Broadband Infrastructure Application
Submission to NTIA – Broadband Technology Opportunities Program

Submitted Date: **Easygrants ID: 7294**	
Funding Opportunity: Broadband Technology Opportunities Program	**Applicant Organization:** IOWA HEALTH SYSTEM
Task: Submit Application - BTOP	**Applicant Name:** Ms. Sabra K. Rosener

Table of Contents

Submitted Date:	Easygrants ID: 7294	
Funding Opportunity: Broadband Technology Opportunities Program	**Applicant Organization:** IOWA HEALTH SYSTEM	
Task: Submit Application - BTOP	**Applicant Name:** Ms. Sabra K. Rosener	

A. General Application Information

Applicant Information	
Name and Federal ID for Applicant	
DUNS Number	836204271
CCR # (CAGE)	4ZP90
Legal Business Name	IOWA HEALTH SYSTEM
Point of Contact (POC)	SABRA ROSENER 5152413390 Ext. Rosenesk@ihs.org
Alternate POC	CATHY SIMMONS 3193612336 Ext. simmonca@ihs.org
Electronic Business POC	SABRA ROSENER 5152413390 Ext. Rosenesk@ihs.org
Alternate Electronic Business POC	CATHY SIMMONS 3193612336 Ext. simmonca@ihs.org

Name and Contact Information of Person to be Contacted on Matters Involving this Application:	
Prefix	Ms.
First Name	Sabra
Middle Name	K.
Last Name	Rosener
Suffix	
Telephone Number	515-241-3390

Submitted Date:	Easygrants ID: 7294	
Funding Opportunity: Broadband Technology Opportunities Program	**Applicant Organization:** IOWA HEALTH SYSTEM	
Task: Submit Application - BTOP	**Applicant Name:** Ms. Sabra K. Rosener	

Fax Number	
Email	snrosener@gmail.com
Title	Vice President of Government Relations

Additional Contact Information of Person to be Contacted on Matters Involving this Application:

Project Role	Name	Phone	Email
Secondary Point of Contact	Cathy A, Simmons	3193612336	SimmonCA@ihs.org

Environmental Point of Contact

Prefix:
Name: Rosener, Sabra
Suffix:
Telephone Number: 5152413390
Title: Vice President of Government Relations

Organization Classification	
Type of Organization	Non-profit Corporation
Is the organization a small business?	No
Does the organization meet the definition of a socially and economically disadvantaged small business concern?	No

Authorized Organizational Representative	
AOR Name	ROSENER, SABRA

Submitted Date:	Easygrants ID: 7294
Funding Opportunity: Broadband Technology Opportunities Program	**Applicant Organization:** IOWA HEALTH SYSTEM
Task: Submit Application - BTOP	**Applicant Name:** Ms. Sabra K. Rosener

Result	Applicant Authorized

Project Title and Project Description

Project Title: Iowa Healthcare Plus Broadband Extension Project

Project Description: This Iowa Middle Mile project expands an existing broadband infrastructure for direct access to underserved healthcare providers and creates a Middle Mile foundation for (i) extension of healthcare services directly to patients and (ii) open access, carrier-neutral infrastructure available for other broadband-based services throughout the region.

CCI Priority Checklist

The following items were selected from the CCI Priority Checklist:

1. This project will deploy Middle Mile broadband infrastructure to community anchor institutions.

2. The project will deploy Middle Mile broadband infrastructure and has incorporated a public-private partnership among government, non-profit and for-profits entities, and other key community stakeholders.

3. This project will deploy Middle Mile broadband infrastructure in economically distressed areas.

4. This project will deploy Middle Mile broadband infrastructure to community colleges.

5. This project will deploy Middle Mile broadband infrastructure to public safety entities.

7. This project will deploy Middle Mile broadband infrastructure and the applicant has proposed to contribute 30 percent or more in non-federal cost match.

Comprehensive Community Infrastructure Components

The following items were selected from the Comprehensive Community Infrastructure Components:

Middle Mile

BIP Applicants

Broadband Infrastructure Application
Submission to NTIA – Broadband Technology Opportunities Program

Submitted Date:	Easygrants ID: 7294	
Funding Opportunity: Broadband Technology Opportunities Program	**Applicant Organization:** IOWA HEALTH SYSTEM	
Task: Submit Application - BTOP	**Applicant Name:** Ms. Sabra K. Rosener	

Have you also applied to BIP for funding in the sample proposed funded service area?
  ➢ No

If Yes, please provide the project title and Easygrants ID number:
Title of Joint BIP Application:
Easygrants ID:

Other Applications

Is this application being submitted in coordination with any other application being submitted during this round of funding?

  ➢ Yes

Easygrants ID	Project Title
▉	Bridging the Digital Divide for Iowa's Communities

If YES, please explain any synergies and/or dependencies between this project and any other applications.

Iowa Health System (IHS) and Iowa Communications Network (ICN) are the two largest non-carrier networks in Iowa. They are coming together to create a 5,000 mile public purpose network that dramatically increases comprehensive community infrastructure for anchor institutions, including community colleges and their planned public computing centers, hospitals, clinics, and physicians, public libraries, K-12 schools, and municipal, county, state, and federal agencies. These Middle Mile applications link two distinct networks at both the physical infrastructure level (i.e. huts, towers, and lightwaves) and the logical level (VLANs and IP services) by creating common Network Access Points (NAPs), interconnected to national NAPs in Chicago and Denver. These projects will create a new public / private partnership (ICN Public / IHS Private) that reaches every community college in the state, creates 21 new towers for wireless services, establishes 8 new IP exchange NAPs, and extends to every county seat in the state with a minimum of 10 Gig broadband backbone middle mile to bolster and stimulate economic development in rural settings.

ICN has worked closely with IHS and currently provides connectivity to a number of IHS clinics in areas where ICN has fiber facilities but IHS does not. IHS also has fiber facilities where ICN

Submitted Date:	Easygrants ID: 7294	
Funding Opportunity: Broadband Technology Opportunities Program	**Applicant Organization:** IOWA HEALTH SYSTEM	
Task: Submit Application - BTOP	**Applicant Name:** Ms. Sabra K. Rosener	

does not, and serves customers that ICN cannot serve under its statutory authority. ICN and IHS are collaborating for Round 2 BTOP grants that will benefit all citizens of Iowa. The synergies are apparent by viewing a map overlaying IHS' network on ICN's network (map attached). As a state-owned entity, ICN is limited by Iowa statute to serving state agencies, institutions, educational facilities, and healthcare facilities. ICN can and does provide services, including Middle Mile connectivity, to 2617 authorized CAI throughout Iowa's 99 counties. In turn, those CAI provide various Last Mile services to their customers.

IHS is Iowa's first and largest integrated healthcare system through relationships with 26 hospitals in metropolitan and rural communities and more than 140 physician clinics in Iowa, western Nebraska, and eastern Illinois. IHS already has established and currently operates its wholly owned, purpose-built 3,200 route-mile fiber optic network.

The goal of the complementing applications is to allow ICN and IHS to interconnect their facilities where appropriate, enable Middle Mile services at a more granular level, and enable Last Mile providers to reach essentially all Iowans to have access to broadband services.

While both the ICN and IHS applications are complementary, there is no critical dependency of either application on the other. Failure of one application to get funded eliminates the potential synergies and network interconnection benefits as well as the combined reach of the two projects, but does not negate each project's individual benefits to Iowa and the CAI to be served.

Individual Background Screening

Is the Applicant exempt from the Department of Commerce requirements regarding individual background screening in connection with any award resulting from this Application?

➤ No, Applicant is subject to these requirements

If the answer to the above question is "No," please identify each key individual associated with the Applicant who would be required to complete Form CD-346, "Applicant for Funding Assistance," in connection with any award resulting from this Application:

Name	Title	Employer
Sabra K Rosener	Vice President of Government Relations	Iowa Health System, Inc.

