural awareness. The current city network connects the Hartford Public Schools, Public Libraries, Recreational and Senior Centers, as well as twenty-two other municipal departments, including police, fire and emergency management services. This network has been in operation for more than ten years. The proposed network extension will tether approximately sixty-five additional sites housing Community Based Organizations, Health Clinics, Public Housing Projects, Homeless Shelters, Programs for Infants, Young Children and Youth, additional Public Safety Answering Points, the Capital Community College and certain disadvantaged businesses. A listing of these organizations along with letters of support is attached to this grant application. The proposed use of public funds for this purpose is technically viable because MHIS currently operates a high-speed fiber optic broadband network in behalf of the city. MHIS designs, coordinates, and manages all aspects of the network including access and security for ninety-six sites. MHIS also negotiates maintenance contracts with utility providers for underground and overhead break/fix services for a complete solution of network provisioning. The network's design is based upon IEEE standards and is scalable beyond the initial scope of our proposal. The project is economically and technically sustainable because the municipality and school district each consider their participation in this network to be critical to their operational needs and therefore will fund it in perpetuity. The incremental cost of operation beyond the capital costs of extending the network to the additional proposed sites is negligible and will be absorbed into the MHIS operating budget. Fiber optic transmission is considered 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 project is technically scalable because the network standard is Ethernet. We will initially deploy 10/100mbs to the desktop, scalable to 100/1000mbs and beyond. The initial distribution backbone will be gigabit Ethernet with aggregation points of up to 10 gigabits per second at the data center, scalable to 100 gigabits and beyond. Common use and open space areas will be designated as Wi-Fi hot spots connected to the
Ethernet backbone. All equipment and transmission protocols for wired and wireless access will comply with appropriate IEEE and/or IETF standards. The designated service area will be the City of Hartford, CT including all of its seventeen neighborhoods, however the proposed network standards will enable interoperability with surrounding city and town networks that also use IEEE network standards. The proposed service of the network 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 traffic in a 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 healthcare. We expect to add no less than one subscriber organization for every new site connected to our broadband network. Seven sites have multiple programs. The number of individual users at these program sites varies according to the size of the organization. The subscriber amount is expected to increase fifteen percent annually for the next five years. Hartford is 375 yrs old and home to approximately one hundred and twenty thousand residents and thirty-three hundred businesses. Although Hartford is Connecticut's capital city, it is also documented as one of the poorest cities in America as 30 percent of its populace is living at or below the poverty line. The Insurance industry is a major area employer however, most employees commute into the city from surrounding suburbs causing its population to swell several times over during the workweek. This condition imposes extensive non-tax supported workloads upon the city's Public Works and Public Safety Departments. The proposed network will be leveraged to support neighborhood revitalization efforts funded by federal, state and local funding as well as field operations of mobile workers who provide vital services to the community. The network will also facilitate business continuity and disaster recovery support for small businesses and community-based organizations who have no current means to co-locate their data and business operations causing them to lose revenue when communications are disrupted or data corrupted. We estimate that for every $3,000,000 spent for broadband access approximately thirty-six jobs will be created or saved. Along with long-range economic benefits, this project will stimulate the current economy by providing seventy-eight jobs. The jobs created will be in the fields of project management, construction, general 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, education and collaboration, are estimated to be more than double, given the new opportunities afforded people who do 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 jobs 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 immediately start the project. We are committed to completing the project within two years. We assert that the project advances at least one statutory purpose for BTOP and we are requesting a waiver of the 20% match based upon a financial analysis of our eligibility. The estimated cost of the overall infrastructure of the proposed extended broadband system is $6,529,757.