Broadband USA Applications Database

Applicant Name: IOWA HEALTH SYSTEM

Project Title: Iowa Healthcare Plus Broadband Extension Project

Project Type: Comprehensive Community Infrastructure

_______________________ Executive Summary ___________________

a. OPPORTUNITY Iowa is a largely rural state, heavily dependent on farming, with few metro areas (the largest is Des Moines at 200,000 pop). In any predominantly non-metropolitan area, providing network connectivity is difficult and expensive. BTOP funding would allow rural Iowan's to overcome the distance penalty inherent in non-metro areas and enhance educational, healthcare, employment and government service opportunities for the entire state. The particular opportunity available is the leveraging of federal funds to improve healthcare in the entire State of Iowa by working collaboratively with the Iowa Communications Network (ICN), which operates an existing, but limited capacity, state-owned fiber optic network. Making fast broadband connectivity available to healthcare providers lays the foundation for state-of-the-art telemedicine, remote diagnosis, health and patient data exchange, research, and records compliance. Healthcare providers include primary care physicians, medical facilities, community health centers, clinics and other providers, and organizations and agencies serving vulnerable populations (e.g., low-income, unemployed, and the aged). Expanding middle mile broadband infrastructure also will enable last mile broadband access to homebound patients and support more effective primary, specialty, and preventive care, result in lower cost treatment, and permit timely diagnosis of patients with chronic illnesses. Healthcare-related facilities such as hospitals and health clinics are community anchor institutions and critical community facilities that serve important public health and public safety goals. b. SERVICE AREA The multiple service areas of the project encompass the entire state of Iowa, including Council Bluffs, Sheldon, Estherville, Calmar, Ankeny, Creston Ames, Bettendorf, Burlington, Cedar Falls, Cedar Rapids, Clinton, Davenport, Des Moines, Dubuque, Fort Dodge, Iowa City, Marshalltown, Mason City, Muscatine, Ottumwa, Sioux City, Waterloo and West Des Moines. There are seven service areas based on groups of contiguous counties; three of these service areas are classified as underserved. c. HOMES & BUSINESSES PASSED This is a Middle Mile application that targets service to healthcare community anchor institutions (CAI) and other entities prioritized by Recovery Act section 6001, including other CAI, community colleges and public safety agencies. Through our provision of Middle Mile service, we will enable Last Mile providers to offer high-speed broadband service to 653,603 households and 134,814 businesses as projected using current census data and local telephone exchanges within 4 km of the Point of Interconnection. d. COMMUNITY ANCHOR INSTITUTIONS PASSED The number and kind of CAI, public safety entities, and critical community organizations passed and/or involved with the project are: Medical or Healthcare Providers - 1,692 - Physicians & Surgeons - 982 - Chiropractors DC - 327 - Clinics - 142 - Health Services - 129 - Podiatrists - 40 - Hospitals - 38 - Home Health & Health Care Equipment - 32 - Insurance-Health & Accident - 1 - Anesthetists - 1 Public Safety - 70 - County Sheriff - 12 - City Police - 20 - City Fire - 38
Other Government Facilities - 40 - County Courthouse - 16 - City Hall - 24 TOTAL: 1,802 This represents the primary market for the project, which will provide access to project services to each of these CAI. In addition, the project will enable Internet transport services to ICN, with connects to thousands of CAI throughout all of Iowa’s 99 counties as detailed in its application.

PROPOSED SERVICES & APPLICATIONS For the Middle Mile network, the end users will determine the applications they desire to use. For direct connections to healthcare-related CAI, the initial plan is to provide high-speed, dedicated, secure heathnet access for interexchange of data and services among the healthcare entities connected. For CAI and end user connectivity, the services are focused on providing high speed (10 Mbps or greater) Internet connectivity, along with available transport services (in 10 Mbps increments) to Internet exchange points in Chicago and Denver, as well as connectivity to Internet2 and National Lambda Rail at those locations. For Last Mile providers, the project will provide wireless tower space and facilities plus backhaul/transport on a point-to-point basis plus bulk internet services. The project will promote the healthcare reform goals of the Obama Administration:

- Advance the use of Electronic Health Records (EHR): The project will enable independent physicians to be meaningful users of EHR and to offer benefits of EHR to their patients.
- Improve coordination of care through the healthcare continuum: The project provides infrastructure to support a health information exchange to improve the patient healthcare delivery system. The exchange will enable different providers to access patient information, including primary care physicians, specialists, home healthcare providers, hospitals, pharmacies, laboratories and other providers. The ability to electronically exchange information easily and rapidly is absolutely essential to timely and efficient healthcare and limits redundant services by different providers. Ultimately healthcare costs are reduced and patient outcomes are improved.
- Keep patients healthier and out of the hospital: The project will enable management of chronic disease in the patient’s home. This goal is particularly important in less densely populated areas to allow providers to communicate with high-risk patients on a daily basis regarding their disease and care. Closely monitored chronic disease patients have a lower incidence of preventable hospitalizations and a better quality of life. The project is focused on creating connectivity among key access points across Iowa, especially in rural areas where the residents are often 30 or more minutes away from a healthcare provider.

f. NON-DISCRIMINATION AND INTERCONNECTION There are no restrictions on service for authorized users of the Network. The goal is to provide an open system as a public resource, through strong and sound interconnection and non-discrimination BTOP-aligned practices, as well as to Internet and Internet2 networks. IHS’ network management policies and practices will provide services on an equitable, non-discriminatory, statewide basis. IHS commits to the non-discrimination and interconnection obligations specified in the NOFA. IHS also intends to offer managed services, such as telemedicine. IHS intends to partner with Last Mile providers to enable end user services. Participating end users will have unfettered direct access to any lawful applications on the Internet, on a nondiscriminatory basis, in compliance with FCC rules and policies.

g. TYPE OF SYSTEM DEPLOYED IHS intends to deploy standards-based (IEEE) wide-area, open access, carrier neutral Ethernet transported on underlying Dense Wavelength Division Multiplexing (DWDM), with network extensions that may include standard telecommunications carrier circuits.

h. QUALIFICATIONS OF APPLICANT IHS is Iowa’s first and largest integrated healthcare system and has relationships with 26 hospitals in metro and rural communities and more than 140 physician clinics in Iowa, western Nebraska and eastern Illinois. IHS has established and currently operates its wholly owned, purpose-built 3,200 route-mile fiber optic network. This network is used for IHS’ system-
wide internal traffic and provides a variety of data transmission services among IHS facilities and affiliated entities. IHS' investment in this fiber network greatly enhances the feasibility and viability of IHS to deploy the project's extensions to additional healthcare facilities and other entities in underserved areas. IHS' current network includes extensions to Chicago and Denver for interconnection with Internet2 and/or National Lambda Rail, as well as connecting to other carriers at centralized (and cost efficient) carrier hotels and POP at those locations.

i. OVERALL COST OF INFRASTRUCTURE

The estimated total cost of the project is $27,568,767.

j. SUBSCRIBER PROJECTIONS

Within the project service area, there are 1,692 healthcare-related entities (1,802 total CAI), 653,603 households and 134,814 businesses to which services will be accessible. Business entity data is based on census data by city. In order to sustain project infrastructure, only 336 CAI would need to be served within the first eight years of the project, which is a very realistic expectation (see attached Pro Forma illustrating sustainability projections).

k. JOBS CREATED

IHS estimates the project will create, directly and indirectly, 300 'job-years' utilizing the Council of Economic Advisor's guide.