Submitted Date:	Easygrants ID: 7294	
Funding Opportunity: Broadband Technology Opportunities Program	**Applicant Organization:** IOWA HEALTH SYSTEM	
Task: Submit Application - BTOP	**Applicant Name:** Ms. Sabra K. Rosener	

B. Executive Summary, Project Purpose and Benefits

Essay Question

Executive Summary of the proposed project:

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

Submitted Date:	Easygrants ID: 7294	
Funding Opportunity: Broadband Technology Opportunities Program		**Applicant Organization:** IOWA HEALTH SYSTEM
Task: Submit Application - BTOP		**Applicant Name:** Ms. Sabra K. Rosener

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

Submitted Date:	Easygrants ID: 7294
Funding Opportunity: Broadband Technology Opportunities Program	**Applicant Organization:** IOWA HEALTH SYSTEM
Task: Submit Application - BTOP	**Applicant Name:** Ms. Sabra K. Rosener

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

e. 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 healthnet 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.

Submitted Date:	Easygrants ID: 7294	
Funding Opportunity: Broadband Technology Opportunities Program	**Applicant Organization:** IOWA HEALTH SYSTEM	
Task: Submit Application - BTOP	**Applicant Name:** Ms. Sabra K. Rosener	

- 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 equable, 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.
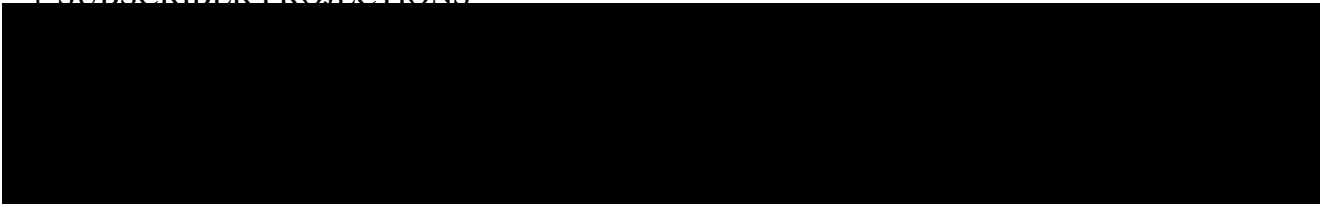
Submitted Date:	Easygrants ID: 7294	
Funding Opportunity: Broadband Technology Opportunities Program		**Applicant Organization:** IOWA HEALTH SYSTEM
Task: Submit Application - BTOP		**Applicant Name:** Ms. Sabra K. Rosener

i. OVERALL COST OF INFRASTRUCTURE
The estimated total cost of the project is $27,568,767.

j. SUBSCRIBER PROJECTIONS

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

Project purpose:

a.PROBLEM ADDRESSED
Applications drive bandwidth requirements. New applications are far more bandwidth intensive, thus driving the need for greater capacity. The healthcare industry has a particular need for high bandwidth connectivity to support telemedicine, data centers, patient care, remote diagnostics, data security, government reporting and compliance and electronic health records. Healthcare is a key priority of the Obama administration and the Recovery Act. Healthcare, as practiced today,
i. involves very large and rapidly increasing data management responsibilities, including medical record keeping, storage, exchange, and remote diagnosis;
ii. is dependent on current medical information and research requiring real time, high speed broadband access to the most current medical research available;
iii. is dependent on technology and scale;
iv. has a mobile patient base.

Providing healthcare in rural areas, such as Iowa, is made more difficult by the distances patients need to travel to reach medical resources. Existing network infrastructure lacks capacity, does not serve underserved areas, and is subject to legacy pricing structures based on sunk costs and regulatory restrictions.

Submitted Date:	Easygrants ID: 7294	
Funding Opportunity: Broadband Technology Opportunities Program	**Applicant Organization:** IOWA HEALTH SYSTEM	
Task: Submit Application - BTOP	**Applicant Name:** Ms. Sabra K. Rosener	

To meet today's enhanced healthcare needs, healthcare providers absolutely require high bandwidth (at least 100 Mbps) connectivity. To provide that connectivity, widespread deployment of Middle Mile infrastructure is a necessary first step to enable greater bandwidth connectivity to healthcare providers and other users at fair and reasonable prices.

b. SOLUTION PROVIDED
The proposed project leverages existing infrastructure that is dedicated to the healthcare community. Combining IHS' existing (private) investment in fiber optic network with BTOP (public) funds, and collaborating with the ICN in its linked BTOP application, will provide cost effective, high bandwidth connectivity in the proposed service areas. ███████████████ ██ ██ Fiber optic cables have essentially unlimited capacity, controlled by the electronics used to activate the network. By carefully choosing the appropriate technology, in this case, Dense Wavelength Division Multiplexing (DWDM), the network capacity can grow almost indefinitely on controlled incremental adjustments.

The project has two goals: (1) for healthcare, to provide a ubiquitous, technology neutral (wired or wireless) network to locations and patients not otherwise reachable without grant support; and (2) for economic development, to create a carrier-neutral network available to any private carrier, enterprise or entity willing to pay a reasonable price for capacity, thus supporting job creation throughout the region served.

c. SIGNIFICANCE & REPLICATION
This project has statewide significance and will enhance the effectiveness of BTOP grant funds by extending connectivity to rural healthcare entities located in remote areas. Areas targeted include those where new network construction may not be financially feasible and ultimately will provide the capability to reach all the way to a patient's home. Beyond healthcare, the combination of the IHS and ICN applications will create a new 5,000-mile public purpose network that dramatically increases comprehensive community infrastructure for CAI. The promise for future replication and collaboration between IHS and ICN to benefit Iowa residents is probable. Healthcare dedicated networks require higher minimum bandwidth. IHS is committed to strengthening its public-private partnerships in order to extend broadband infrastructure and affordable access throughout Iowa. This project can serve as a model for

Submitted Date:	Easygrants ID: 7294	
Funding Opportunity: Broadband Technology Opportunities Program	**Applicant Organization:** IOWA HEALTH SYSTEM	
Task: Submit Application - BTOP	**Applicant Name:** Ms. Sabra K. Rosener	

healthcare dedicated networks and their interconnection with other networks to form seamless service for all Middle Mile and Last Mile users, particularly in rural areas.

There were no Round 1 BTOP grants awarded in Iowa. This project provides a backbone framework for ubiquitous extension of fiber and wireless Last Mile services in substantially all of Iowa. The linkage between IHS' application and ICN's application establishes a model for future public-private partnerships to meet the broadband needs of Iowa's citizens.

d. UNDERSERVED & UNSERVED AREAS
This project does not serve any unserved areas, although Last Mile providers connecting to the facilities to be provided by this project may extend their services to such areas. IHS has established by market survey that the proposed funded service area includes at least two interconnection points in underserved areas. Given the rural nature of Iowa, and the similar size of many of the remaining service areas, IHS believes it is likely that at least some of the other service areas will also meet the underserved definition as well. In any event, all of the areas served have pockets of population which are rural and underserved with regard to health information technology services.

e. STATUTORY PURPOSE.
This project addresses four of the BTOP statutory priorities. Specifically it (1) enhances broadband service offerings in underserved areas through fiber and tower infrastructure; (2) improves opportunities for broadband education, awareness, training, access, equipment, and support to healthcare and other CAI, through the support of advanced applications, provision of direct, dedicated connections to major markets in Chicago and Denver, and connections to Internet2 and National Lambda Rail; (3) enhances broadband service offerings to public safety organizations; and (4) furthers economic growth and job creation in a rural state for Middle Mile infrastructure and its enabler and multiplier effect on CAI, last mile providers and the general public.

Recovery Act and Other Governmental Collaboration:

IHS has received a $7.8 million grant from the FCC Rural Healthcare Pilot Program. That project partners with existing carriers to create last mile access connections to rural healthcare providers and to make that network available to any healthcare-related entity. Phase I of the project became operational in mid 2009 in partnership with ICN (a state-owned network) and

Submitted Date:	Easygrants ID: 7294	
Funding Opportunity: Broadband Technology Opportunities Program	**Applicant Organization:** IOWA HEALTH SYSTEM	
Task: Submit Application - BTOP	**Applicant Name:** Ms. Sabra K. Rosener	

Mediacom (a publicly owned company). BTOP would fund middle mile connections to support the FCC grant.

