

Broadband USA Applications Database

Applicant Name: Miami-Dade County

Project Title: Miami-Dade County Public Safety/Special Purpose Broadband

Project Type: Middle Mile

Executive Summary

The "Miami-Dade County Public Safety/Special Purpose Broadband" network project seeks to address the need to build and implement a broadband mobile data infrastructure in metropolitan Miami-Dade County (MDC), Florida, to support and improve public safety and municipal operations, enhance access to broadband services in key public spaces countywide and enable the implementation of future wireless applications for County and public use. Use of this wireless infrastructure will enable faster emergency response time, more reliability, and efficient use of the network. The intra-MDC owned wireless network will also enable five major public agencies to improve delivery of services to the community. The proposed funded service area covers 642 sq. miles, approximately 95% of the populated area of the County. MDC is comprised of 35 independent incorporated municipalities, including the Cities of Miami, Hialeah, Miami Beach, and an unincorporated municipal service area. A map detailing the proposed funded service area is provided at the end of the application (see Supplemental Information 1). The number of households and business passed in MDC includes a total population of over 2.4 million, with 466,937 households and 94,489 businesses. The community anchor institutions, public safety entities, and critical community organizations include five major Miami-Dade County public safety and municipal service agencies, many of which are among the largest operations in the nation. They are the Miami-Dade Police Department (MDPD), the Miami-Dade Fire-Rescue Department (MDFR), Miami-Dade Transit (MDT), the Public Works Department (PWD), and the Department of Solid Waste Management (DSWM). In addition, the Miami-Dade Broadband Coalition, comprised of leaders from the health care, education, other governments, and other community-based organizations, have committed to create effective synergies with the proposed project to increase the reach and impact on the local community and in particular, its underserved areas. Proposed services and applications include enhancements for public safety for police, fire-rescue, and administrative enforcement, and transportation improvements. For public safety, the project will enhance e-policing initiatives across MDC by providing a broadband network supporting 2,000 air cards enabling police officers to utilize mobile devices in the response and delivery of emergency services with such technology as mobile video surveillance, remote tactical command, automatic vehicle tracking, and on-site identification and forensics recovery. It will also provide access capabilities for 2,069 Self-Contained Breathing Apparatus units to track fire fighters in emergency situations and provide 400 air cards to enable mobile devices to utilize the network for voice/data communications in the delivery of services. The network would enable DSWM to implement an e-ticketing system for waste enforcement officers to administer a paperless code violation enforcement process. For MDT, the project will provide the public Metrorail system, an elevated rapid-transit rail system with 22 stations, with Wi-Fi access in 131 cars

(more than 2.2 million riders per month) with Wi-Fi accessibility and the 800 Metrobus system (6.7 million riders per month) with Wi-Fi access. The broadband network would also enable an advanced traffic management system with traffic signal synchronization and control in 1,800 traffic signals countywide, enhancing traffic flow and live vehicle tracking with 450 video cameras and enable the County to further its goal of reducing carbon emissions. Finally, the broadband network would enable over 1,600 mobile county workers to perform field duties ranging from building inspections to technology support operations. The approach to addressing non-discrimination and interconnection obligations is that MDC's Public Safety/Special Purpose Broadband network project will adhere to the principles set forth in the FCC's Internet Policy Statement (FCC 05-151, adopted 8/5/2005), and will not favor any lawful internet applications or content over others. The project's approach to addressing the issues is further detailed in the response to question 22 in the application. Additionally, the project provides free connection to the Internet to the riders of Metrorail, Metromover and Metrobus, ensuring it is not an entirely closed network and is available to all users on an equal basis. MDC will display management policies in a prominent location on the splash page (first page viewed by public transit users when accessing the County's free broadband network) and provide notice to users of changes to these policies. Where technically feasible, MDC will provide connectivity whereby the application does not exceed current or reasonably anticipated capacity limitations, providing reasonable rates and terms to be negotiated with governmental entities such as municipal governments and public safety organizations located within the network coverage. The type of broadband system that will be deployed is Time Division – Code Division Multiple Access (TD-CDMA), a commercially proven technology immediately available for deployment. It is the optimal technology for operating within a single 5MHz TDD (Time Division Duplex) channel leveraging the County's existing unencumbered 2.5 GHz frequency. The proposed system supports priority mechanisms designed for operating a multi-agency network such as Tier-of-Service (ToS) which provides user priority and Quality-of-Service (QoS) which provides application priority enabling a minimum of 1 Mbps download rate over the cell area. This is critical for public safety and traffic applications including video surveillance as major incidents can occur at the cell edge. A detailed description of this system technology and design is provided in the application for question 29. MDC is able to demonstrate the ability to implement and operate a broadband infrastructure and be a sustainable broadband service provider, through past projects that demonstrate the depth of expertise and preparedness it has implemented in the past. MDC's enterprise network is comprised of over 650 sites connected through an array of leased lines, fiber optics, and broadband wireless connectivity. ETSD's technical team has engineered and designed data centers including inside and outside plant for critical public safety systems such as 911 emergency, 311 answer center, the County's central data center and other facilities, including data, voice and video in traditional environments, and new converged services architectures such as VOIP and video conferencing which ride on the enterprise metropolitan county network. ETSD's technical team has on-going responsibility for numerous enterprise-wide system design, provisioning, deployment, and support of projects, including: (1) 800 MHz Radio System, a countywide enterprise 40 channel radio system supporting local government and quasi-government agencies, including public schools and public safety agencies for the unincorporated county and municipalities. (2) A 450 MHz Radio System, a system primarily for MDC Fire-Rescue Department for communications needs. The structure is a countywide simulcast system with 37 sites that supports 2,000 fire personnel. (3) Fiber Optic Network, a fully redundant Fiber Optic network

configured to encompass the majority of MDC's critical sites employing DWDM and SONET technology to maximize the utilization of the existing fiber plant while accommodating the exploding growth of new and existing services. (4) Wireless Data Communication Systems – ETSD has deployed multiple wireless data communication systems providing broadband backhaul circuits for 40 facilities that are difficult to get fiber to or remote. MDC has the technology support and maintenance in place and all supporting infrastructure, including ownership of the radio frequency license, fiber optic and network management infrastructure. Established business processes are also in place including an expedited procurement process for Recovery Act projects, a financial and billing system, and an outward facing customer service center. The overall infrastructure cost of the broadband system, including engineering, design, and deployment is \$110,881,850. The federal request is \$88,565,854. Miami-Dade County's overall match totals \$22,315,996, (20.1%) and a letter of match commitment is provided at the end of the application (see Supplemental Information 3) detailing the cash and in-kind contributions. Overall expected subscriber projections for the project are reflective of MDC internal subscribers including police and fire-rescue personnel, as well as, traffic and mobile field employees. By the end of year two, 6,921 County users are expected to be on the broadband system; by the end of year three and beyond, 9,988 County users will subscribe to the system. These estimates do not include public users, riders of public transportation accessing Wi-Fi. MDC is conducting a pilot survey to gauge the likely usage rates on public transit. The number of jobs estimated to be created is 12 direct jobs (at ETSD), including 5 engineers, 5 technicians, 1 administrator and 1 engineering supervisor. Up to 95% of the project implementation will require the procurement of services from contractors/vendors (integrator). It is estimated that a project of this magnitude will generate at least 60 direct jobs for the integrator company during the grant period for services that will include site preparation, administrative support and technical deployment. The successfully deployed technologies described above, the experienced technical staff, the business support functions and processes, all uniquely position MDC with the supporting infrastructure to immediately begin the planning, deployment, provisioning and operation of the project if awarded.