Broadband USA Applications Database

Applicant Name: ADAMS COUNTY COMMUNICATIONS CENTER, INC.

Project Title: ADCOM 911/DIA Regional Broadband Public Safety Network

Project Type: Comprehensive Community Infrastructure

_______________________ Executive Summary _____________________

Opportunity Within public safety, the last decade has seen an explosion in the use of real-time information by first responders. Mobile Data Terminals (MDTs) have gone from being a novelty to an essential tool, with the number of applications available to first responders growing exponentially. This increased demand for information has put tremendous pressures on the underlying network infrastructure. While the commercial carrier networks allowed for the adoption of first generation public safety applications, the second generation of real-time data exchange tools have outpaced what the commercial market can offer. The public safety community requires a robust, secure, reliable wireless broadband network with maximum coverage. As one of the 21 recipients of a waiver by the Federal Communications Commission (FCC) to develop a broadband, wireless, Long Term Evolution (LTE) network for Public Safety using the 700MHz spectrum, the Adams County Communications Center (ADCOM 911) and Denver International Airport (DIA) are poised to develop the wireless network desperately needed by public safety agencies, setting the stage for regional development and eventually integration into a national public safety broadband network. In addition to providing public safety end users wireless broadband access, this project will also begin the development of a public safety fiber network linking 4 Public Safety Answering Points (PSAP) and other community anchor institutions throughout the greater Denver area. This fiber network will allow PSAPs to integrate data between agencies and begin to realize the benefits of Next Generation 9-1-1. Project Description ADCOM 911 is a multi-jurisdictional public safety communications center that provides voice and data services to five law enforcement agencies and ten Fire/EMS agencies. We serve agencies at the municipal and county levels as well as special districts in both urban and rural areas with a total population of approximately 440,000. The Denver International Airport is by land size at 53 square miles (140 km2), the largest international airport in the United States, and the third largest international airport in the world. In 2008, Denver International Airport was the tenth busiest airport in the world by passenger traffic with 51,245,334 passengers. It was also the fifth busiest airport in the world by aircraft movements with 625,884 movements. The 33,000 acres (52 sq mi; 130 km2) of land occupied by the airport is surrounded by Adams County. Working together, ADCOM 911 and DIA plan to implement up to 40 unique LTE access points throughout Adams County and the DIA property. First responders within the field will use a variety of end-user devices to access the network for a variety of data needs including records access, criminal checks, Automatic Vehicle Location and video based applications. This network will utilize existing and new infrastructure to backhaul all data to the centralized Evolved Packet Core (Core) located at ADCOM 911 facilities. In addition to enhancing the wireless access for first responders, the corresponding network infrastructure will serve the purpose of interconnecting 15 community anchor
institutions. Proposed Service Area The initial proposed service area is the entirety of Adams County, Colorado and the entire property of DIA. Adams County encompasses approximately 1,200 square miles with a population of 440,000; it is 18 miles from north to south and 72 miles from east to west. The county is immediately north of the City and County of Denver and is the 5th most populous county in the state. With 6 municipalities and a large unincorporated region, the population is a unique mix of urban, suburban and rural populations. Denver International Airport is the largest international airport in the United States at 53 square miles and the 3rd largest in the world. DIA is surrounded on 3 sides by Adams County, and uses first responders from Adams County and the City and County of Denver in emergency plans and daily operational activities. Number of households Adams County has an estimated 164,000 households, all of which will be served by first responders using this network. As an international airport property, DIA has no established households. Number of community anchor institutions The proposed project will interconnect 13 community anchor points: 4 PSAPs, 4 municipal governments, 2 county governments, 1 state judicial district, 1 school district and 1 federal center. The specific anchor institutions are: -ADCOM 911 -Thornton Communications Center -Denver Unified Communications Center -Jefferson County Sheriffs Communications Center -Adams County Government -Jefferson County Government -City of Commerce City Government -City of Brighton Government -City of Thornton Government -City of Northglenn Government -State of Colorado 17th Judicial District -Brighton 27J School District -Denver Federal Center Proposed services and applications The primary proposed service will be a wireless broadband LTE network using the 700MHz public safety spectrum. The network will offer Internet Protocol (IP) services to any public safety agency within the service area and any first responder roaming into the network with the appropriate equipment. A secondary service will be the fiberoptic interconnection of multiple PSAPs creating an IP network to transmit the wireless data and begin to implement Next Generation 9-1-1 services. Approach to non-discrimination and interconnection As a requirement of the FCC waiver, the wireless network will be open to any public safety responder from any level of government that has the requisite LTE compatible equipment. Type of broadband system The wireless network will implement the 3GPP revision 8 standards for LTE to create a flat IP based network. The fiber-optic network will utilize standard TCP/IP. Qualifications of applicant Together, ADCOM 911 and DIA have designed, implemented and managed multiple wired and wireless networks currently used by first responders. ADCOM 911 successfully implemented the first 700MHz Simulcast Land Mobile Radio (LMR) system in the nation. Due to their nature, both ADCOM 911 and DIA have experience working with a variety of governmental, public and private organizations and managing multi-agency projects. Overall infrastructure cost of the system The overall cost of the project is $19,837,091. Overall expected subscriber projections By the end of the 3-year grant cycle, ADCOM 911 and DIA expect this network to be used by approximately 2,000 first responders. Number of jobs estimated to be created The ADCOM 911/DIA Regional Broadband Public Safety Network will create an estimated 213 job years. Of these, it is estimated that 136 will be from direct and indirect effects and that 77 will be from induced effects.