IHS has not been a recipient of Recovery Act (ARRA) funds for this project. When possible, this project will leverage other ARRA funds. IHS has a $20 million pending application before NTIA for a Beacon Community Project Cooperative Agreement, which would establish a health information exchange (HIE), develop and maintain a clinical content document repository, establish a community database for population health, and pilot a Virtual Advanced Medical Team for Complex Patients. Beacon funds do not create infrastructure that would overlap this project but would support applications to complement and utilize this infrastructure project. Central Iowa Hospital Association submitted a 2nd round BTOP SBA grant. Its project requests $8,321,815 for a rural Iowa telehealth initiative. SBA funds would support applications to complement and utilize this infrastructure project but do not create overlapping infrastructure.

The Iowa Department of Public Health received State HIE Program funding and is establishing a statewide HIE. The advisory board for this process is the Iowa e-Health Executive Committee (see support letter). To insure that BTOP infrastructure will complement the State HIE, IHS' CIO is a participant in the State Health Information Technology (HIT) planning process and serves on the Iowa e-Health Executive Committee.

For healthcare providers, Regional Extension Center (REC) will play a crucial role in facilitating EHR adoption rates in small physician clinics particularly in rural areas. The Iowa Foundation for Medical Care (IFMC) is the designated REC; This project will ensure REC services are fully utilized.

IHS has supported community colleges, including HIT training programs. For this grant, Community College Consortia to Education HIT Professionals, both IHS and its Cedar Rapids affiliate provided letters of commitment to area programs offered by Des Moines Area Community College & Kirkwood Community College. Program graduates will be employed to support the proposed network.

ARRA includes incentives for HIT, which contemplates infrastructure investment to support and promote electronic exchange and use of health information. This project will leverage incentive funds for hospitals and doctors. The Medicare and Medicaid reimbursement rates for Iowa physicians and hospitals are among the lowest in the country and contribute to the state's

Submitted Date:	Easygrants ID: 7294	
Funding Opportunity: Broadband Technology Opportunities Program		**Applicant Organization:** IOWA HEALTH SYSTEM
Task: Submit Application - BTOP		**Applicant Name:** Ms. Sabra K. Rosener

shortage of healthcare professionals. This project provides infrastructure to promote delivery of healthcare across Iowa.

Fit with BTOP CCI Priorities:

CHECKED BOXES 1, 2, 3, 4,5 and 7
BOX 1 - Middle Mile broadband infrastructure to community anchor institutions.
IHS, as an integrated healthcare system, already provides some services to healthcare CAI through its relationships with 26 hospitals in metropolitan and rural communities and more than 140 physician clinics in Iowa, western Nebraska and eastern Illinois. This project, when joined with ICN's linked grant application, will extend the much higher speed Middle Mile infrastructure to 2380 CAI in all 99 counties in Iowa (includes 1692 IHS and 688 ICN).

Education
This project includes direct connection to the national education networks of Internet2 and National Lambda Rail, as well as three healthcare colleges in the IHS system. This project also makes available 15 towers located on or near the main campuses of each community college in Iowa. These towers will provide wireless access directly to the community colleges as well as providing tower space for Last Mile providers to add their own equipment for serving educational (as well as business and consumer) users. Broadband access for community colleges is important for training of healthcare professionals, including continuing education and distance learning opportunities. Sufficient, usable broadband enhances the sharing of applications. The premise is to provide equal educational opportunities regardless of where the student lives in the state.

Economy
Broadband spurs growth. Businesses require broadband capabilities to operate. Today, many employers have acquired their workforce through the Internet using various cyber tools, whether that includes websites, social networking applications, employment firms, governmental agencies and referral programs. High-speed broadband promotes improved market penetration and enhances business integration and supply/distribution chain management. Broadband also provides a ready forum for educational programs to promote business and economic success. And vital to Iowa, high-speed broadband access eliminates the distance penalty for rural Iowa businesses – employers and employees.

Health Care

Submitted Date:	Easygrants ID: 7294	
Funding Opportunity: Broadband Technology Opportunities Program	**Applicant Organization:** IOWA HEALTH SYSTEM	
Task: Submit Application - BTOP	**Applicant Name:** Ms. Sabra K. Rosener	

Hospitals, family physicians and specialists are moving toward e-health applications, whether it is for specialty treatments, therapy or patient monitoring at home or in an ICU. The exchange of patient records from one facility to another saves time, money and lives. Once available only in large metropolitan hospitals, real-time patient diagnostics through technology can now be offered to small rural clinics. ePharmacy is available but not in all parts of Iowa, which would reduce the amount of recordkeeping, potential abuse, and increase convenience for citizens. Increased connectivity also enhances capability to meet regulatory and reporting requirements necessary in an integrated healthcare environment. Healthcare providers increasingly rely on applications supported by high-speed broadband and would greatly benefit from the proposed network (see support letters from the Iowa Hospital Association and the Iowa Medical Society).

Government
In its linked application, the ICN proposes to serve all the governmental entities within its statutory authority. That authority does not include local governmental entities (e.g., cities or counties) unless they have a specific "state purpose." IHS, via direct connection to these CAI, or via its partnership with one or more Last Mile providers, will provide services to those ICN-ineligible entities. Online availability of government services provides essential service outreach, contains government costs and breaks distance barriers for rural residents. Public Safety and Homeland Security have growing needs for robust communication capabilities and training for the communities throughout the State. With enhanced broadband, more of these applications are available to ensure immediate support during times of peril.

BOX 2 - Incorporated public-private partnership
IHS, as a private nonprofit entity, is partnering with Iowa state-owned ICN to offer high-speed broadband Middle Mile service throughout Iowa with a focus on CAI, community colleges and public safety institutions. In this project, IHS will build upon its existing contracts with some of Iowa's 150 independent rural telephone companies, cable companies such as Mediacom, and national carriers such as Qwest and Paetec (formerly McLeodUSA). Illustrative of this last mile commitment is the support letter from Dymanic Broadband (see attached). In addition, IHS intends to offer its Middle Mile service to public CAI excluded from ICN service by statute, including county and municipal offices.

BOX 3 - Economically distressed areas
There are 21 counties identified as economically distressed areas in Iowa. This project will provide expanded broadband in three of these counties, and in conjunction with the linked ICN

Submitted Date:	Easygrants ID: 7294	
Funding Opportunity: Broadband Technology Opportunities Program	**Applicant Organization:** IOWA HEALTH SYSTEM	
Task: Submit Application - BTOP	**Applicant Name:** Ms. Sabra K. Rosener	

application, all 21 counties will be have access to Middle Mile services. Providing broadband services to healthcare providers within these areas supports affordable local health services to the benefit of unemployed and low-income residents.

BOX 4 - Community colleges
In conjunction with the linked ICN application, all 15 Iowa community college districts serving more than 417,000 students are supported and connected (see support letter). In particular, each main campus will have wireless, high-speed broadband access through this project.

BOX 5 - Public safety entities
Excluding entities served in the linked ICN application, this project will offer connections to 70 public safety entities, including county sheriffs and municipal police and fire.

BOX 7 - 30 percent or more in non-federal cost match
The total project cost is $27,568,767, and the non-federal share is $9,853,848. This equates to 36% and will be provided through both cash and in-kind contributions.

Is the applicant seeking a waiver of the Buy American provision pursuant to section x.Q of the NOFA?

➢ No

Is the applicant deliquent on any federal debt?

➢ No

If Yes, justification for deliquency:

Are you seeking a waiver of any requirement set forth in the NOFA that is not mandated by statute or applicable law?

➢ No

Is the applicant a current recipient of a grant or loan from RUS?

