

Broadband USA Applications Database

Applicant Name: Columbus, City of

Project Title: Intelligent Urbanization

Project Type: Last Mile

Executive Summary

8. Executive Summary [(a) Opportunity the proposed system seeks to address] The proposed expansion of the City of Columbus fiber backhaul to support an extensive wireless mesh network first and foremost addresses critical public safety communication needs. By providing wireless licensed spectrum citywide all public safety community facilities as well as mobile police and fire vehicles will have sufficient bandwidth to access immediate information “on the scene”. The expansion of a public safety network will also provide improved interoperability with surrounding jurisdictions. Secondly, the proposed project will enhance opportunities for the City of Columbus School district to interconnect all school buildings and to also interconnect with major universities and colleges, as well as to libraries. Distance learning is one benefit. Further, by locating wireless devices at or on school buildings there also exists the opportunity for affordable high speed internet services to underserved households and businesses in the entire Columbus area. Through partnering with private providers the City hopes to create a competitive environment that will result in affordable prices to address “digital divide” conditions within the City’s core, unleashing the transformative power of innovation. The proposed network will also address health care delivery. Consequently economic development will occur as a result of these initiatives. [(b) A general description of the proposed funded service areas] The proposed funded service area is comprised of the census group blocks within the City of Columbus corporation limit. 82% of Columbus households demonstrate average computer services related expenditures below that needed to sustain widespread broadband adoption. National statistics corroborate lower broadband adoption than in other large metropolitan areas. The City of Columbus is the 16th largest city in the United States with an area covering 223.5 square miles. The Columbus metropolitan area is the 32nd largest in the United States. However, among the 50 largest metropolitan areas, the Columbus area’s percentage of population using Internet at home ranks 49th. Its rate of 82.0% is over 12 percentage points below the #1 metro area for Internet use at home, Tampa at 94.5%. For the percentage using broadband at home, Columbus ranks 43rd with 70.5%, 16.5 percent points below Boston, which was #1 at 87.0%. Source: Current Population Survey 2007, U.S. Census Bureau; Population Estimates 2008, U.S. Census Bureau [(c) Number of households and businesses passed] 376,252 households (2007) and over 38,000 small to medium sized businesses (Manta.com) [(d) Number of community anchor institutions, public safety entities, and critical community organizations passed and/or involved with project] The funding will enable collaboration among eighteen (18) Public Safety Answering Points (PSAPS) in the Greater Columbus area and surrounding municipalities, including all of Franklin County and parts of Delaware and Fairfield counties (referred throughout the rest of the document as Central Ohio). These PSAPS are responsible for ensuring that first responders (such as police, fire, and Emergency Medical Services

(EMS), can deliver critical services efficiently and effectively across a broad geographical area to include nineteen (19) police precinct substations, forty-two (42) fire stations and Battalion Chief Offices. Additionally, the Broadband Infrastructure this project establishes, will be leveraged to interconnect educational institutions including three (3) Columbus Public Schools communication distribution hubs and one hundred and twenty-eight (128) additional sites including; twenty-two (22) high Schools, twenty-four (24) middle Schools and seventy-nine (79) elementary schools. The proposed funding will also provide service to fifteen (15) public libraries and three (3) Universities and/or colleges, The Ohio State University, Columbus State and Franklin University. Lastly, the proposed funding will provide connectivity for entities delivering services throughout the City's diverse neighborhoods. The network will reach six (6) Neighborhood Health Clinics, the Columbus and Franklin County Public Health Departments, twelve (12) hospitals and thirty five (35) recreation and parks centers and three (3) major research facilities. The total number of institutions passed and/or involved with the project exceeds two-hundred-fifty (250). [(e) Proposed services and applications] The following list highlights how the City of Columbus will empower a broad range of "community" services, and create opportunities for increased adoption of broadband services. • Enhanced public safety First Responder communications to include mobile access at the cruiser or emergency vehicle to law enforcement records, as well as medical records, to surveillance video of neighborhoods and or critical incident scenes and to electronic filing for citations and reports, as well as access to hospitals and emerge management centers. • Neighborhood crime prevention and safety enhancements to include neighborhood camera surveillance and anonymous posting of suspicious events for preventive First Responder action. • Public Safety interoperability with surrounding jurisdictions. • Distance Education Opportunities for k-12 as well as adult learners to include teachers and the unemployed. • Affordable high speed internet access to underserved areas through interconnection with private providers; recipients to include households and businesses • Enhanced health care delivery through access to health information, medical records and consultations with health care professionals either at the community center or at home via affordable Internet access. • Facilitation of public health emergency information exchange through interconnection with emergency management agencies and area hospitals. • Enhanced community computing opportunities through increased capacity at the City's recreation and parks facilities and at the public libraries. [(f) Approach to addressing the non-discrimination and interconnection obligations] Our terms for interconnection to our network will not discriminate between operators or between a dominant firm's operations and those of interconnecting competitors. We will permit interconnection at any technically feasible point; however, the operator requesting interconnection will be responsible for paying for any additional costs of non-standard interconnection. Any interconnection charges will be cost-based. Our interconnection procedures and arrangements will be transparent and will encourage competition. We will treat all content, sites, and platforms equally and we will forward packets on a first-come, first served basis, without regard for quality-of-service considerations. Our requirements for interconnection will be published. [(g) Type of broadband system that will be deployed (network type and technology standard)] The City of Columbus has designed a wireless and wired broadband network. The design is predominately wireless. The pervasive wireless network is architected to cover the entire 206 square miles of area within the City of Columbus. True to industry standards, the network is designed to support 3 wireless hops or less to maximize throughput capabilities. We are supporting this by utilizing 227 City owned or partner owned facilities to provide wired anchor or backhaul points

throughout our city. This design will offer both licensed and unlicensed band wireless coverage. [(h) Qualifications of the applicant that demonstrate the ability to implement and operate a broadband infrastructure, and/or be a sustainable broadband service provider] The City of Columbus's Department of Technology has made a significant investment in the broadband fiber infrastructure for over twenty years and currently operates 112 miles. We have Cisco engineers on staff with an infrastructure team of eighteen individuals. [(i) the overall infrastructure cost of the broadband system] The City of Columbus is requesting \$48.8 million for round one American Recovery and Reinvestment Act (ARRA) funding to extend Central Ohio's fiber optic backbone with wireless access. [(j) Overall expected subscriber projections for the project] The City of Columbus does not intend to directly compete to provide last mile subscription to households or businesses but only to anchor institutions. Our total cumulative three-year projection for Public Safety is 3,780 subscribers and for schools, it is 62,032 subscribers. [(k) Number of jobs estimated to be created or saved] According to Connect Ohio, a seven percent point increase in broadband adoption across Ohio's 12th and 15th Congressional Districts could result in:

- More jobs: An additional 32,000 jobs per year created or saved, worth \$1.3 billion
- Reduced health care costs: About \$5.9 million saved annually
- Fewer miles driven by Ohioans: Savings of \$68 million a year in
- Cleaner air: About 28 million fewer lbs. of CO2 emissions annually across the two districts
- Better access to goods and services: A savings of 33 million hours a year from accessing broadband at home, worth nearly \$325 million annually
- Total direct economic impact: \$1.7 billion annually by accelerating broadband across These Congressional Districts (Ohio's 12th and 15th Districts) includes but is larger than the City of Columbus. Nevertheless, economic benefits are substantial.