➢ No

C. Partners
Are you partnering with any other key institutions, organizations, or other entities for this project?
➢ Yes

Submitted Date:	Easygrants ID: 7294	
Funding Opportunity: Broadband Technology Opportunities Program	**Applicant Organization:** IOWA HEALTH SYSTEM	
Task: Submit Application - BTOP	**Applicant Name:** Ms. Sabra K. Rosener	

If YES, key partners are listed below:

Project Role: Other
Name: Swanson, David
Phone: 5157254726
Email: David.swanson@iowa.gov
Address 1: Grimes State Office Building, 400 East 14th Street
Address 2:
Address 3:
City: Des Moines
State: Iowa
Zip Code: 50319
Organization: Iowa Communications Network
Organization Type: State or State Agency
Small business: No
Socially and economically disadvantaged small business concern: No

Description of the involvement of the partners listed above in the project.

IHS is Iowa's first and largest integrated healthcare system through relationships with 26 hospitals in metropolitan and rural communities and more than 140 regional physician clinics. IHS has established and operates its wholly owned, purpose-built 3,200 route-mile fiber optic network. The IHS BTOP project has a potential market of 1692 healthcare-related CAI:

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

Iowa Communications Network has worked closely with IHS, and currently provides connectivity to a number of IHS clinics in areas where ICN has fiber facilities but IHS does not.

Submitted Date:	Easygrants ID: 7294	
Funding Opportunity: Broadband Technology Opportunities Program	**Applicant Organization:** IOWA HEALTH SYSTEM	
Task: Submit Application - BTOP	**Applicant Name:** Ms. Sabra K. Rosener	

IHS also has fiber facilities where ICN does not, and serves customers that ICN cannot serve under its current statutory authority. ICN and IHS are collaborating in submitting Round 2 BTOP applications that will benefit all citizens of Iowa. The potential synergies are apparent by viewing a map overlaying IHS' network on ICN's network (map attached).

As a state-owned entity, ICN is limited by Iowa law to serving state agencies, institutions, educational facilities & healthcare facilities. ICN can and does provide services, including Middle Mile connectivity to 2617 authorized CAI throughout Iowa's 99 counties. In turn those CAI provide various services to their customers.

As a non-profit healthcare provider, IHS is not limited in providing services to customers, but does not have sufficient network infrastructure to reach all areas of Iowa where it has customers. IHS can and does provide connectivity to healthcare providers within reach of its fiber network.

The complementary BTOP applications will allow IHS & ICN to interconnect their facilities where appropriate, enable Middle Mile services at a more granular level& provide direct connectivity to CAI. The projects will also enable Last Mile providers to reach all Iowans within range of the project networks with access to broadband services.

IHS proposes to create new & extend existing network to underserved healthcare providers & to create a Middle Mile foundation for (i) extension of healthcare services directly to patients; & (ii) Middle Mile, open access, carrier neutral infrastructure available for other broadband-based services throughout Iowa.

Submitted Date:	Easygrants ID: 7294	
Funding Opportunity: Broadband Technology Opportunities Program	**Applicant Organization:** IOWA HEALTH SYSTEM	
Task: Submit Application - BTOP	**Applicant Name:** Ms. Sabra K. Rosener	

Both networks will establish common Network Access Points where physical cross-connects can create logical network interconnection (Point-to-Point logical VLANs and IP).

IHS will provide access capacity ▮▮▮▮▮▮ for long haul transport connecting Chicago and Denver NAPs to the statewide NAPs.

Each party will continue to manage, fund and operate its own network as it has been doing for many years. Interconnection and use of each network will be managed using telecom industry-standard operating procedures in the same manner as individual telecommunications carriers manage their networks today; from an operational standpoint this project is an expansion of the existing, working relationship between IHS and ICN.

Because the BTOP grant requirements include a showing of project sustainability (i.e., the ability to cover operating costs without using government funds), both the ICN and IHS increase the utilization of their respective networks by being able to interconnect, to provide each other transport services, produce additional revenue by broadening network use and availability and reduce operating costs by being able to share some services (e.g., purchasing Internet access in Gbps units at Chicago or Denver NAP's at substantially reduced costs).

Because the nature of the partnership is in the form of linked, individual applications rather than a combined application, there is no financial contribution by either party to the application of the other party. Each partner will provide matching funds for its individual application and will provide separate financial statements and pro-formas for their respective projects.

Submitted Date:	Easygrants ID: 7294	
Funding Opportunity: Broadband Technology Opportunities Program	**Applicant Organization:** IOWA HEALTH SYSTEM	
Task: Submit Application - BTOP	**Applicant Name:** Ms. Sabra K. Rosener	

D. Congressional Districts

Applicant Headquarters

➢ Iowa

Project Service States

Iowa

Project Service Areas

Iowa - 1

Iowa - 2

Iowa - 3

Iowa - 4

Iowa - 5

Will any portion of your proposed project serve federally recognized tribal entities?

➢ No

Indicate each federally recognized tribal entity your proposed project will serve.

Have you consulted with each of the federally recognized tribal entities identified above?

➢ No

E. Service Area Details

Submitted Date:	**Easygrants ID: 7294**
Funding Opportunity: Broadband Technology Opportunities Program	**Applicant Organization:** IOWA HEALTH SYSTEM
Task: Submit Application - BTOP	**Applicant Name:** Ms. Sabra K. Rosener

Is the applicant seeking a waiver for providing less than 100% coverage of a service area?

➢ No

Project Details

Submitted Date:	Easygrants ID: 7294	
Funding Opportunity: Broadband Technology Opportunities Program	**Applicant Organization:** IOWA HEALTH SYSTEM	
Task: Submit Application - BTOP	**Applicant Name:** Ms. Sabra K. Rosener	

███████████████████████████   █████
██
████   █████
██████████████████████████   █
████████████████████   ██████
████████████████████████████   █
████████████████████████████   █

██████████   ████████
███████████   ████████████
███████████████████████████   ██████
████████████████████   █████

██

████████████████████   ████
███████████████████████   ████
███████████████████████   ████
███████████████████   ████
██
████   █
████████████████████   █
████████████████   █████
███████████████████████   █
███████████████████████   █

████████████   ██████
██████████████   ██████████
██████████████████████████
████████████████████   ██████

████████████████████████████████████
██
██████████████████████

Submitted Date:	Easygrants ID: 7294
Funding Opportunity: Broadband Technology Opportunities Program	**Applicant Organization:** IOWA HEALTH SYSTEM
Task: Submit Application - BTOP	**Applicant Name:** Ms. Sabra K. Rosener

Submitted Date:	Easygrants ID: 7294	
Funding Opportunity: Broadband Technology Opportunities Program	**Applicant Organization:** IOWA HEALTH SYSTEM	
Task: Submit Application - BTOP	**Applicant Name:** Ms. Sabra K. Rosener	

Submitted Date:	Easygrants ID: 7294	
Funding Opportunity: Broadband Technology Opportunities Program	**Applicant Organization:** IOWA HEALTH SYSTEM	
Task: Submit Application - BTOP	**Applicant Name:** Ms. Sabra K. Rosener	

F. Community Anchor Summary

Community Anchor Summary	
Schools (k-12)	0
Libraries	0
Medical and Healthcare Providers	1692
Public Safety Entities	70
Community Colleges	0
Public Housing	0
Other Institutions of Higher Education	0
Other Community Support Organization	0
Other Government Facilities	40
TOTAL COMMUNITY ANCHOR INSTITUTIONS	**1802**
Historically Black colleges and Universities	0
Tribal Colleges and Universities	0
Alaska Native Serving Institutions	0
Hispanic Serving Institutions	0
Native Hawaiian Serving Institutions	0
TOTAL MINORITY SERVING INSTITUTIONS	**0**

Submitted Date:	Easygrants ID: 7294	
Funding Opportunity: Broadband Technology Opportunities Program		**Applicant Organization:** IOWA HEALTH SYSTEM
Task: Submit Application - BTOP		**Applicant Name:** Ms. Sabra K. Rosener

G. Project Benefits

Demographics

Jobs	
How many direct jobs-years will be created from this project?	96
How many indirect jobs will be created from this project?	96
How many jobs will be induced from this project?	108

Methodology used to estimate jobs:
The Council of Economic Advisor's guide to job creation estimates provides that $100 billion of government spending creates 1,085,355 job-years. For government spending, this equates to $92,000 for the creation of one job year – 64% represents direct and indirect jobs and 36% represents induced jobs. Based on a project budget of $27,568,767 this IHS project will create about 300 job-years. This is the figure used to calculate "job-years" listed in the previous response.

It should be noted that the Council of Economic Advisor's estimates are fairly conservative. In comparison, Information Technology and Innovation Foundation, a technology think tank, and Speed Matters, the campaign of the Communications Workers of America, have created studies that estimate for every $5 billion dollars invested in broadband, 250,000 jobs are created, including 100,000 direct and indirect jobs from telecom and IT equipment spending plus another 150,000 in network effects spurring new online applications and services. This translates into 50 jobs per one million dollars of investment in broadband. Using this calculation, 1,378 jobs will be created by this project.

Project Impact:
The project will have an immediate, unifying effect on healthcare availability in one of the most rural states in the country by connecting 38 more hospitals, 142 clinics and 982 physicians. By building on an existing 3,200 mile foundational fiber network owned by IHS, and adding the reach of Iowa Communications Network's own 2,000 mile network reaching all 99 counties (see EasyGrant #5390), the project will dramatically expand the reach of quality, 21st century healthcare to rural Iowans. By making this network open to all healthcare providers, high speed broadband connectivity can cost effectively and efficiently serve a market of 300,000 potential patients based on access to project services by hospitals and physicians.

Submitted Date:	Easygrants ID: 7294
Funding Opportunity: Broadband Technology Opportunities Program	**Applicant Organization:** IOWA HEALTH SYSTEM
Task: Submit Application - BTOP	**Applicant Name:** Ms. Sabra K. Rosener

██
██
██
█████████████████

██
██
███
███████████████████████████████████████

The linkage of this application with that of ICN (████████████████) in a true, public-private partnership further extends and enhances the broadband services to be provided by the proposed project. The IHS BTOP potential market of total CAI within the proposed service areas includes:

Medical or Healthcare Provider Total: 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 Total: 70
County Sheriff - 12
City Police - 20
City Fire - 38

Other Government Facilities Total:40
County Courthouse - 16
City Hall - 24

TOTAL:1,802

Submitted Date:	Easygrants ID: 7294	
Funding Opportunity: Broadband Technology Opportunities Program	**Applicant Organization:** IOWA HEALTH SYSTEM	
Task: Submit Application - BTOP	**Applicant Name:** Ms. Sabra K. Rosener	

In addition to improving the healthcare of the people served, and because the project is primarily the creation of Middle Mile infrastructure connecting CAI, IHS expects the BTOP-funded project to have a broad, synergistic impact on economic activity in the areas to be served. It will help reduce the distance/remoteness penalty on patients who rely on non-metropolitan healthcare, and as Last Mile projects develop, it should also reduce the distance/remoteness penalty on general business activity, including reduced environmental impact from commuting based on increased availability of telecommuting.

IHS expects to offer services to Last Mile providers at prices at least 20% below current market prices based on its Pro Forma analysis of project sustainability. This pricing is equivalent to ICN prices for similar services. For those providers that have not yet specifically expressed an interest, IHS expects that the availability of fiber-based backhaul with direct connections to Denver and Chicago at the projected price points will make the network very attractive for their future use and expansion.

Vulnerable Populations:
Vulnerable populations – rural, elderly, medically underserved – are over-represented in the proposed service area. The project's ability and plan to serve these groups justifies the investment of federal funds.

Rural: Iowa is a rural agricultural state with almost 3 million residents. Iowa ranks 35 in the country in population density. Of Iowa's 99 counties, only 20 counties are classified as metropolitan areas. Physical distance leaves rural residents geographically vulnerable. In addition, pre-recession indicators from 2007 show that non-metro incomes were 84.6% of metro incomes (a difference of $5000 per capita) and that all counties with unemployment rates in excess of the national average were classified as rural. High-speed broadband service can negate some distance barriers.

Submitted Date:	Easygrants ID: 7294	
Funding Opportunity: Broadband Technology Opportunities Program	**Applicant Organization:** IOWA HEALTH SYSTEM	
Task: Submit Application - BTOP	**Applicant Name:** Ms. Sabra K. Rosener	

Elderly: Iowa's residents are among the oldest in the nation. In 2007, 14.7% of Iowans were at least 65 years of age (5th in the US) and 2.59% were at least 85 years old (3rd in the US). The continued aging of Iowa is projected to increase at a rate higher than the national level. By 2030, 22.4% of Iowans will be seniors and 84 Iowa counties will have at least a 20% senior population. Elderly disproportionately reside in rural areas, comprising 25.4% of residents. Elderly populations are vulnerable – many are on fixed incomes, have physical and mental limitations and require supplemental services for daily living activities. Affordable access to high-speed broadband supports services for seniors and their specific needs.

Medically Underserved: High-speed broadband service permits expanded use of distance learning, telehealth services, and electronic medical records sharing. Broadband will provide direct healthcare services and assist with recruitment and retention of healthcare professionals. The need for direct health services is great. In Iowa, 38% of residents have at least one chronic disease (Lewin Group, 2007). Iowa's mortality rates for the top three chronic conditions (Heart Disease, Stroke, and All Cancers) exceed national averages (CDC, 2007). Other notable chronic health indicators for Iowans include colorectal cancer mortality, COPD mortality for age 45 and older, mental disorder mortality, and obesity. These acute conditions often require emergency care, hospitalization and follow-up care.

Of Iowa's 99 counties, 56 counties are classified in whole or in part as medically underserved areas, and only 6 are metropolitan counties (HRSA, 2008). In total, there are 80 designated medically underserved areas in Iowa. Iowa ranks 44th overall in providing access to primary care physicians. An Iowa Department of Public Health study finds that, to ensure every Iowan has access to health care, at least 250 more providers are needed in underserved communities. The report estimates that nearly 242,000 Iowans will lack reliable access to care by 2015. In addition, Iowa ranks in the lower 10% for certain specialists, including neurosurgeons and psychiatrists.

Level of Need:

Submitted Date:	Easygrants ID: 7294	
Funding Opportunity: Broadband Technology Opportunities Program	**Applicant Organization:** IOWA HEALTH SYSTEM	
Task: Submit Application - BTOP	**Applicant Name:** Ms. Sabra K. Rosener	

Submitted Date:	**Easygrants ID: 7294**
Funding Opportunity: Broadband Technology Opportunities Program	**Applicant Organization:** IOWA HEALTH SYSTEM
Task: Submit Application - BTOP	**Applicant Name:** Ms. Sabra K. Rosener

Submitted Date:	Easygrants ID: 7294	
Funding Opportunity: Broadband Technology Opportunities Program	**Applicant Organization:** IOWA HEALTH SYSTEM	
Task: Submit Application - BTOP	**Applicant Name:** Ms. Sabra K. Rosener	

General Economic Conditions:
Recent flooding and the national recession continue to significantly impact the State of Iowa and its residents.

In June 2008, flooding across the state reached catastrophic levels to become the worst natural disaster in the state's history. As a result, Iowa Governor declared 85 of Iowa's 99 counties disaster areas and damage is estimated at approximately $10 billion. The effects of the floods include: 40,000 Iowans were displaced; whole towns and 4 million acres of tillable acres were covered in water; 125 miles of state roads were washed out; agricultural buildings, acreage, stored grain and equipment sustained significant damage (between $2.3 and $3 billion). In Cedar Rapids alone, 9.2 square miles in the downtown area were flooded. In 2010, rebuilding efforts are continuing across the state.

While the flooding disproportionately affected Iowa, it occurred during a period of national economic crisis – a recession. Recently Iowa has seen steady declines in state revenue. During the past two years, the State of Iowa has faced budget shortfalls. In October 2009, the Governor implemented a mid-year 10% across-the-board cut in state government spending, and while this measure "saved" approximately $564 million, the 2010 Legislature still needed need to raise/cut

Submitted Date:	Easygrants ID: 7294	
Funding Opportunity: Broadband Technology Opportunities Program	**Applicant Organization:** IOWA HEALTH SYSTEM	
Task: Submit Application - BTOP	**Applicant Name:** Ms. Sabra K. Rosener	

another $415 million. In addition, it is projected that the State will face another shortfall of roughly $1 billion for FY2011.

It is no surprise that the floods and national recession have negatively impacted Iowans. This is demonstrated by workforce indicators and insurance rates. In The State of Working Iowa 2009, authored by the nonprofit Iowa Policy Project, the following workforce indicators were summarized:

oUnemployment – 2009 rates had almost doubled in 18 months to 6.5%. This 6.5% rate represents a 23-year high in Iowa's unemployment level. For residents with without a high-school education, unemployment has remained at 11% since the 2001 recession.
oUnderemployment – The 2008 rate was 7.6%.
oManufacturing jobs – 23,600 (9%) jobs have been lost from 2000 to 2008. This number has more than doubled in 2009. These lost jobs were often high paying and included benefits.
oDeclining job quality – Since the 2001 recession, the job base increased by job quality declined. In particular, three of the four job sectors where jobs declined from 2001-07 were also among the four top-paying job sectors.
oWages remain low – Iowa ranks 32nd nationally at $14.97 in 2008, which is 77 cents below the U.S. average. While Iowa ranks in the top half in pay for low-wage workers, it ranks 39th at the high-wage comparison. In general, low and median wages have fallen since 2001, with high wages showing little growth over this period.

Also affecting residents and working families is the increase in residents without health insurance – 9.4% (Kaiser Family Foundation, statehealthfacts.org). Given the fact that Iowans have an elevated level of chronic diseases, it is likely that uninsured residents will not seek preventive or timely health care. In addition, Iowans with health insurance have also experienced disproportionate increases in premiums. From 2004 to 2008, the average Iowa family insurance premium increased 34% (Kaiser Family Foundation and Health Research and Education Trust, Employer Health Benefits 2009 Annual Survey). Higher insurance premiums combined with low wages also affect one's propensity to seek preventive or timely care.

The economic conditions do not suggest a robust recovery – the state and private sector in Iowa are still struggling. Funding to jumpstart this broadband initiative will help to stimulate the economy and provide needed infrastructure for high-speed Internet access and economic growth.

Submitted Date:	Easygrants ID: 7294
Funding Opportunity: Broadband Technology Opportunities Program	**Applicant Organization:** IOWA HEALTH SYSTEM
Task: Submit Application - BTOP	**Applicant Name:** Ms. Sabra K. Rosener

In sum the project will provide cost-effective, high quality connections open to all users; the opposite of the traditional carrier model, thus connecting Iowa to the rest of the 21st century world.

H. Technology

Technology Type

Indicate the technology that will be used to deliver last mile services. The following items were selected:

Wireline - Fiber-optic Cable

Wireless - Terrestrial Fixed

Other:

Technology Questions

Submitted Date:	Easygrants ID: 7294	
Funding Opportunity: Broadband Technology Opportunities Program		**Applicant Organization:** IOWA HEALTH SYSTEM
Task: Submit Application - BTOP		**Applicant Name:** Ms. Sabra K. Rosener

Description of Network Openness:

IHS commits to meet the NOFA requirements, subject to the lawful needs of law enforcement and reasonable network management.

(a) IHS will adhere to the principles contained in the FCC's Internet Policy Statement (FCC 05-051, including not discriminating against any lawful application of any Last Mile provider.

(b) IHS will not favor any lawful Internet applications and content over others. IHS is a nonprofit corporation whose facilities provide healthcare services to the public. It is not a retail video entertainment or content provider, nor a residential broadband provider. Subject to reasonable

Submitted Date:	Easygrants ID: 7294	
Funding Opportunity: Broadband Technology Opportunities Program	**Applicant Organization:** IOWA HEALTH SYSTEM	
Task: Submit Application - BTOP	**Applicant Name:** Ms. Sabra K. Rosener	

network management practices IHS will not control or limit what Internet applications and content its customers and partners (typically healthcare providers, many of them whom have their own internal practices and procedures for use of Internet access) elect to use over its network.

(c) IHS will display the network management policies described herein in a prominent location on the web page associated with its availability of services to Last Mile providers and provide written notice to such customers of changes to these policies.

(d) IHS will not block any broadband network subscribers to connect to the public Internet directly or indirectly, including use of the network to facilitate communication and information exchange with other healthcare institutions or for medical research. This project does not prevent Last Mile service providers from providing direct access to the Internet. IHS offers its healthcare facility customers (typically CAI) managed services such as telemedicine, public safety communications (i.e. public emergency response) and health-related education.

(e) IHS will offer interconnection and access to network components and services where technically feasible and subject to reasonable network capacity restrictions, at reasonable rates and terms, to other entities who are willing to connect their infrastructure to various connection points on the IHS network to facilitate the exchange of data traffic. IHS is not a common carrier or a carrier of last resort. IHS will satisfy the requirement for interconnection from Last Mile providers by negotiating terms in good faith with any parties making a bona fide request. Terms would include business arrangements, application-neutral capacity limits, financial terms, and technical conditions for interconnection. IHS will agree to seek an FCC interpretation of any applicable FCC rules involved in any dispute. If an agreement cannot be reached within 90 days, the party requesting interconnection may notify the NTIA in writing of the failure to reach satisfactory terms. IHS is willing to submit any disputes to binding AAA arbitration if an agreement cannot be reached within 90 days. Because IHS is proposing a broadband project on a competitively neutral basis, this will significantly enhance the opportunities for end users to have more than one provider serve them.

Submitted Date:	**Easygrants ID: 7294**
Funding Opportunity: Broadband Technology Opportunities Program	**Applicant Organization:** IOWA HEALTH SYSTEM
Task: Submit Application - BTOP	**Applicant Name:** Ms. Sabra K. Rosener

Submitted Date:	Easygrants ID: 7294	
Funding Opportunity: Broadband Technology Opportunities Program	**Applicant Organization:** IOWA HEALTH SYSTEM	
Task: Submit Application - BTOP	**Applicant Name:** Ms. Sabra K. Rosener	

Submitted Date:	Easygrants ID: 7294
Funding Opportunity: Broadband Technology Opportunities Program	**Applicant Organization:** IOWA HEALTH SYSTEM
Task: Submit Application - BTOP	**Applicant Name:** Ms. Sabra K. Rosener

Is the applicant seeking a waiver pursuant to section IX.C of the NOFA so as to sell or lease portions of the award-funded broadband facilities during their life?

No

I. Project Budget

Project Budget		
	Federal Grant Request	**Match**
Last Mile	0	0
Middle Mile	17,714,919	9,853,848
Total	17,714,919	9,853,848

Project Budget Total: $27,568,767

Match Percent: 35.7%

Projects Outside Recommended Funding Range:

Submitted Date:	**Easygrants ID: 7294**	
Funding Opportunity: Broadband Technology Opportunities Program	**Applicant Organization:** IOWA HEALTH SYSTEM	
Task: Submit Application - BTOP	**Applicant Name:** Ms. Sabra K. Rosener	

➢

Outside Leverage	
Applicant is providing matching funds of at least 20% towards the total eligible project costs?	Yes
Matching cost detail	In total, $9,853,848 in matching funds represents 36% of project costs and is comprised of both in-kind and cash matches.

Submitted Date:	Easygrants ID: 7294	
Funding Opportunity: Broadband Technology Opportunities Program	**Applicant Organization:** IOWA HEALTH SYSTEM	
Task: Submit Application - BTOP	**Applicant Name:** Ms. Sabra K. Rosener	

	███████████████████████████ ██████████████████████████ █████████████████████████ ████████████████████████████ ███████████████████████████ █████████████████████████ █████████████████████████████ ████████████████████████████ ██████████████████████ █████████████████████████████ █████████████████████████████ ███████████████████████████ █████████████████████████ █████████████████████████████ ████████████████████████████ ████████████████████████ ███████████████████████████ ████████████████████
Unjust enrichment	████████████████████████████ ██████████████████████████ ████████████████████████████ ████████████████████████████ █████████████████████████████ █████████████████████████████ ██████████████████████████████ ███████████████████████████ █████████████████████████████ ██████████████████████ █████████████████████████████ ██████████████████████████ ████████████████████
Disclosure of federal and/or state funding sources	███████████████████████ █████████████████████████ █████████████████████████

Submitted Date:	Easygrants ID: 7294	
Funding Opportunity: Broadband Technology Opportunities Program	**Applicant Organization:** IOWA HEALTH SYSTEM	
Task: Submit Application - BTOP	**Applicant Name:** Ms. Sabra K. Rosener	

	███████████████████████████████████ ███████████████████████████████ ███████████████████████████████ ████████████████████████████████████ ██████████████████████████████████████ ██████████████████████████████████ ████████████████████████████████ █████████████████████████████████ ███████████████████ ███████████████████████████████████████ █████████████████████████████████ ███████████████████████████████ █████████████████████████████████ ██████████████████████████████ ████████████████████████████████████ ███████████████████████████████████ ███████████████████████████████████ █████████████████████████████████████ █████████████████████████ ██████████████████████████████████████ █████████████████████████████████████ ██████████████████████████████████ █████████████████████████████████ ██████████████████████████████ ██████████████ ███████████████████████████████ ████████████████████████████████████ ██████████████████████
Budget reasonableness	A█████████████████████████████ █████████████████████████████ ████████████████████████████████ ████████████████████████████████

Submitted Date:	Easygrants ID: 7294	
Funding Opportunity: Broadband Technology Opportunities Program		**Applicant Organization:** IOWA HEALTH SYSTEM
Task: Submit Application - BTOP		**Applicant Name:** Ms. Sabra K. Rosener

Submitted Date:	Easygrants ID: 7294	
Funding Opportunity: Broadband Technology Opportunities Program	**Applicant Organization:** IOWA HEALTH SYSTEM	
Task: Submit Application - BTOP	**Applicant Name:** Ms. Sabra K. Rosener	

Submitted Date:	Easygrants ID: 7294	
Funding Opportunity: Broadband Technology Opportunities Program	**Applicant Organization:** IOWA HEALTH SYSTEM	
Task: Submit Application - BTOP	**Applicant Name:** Ms. Sabra K. Rosener	

Funds to States/Territories

States	Amount of Federal Grant Request
Iowa	17,714,919

Submitted Date:	Easygrants ID: 7294	
Funding Opportunity: Broadband Technology Opportunities Program	**Applicant Organization:** IOWA HEALTH SYSTEM	
Task: Submit Application - BTOP	**Applicant Name:** Ms. Sabra K. Rosener	

Funds to States/Territories Total: $17,714,919

J. Historical Financials

███████						
		██		██		██
██████		█████████		█████████		█████████
████████████		█████████		█████████		█████████
████████		█████████		█████████		█████████
████████████████ ████████		███████		███████		███████
███████████████████████		██		██		██

K. Project Readiness

BTOP Organizational Readiness

IHS is an established organization: IHS is a nonprofit organization established in 1995 and is managed through an 18-member governing board. As the sixth largest nondenominational health system in America, our nearly 20,000 employees provide health services in Iowa, western Illinois and eastern Nebraska through our 26 hospitals and more than 140 group practices of physicians and clinics. IHS provides centralized operational services, including Information Technology, Quality Improvement, Billing, and Legal and Tax Services.

IHS owns broadband infrastructure: From 2005-2008, IHS purchased and extended 2,170 miles of broadband infrastructure. This infrastructure originally connected 11 IHS senior affiliate hospitals. With the assistance of a 2009 FCC grant for $7.8 million, this infrastructure has been expanded to include 3,200 miles, provide access to Internet2 and National LambdaRail research networks, and connect to 78 healthcare providers – currently 28 healthcare providers are connected.

IHS currently manages and operates a broadband network: To manage the high-speed, broadband services network, IHS established HealthNet connect, a wholly owned subsidiary. IHS contracts with Fiberutilities Group, LLC (FG), to provide network support. Together IHS

Submitted Date:	Easygrants ID: 7294	
Funding Opportunity: Broadband Technology Opportunities Program	**Applicant Organization:** IOWA HEALTH SYSTEM	
Task: Submit Application - BTOP	**Applicant Name:** Ms. Sabra K. Rosener	

and FG have established sales, operational and billing support systems, as well as network management, provisioning, billing and customer care systems. These systems are sufficient to support the proposed Middle Mile project.

oFG operates a 365x24x7 virtual Network Operations Center (NOC) using redundant hardware and software systems in geographically diverse locations. Using a private and secure fiber optic network as the primary link between NOC server locations and the Internet as a secondary link, FG operations personnel can perform monitoring and management functions from any location.

oIHS will provide 24x7 operations support targeted to customers. The IHS IT department has 288 persons with a collective total of 1,440 years of experience in LAN and WAN networks, data centers, carrier relations and help desk functions. The support components are: (1) 16 Network Operations staff, (2) 10 Security Operations staff, (3) numerous subcontracted Operations Support personnel, (4) three Business Support staff to facilitate and coordinate business solutions based on subscriber needs, including Health Information Exchange (HIE), telemedicine and disaster recovery, and (5) 28 Service Desk/Customer Relations Management staff.

oOperations Support personnel perform physical fiber repair, generator maintenance, ground maintenance around fiber huts, and field locating duties. Utilizing a competitive bid process, they are subcontracted throughout the state due to the variety of tasks and the breadth of the network.

oAdditional staff is anticipated in the areas of Operations Support, Business Support (four FTEs) and Service Desk/Customer Relations Management (three FTEs).

Construction and Vendor Contracts

IHS intends to deploy the network facilities in the same manner as it has done with prior network build-outs. More specifically, IHS has contracted with Fiberutilities Group, LLC of Cedar Rapids, Iowa www.fiberutilities.com for planning, building and operating its existing networks, including the network to be created under the proposed project. Fiberutilities specializes in private network solutions and helps clients evaluate, deploy and migrate from legacy carrier circuits to privately owned optical networks. Fiberutilities works with and manages various vendors and contractors for IHS' current network projects and will utilize appropriate vendors and contractors for this project. The particular vendors to be chosen for this project will result from a Request for Proposal to be issued upon grant approval. IHS and Fiberutilities have already met with various contractors and vendors to discuss the project parameters and timelines. IHS does not anticipate signing any contracts until grant approval is received.

Customer Base

Submitted Date:	Easygrants ID: 7294	
Funding Opportunity: Broadband Technology Opportunities Program	**Applicant Organization:** IOWA HEALTH SYSTEM	
Task: Submit Application - BTOP	**Applicant Name:** Ms. Sabra K. Rosener	

Iowa Health System is the state's first and largest integrated health system, serving nearly one of every three patients in Iowa. Through relationships with 26 hospitals in metropolitan and rural communities and more than 140 physician clinics, IHS provides care throughout Iowa and western Illinois.

Iowa Health System also serves customers through HealthNet connect, a fiber optic network made possible by the RCHPP, enabling health-care providers to communicate medical information instantaneously across the state. The network serves 28 participating hospitals and is expanding to 50 community health entities as part of the phase II RCHPP funding.

Licenses, Regulatory Approvals and Agreements

IHS intends to deploy the proposed project by constructing network facilities in the same manner that it has done with its prior network build-outs. More specifically, IHS has contracted with Fiberutilities Group, LLC of Cedar Rapids, Iowa, www.fiberutilities.com, for planning, building and operating its existing networks, including the network to be created under the proposed project as stated in the response above for Construction and Vendor Contracts. Timeframes for any licenses and regulatory approvals have been planned in the network build-out schedule; however, no approvals have or will be sought until BTOP funding is secured.

SPIN Number

Iowa Health System, Inc. does not have a FCC Universal Fund Service Provider Identification Number (SPIN).

L. Environmental Questionnaire

Submitted Date:	Easygrants ID: 7294
Funding Opportunity: Broadband Technology Opportunities Program	**Applicant Organization:** IOWA HEALTH SYSTEM
Task: Submit Application - BTOP	**Applicant Name:** Ms. Sabra K. Rosener

Submitted Date:	**Easygrants ID: 7294**
Funding Opportunity: Broadband Technology Opportunities Program	**Applicant Organization:** IOWA HEALTH SYSTEM
Task: Submit Application - BTOP	**Applicant Name:** Ms. Sabra K. Rosener

Submitted Date:	**Easygrants ID: 7294**
Funding Opportunity: Broadband Technology Opportunities Program	**Applicant Organization:** IOWA HEALTH SYSTEM
Task: Submit Application - BTOP	**Applicant Name:** Ms. Sabra K. Rosener

Submitted Date:	Easygrants ID: 7294	
Funding Opportunity: Broadband Technology Opportunities Program	**Applicant Organization:** IOWA HEALTH SYSTEM	
Task: Submit Application - BTOP	**Applicant Name:** Ms. Sabra K. Rosener	

Uploads

The following pages contain the following uploads provided by the applicant:

Upload Name	File Name	Uploaded By	Uploaded Date
Service Offerings and Competitor Data	CCI Service Offerings and Competitor Data_v1.XLS	Rosener, Sabra	03/22/2010
Network Diagram	Network Diagram Detail.pdf	Rosener, Sabra	03/23/2010
Network Diagram	Network Diagram.pdf	Rosener, Sabra	03/23/2010
Build Out Timeline	CCI Build-Out Timeline.doc	Rosener, Sabra	03/22/2010
List of Community Anchors and Points of Interest	Anchor Detail and POI_v1.XLS	Rosener, Sabra	03/23/2010
Management Team Resumes and Organization Chart	CCI BTOP Mngmnt Team Resumes and Org Chart.pdf	Rosener, Sabra	03/22/2010
Government and Key Partnerships	BTOP - Bill Leaver - letter of support.pdf	Rosener, Sabra	03/25/2010
Government and Key Partnerships	BTOP - DYBB - letter of support.pdf	Rosener, Sabra	03/25/2010

Submitted Date:	Easygrants ID: 7294		
Funding Opportunity: Broadband Technology Opportunities Program		**Applicant Organization:** IOWA HEALTH SYSTEM	
Task: Submit Application - BTOP		**Applicant Name:** Ms. Sabra K. Rosener	

Government and Key Partnerships	BTOP - Gronstal - letter of support.pdf	Rosener, Sabra	03/25/2010
Government and Key Partnerships	BTOP - IA Dept Public Health - letter of support.pdf	Rosener, Sabra	03/25/2010
Government and Key Partnerships	BTOP - IHA - letter of support.pdf	Rosener, Sabra	03/25/2010
Government and Key Partnerships	BTOP - Iowa Medical Society - letter of support.pdf	Rosener, Sabra	03/25/2010
Government and Key Partnerships	BTOP Letter IDED.pdf	Rosener, Sabra	03/25/2010
Government and Key Partnerships	BTOP Governor letter.pdf	Rosener, Sabra	03/25/2010
Government and Key Partnerships	Braley Letter of Support.pdf	Rosener, Sabra	03/25/2010
Government and Key Partnerships	Grassley Letter of Support.pdf	Rosener, Sabra	03/25/2010
Government and Key Partnerships	ICN Letter of Support.pdf	Rosener, Sabra	03/25/2010
Historical Financial	CCI Historic	Rosener, Sabra	03/23/2010

Submitted Date:	Easygrants ID: 7294		
Funding Opportunity: Broadband Technology Opportunities Program		**Applicant Organization:** IOWA HEALTH SYSTEM	
Task: Submit Application - BTOP		**Applicant Name:** Ms. Sabra K. Rosener	

Statements	Financials.pdf		
Budget Narrative	CCI Budget Narrative.doc	Rosener, Sabra	03/24/2010
Detailed Budget	CCI Detailed Budget Attachment_v1.XLS	Rosener, Sabra	03/23/2010
Pro-forma Forecast	Pro Forma Attachment_v1.XLS	Rosener, Sabra	03/25/2010
Subscriber Estimates	CCI Subscriber Estimates Attachment_v1.XLS	Rosener, Sabra	03/24/2010
Dashboard Metrics	CCI Key Metrics Dashboard Attachment.doc	Rosener, Sabra	03/25/2010
Service Area Data	CCI Service Area Data_v1.XLS	Rosener, Sabra	03/24/2010
Network Maps	CCI Network Map Physical Long Haul Network.pdf	Rosener, Sabra	03/23/2010
Network Maps	CCI Network Map Physical Network.pdf	Rosener, Sabra	03/23/2010
Network Maps	Network Map Burlington.pdf	Rosener, Sabra	03/22/2010

Submitted Date:	Easygrants ID: 7294		
Funding Opportunity: Broadband Technology Opportunities Program		**Applicant Organization:** IOWA HEALTH SYSTEM	
Task: Submit Application - BTOP		**Applicant Name:** Ms. Sabra K. Rosener	

Network Maps	Network Map Ankeny.pdf	Rosener, Sabra	03/22/2010
Network Maps	Network Map Ames.pdf	Rosener, Sabra	03/22/2010
Network Maps	Network Map Calmar.pdf	Rosener, Sabra	03/22/2010
Network Maps	Network Map Cedar Rapids.pdf	Rosener, Sabra	03/22/2010
Network Maps	Network Map Clinton.pdf	Rosener, Sabra	03/22/2010
Network Maps	Network Map Council Bluffs.pdf	Rosener, Sabra	03/22/2010
Network Maps	Network Map Creston.pdf	Rosener, Sabra	03/22/2010
Network Maps	Network Map Davenport.pdf	Rosener, Sabra	03/22/2010
Network Maps	Network Map Dubuque.pdf	Rosener, Sabra	03/22/2010
Network Maps	Network Map Estherville.pdf	Rosener, Sabra	03/22/2010
Network Maps	Network Map Fort Dodge.pdf	Rosener, Sabra	03/22/2010

Submitted Date:	Easygrants ID: 7294		
Funding Opportunity: Broadband Technology Opportunities Program		**Applicant Organization:** IOWA HEALTH SYSTEM	
Task: Submit Application - BTOP		**Applicant Name:** Ms. Sabra K. Rosener	

Network Maps	Network Map Iowa City.pdf	Rosener, Sabra	03/22/2010
Network Maps	Network Map Marshalltown.pdf	Rosener, Sabra	03/22/2010
Network Maps	Network Map Mason City.pdf	Rosener, Sabra	03/22/2010
Network Maps	Network Map Muscatine.pdf	Rosener, Sabra	03/22/2010
Network Maps	Network Map Ottumwa.pdf	Rosener, Sabra	03/22/2010
Network Maps	Network Map Proposed Funded Service Area.pdf	Rosener, Sabra	03/22/2010
Network Maps	Network Map Sheldon.pdf	Rosener, Sabra	03/22/2010
Network Maps	Network Map Sioux City.pdf	Rosener, Sabra	03/22/2010
Network Maps	Network Map Waterloo.pdf	Rosener, Sabra	03/22/2010
Network Maps	Network Map West Des Moines.pdf	Rosener, Sabra	03/22/2010

Submitted Date:	Easygrants ID: 7294		
Funding Opportunity: Broadband Technology Opportunities Program		**Applicant Organization:** IOWA HEALTH SYSTEM	
Task: Submit Application - BTOP		**Applicant Name:** Ms. Sabra K. Rosener	

BTOP Certifications	CCI BTOP Certifications IHS Attachment.pdf	Rosener, Sabra	03/22/2010
SF-424 C and D	CCI SF 424.pdf	Rosener, Sabra	03/24/2010
Supplemental Information	BTOP Acronyms.pdf	Rosener, Sabra	03/25/2010