



**Broadband Infrastructure Application  
Submission to NTIA – Broadband Technology Opportunities Program**

<b>Submitted Date:</b> 3/26/2010 8:32:07 PM	<b>Easygrants ID:</b> 6417
<b>Funding Opportunity:</b> Broadband Technology Opportunities Program	<b>Applicant Organization:</b> ZAYO BANDWIDTH, LLC
<b>Task:</b> Submit Application - BTOP	<b>Applicant Name:</b> Mr. Chris Morley

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## Table of Contents

- A. General Application Information
- B. Executive Summary, Project Purpose, and Benefits
- C. Partners
- D. Congressional Districts
- E. Service Area Details
- F. Community Anchor Summary
- G. Project Benefits
- H. Technology
- I. Project Budget
- J. Historical Financials
- K. Project Readiness
- L. Environmental Questionnaire
- M. Uploads



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## A. General Application Information

Applicant Information	
Name and Federal ID for Applicant	
<b>DUNS Number</b>	807871632
<b>CCR # (CAGE)</b>	5LZP8
<b>Legal Business Name</b>	ZAYO BANDWIDTH, LLC
<b>Point of Contact (POC)</b>	ROBERT HEAD 3033814686 Ext. rhead@zayo.com
<b>Alternate POC</b>	TIM GENTRY 3032264662 Ext. tgentry@zayo.com
<b>Electronic Business POC</b>	CHRIS MORLEY 3033813361 Ext. cmorley@zayo.com
<b>Alternate Electronic Business POC</b>	TIM GENTRY 3033814662 Ext. tgentry@zayo.com

Name and Contact Information of Person to be Contacted on Matters Involving this Application:	
<b>Prefix</b>	Mr.
<b>First Name</b>	Chris
<b>Middle Name</b>	
<b>Last Name</b>	Morley
<b>Suffix</b>	
<b>Telephone Number</b>	303-381-3361



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<b>Fax Number</b>	303-226-5614
<b>Email</b>	cmorley@zayo.com
<b>Title</b>	Chief Financial Officer

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

Project Role	Name	Phone	Email
Secondary Point of Contact	Mr. Essam , El-Beik	9727415882	eelbeik@zayo.com

**Environmental Point of Contact**

Prefix: Mr. Name: Morley, Chris Suffix: Telephone Number: 3033813361 Title: Chief Financial Officer
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**Organization Classification**

<b>Type of Organization</b>	For-profit Entity
<b>Is the organization a small business?</b>	No
<b>Does the organization meet the definition of a socially and economically disadvantaged small business concern?</b>	No

**Authorized Organizational Representative**

<b>AOR Name</b>	MORLEY, CHRIS
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<b>Result</b>	Applicant Authorized
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**Project Title and Project Description**

**Project Title:** Connect Anoka County Community Broadband Network

**Project Description:** Zayo Bandwidth, LLC in partnership with Anoka County, seeks funding from ARRA to build Middle Mile broadband infrastructure and connect 145 Anchor Institutions with 286 miles of fiber. This network will make broadband services available to governments, businesses, other anchor institutions, carriers and Last Mile providers in Anoka County as well as parts of Isanti and Ramsey Counties.

**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.
6. This project will deploy Middle Mile broadband infrastructure and either includes a Last Mile infrastructure component in unserved or underserved areas or has received commitments from one or more Last Mile broadband service providers to utilize the Middle Mile components. Any Last Mile components in rural areas do not exceed 20% of the total eligible costs of the project.
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:**



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Middle Mile

**BIP Applicants**

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

<b>Easygrants ID</b>	<b>Project Title</b>
4472	Anoka CAN (Computer Access Now)
5397	Ramsey Broadband Coalition Community Fiber Network

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

Anoka (CAN) Computer Access Now – Grant ID 4472

Zayo Bandwidth, LLC in partnership with Anoka County, seeks funding from ARRA to build Middle Mile broadband infrastructure and connect 145 Anchor Institutions with 286 miles of fiber. This network will make broadband services available to governments, businesses, other anchor institutions, carriers and Last Mile Providers in Anoka County as well as parts of Isanti and Ramsey Counties. The proposed network provides connectivity to institutions including public libraries, community colleges, job training centers, and school districts.



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Over the past several months, Anoka County has worked closely with the Anoka CAN - a complementary Public Computing Center (PCC) application comprised of a partnership among Anoka County Libraries, the Job Training Workforce Center, the Anoka Ramsey Community College and area school districts. This related grant proposal provides and expands on training and assistance programs in the schools, libraries, job training workforce center, and college institutions, and seeks to improve computer literacy, expand computer access for citizens and provide training for the unemployed and for small business development.

The PCC application proposes to upgrade existing computers and invest in new laptop computers at 13 targeted sites throughout the county. All PCC sites are located along the fiber route of the proposed network. Providing high speed access to these sites through the proposed network will provide the necessary infrastructure for the PCC proposal. While the PCC grant application is not entirely dependent on the proposed network, significant cost savings can be achieved to the PCC locations through reduction in connectivity costs, efficiencies in operations, and reduced future costs for network expansions. If grant funding is not received for the proposed network infrastructure, higher costs will be incurred by the PCC for the required bandwidth.

Ramsey Broadband Coalition Community Fiber Network (RBC CFN) - Grant ID 5397  
The proposed infrastructure network for Anoka County includes a connection to Ramsey County, a neighboring metro county to the south, at the Mounds View Public Library location. Through this connection point, Anoka County intends to achieve synergy with the CCI project proposed by the Ramsey Broadband Coalition.

This network connection will enable Anoka County to connect to six other metro counties; Ramsey, Washington, Hennepin, Dakota, Scott, and Carver. This will serve to meet a shared vision of the counties for interconnected fiber that can be used for collaboration on improving the delivery and cost effectiveness of technology services. Specifically, this connection will enable shared services among the counties for data transfers, shared systems, disaster recovery, and infrastructure redundancy. The development of this connection point is dependent on grant funding for the Zayo/Anoka County proposed network.

**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?



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- 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:

<b>Name</b>	<b>Title</b>	<b>Employer</b>
Chris Morley	Chief Financial Officer	Zayo Bandwidth, LLC
John Scarano	President	Zayo Bandwidth, LLC
Ken desGarennes	Chief Financial Officer	Zayo Group, LLC
Scott Beer	General Counsel	Zayo Group, LLC

## **B. Executive Summary, Project Purpose and Benefits**

### **Essay Question**

#### **Executive Summary of the proposed project:**

##### **Introduction**

Zayo Bandwidth, LLC in partnership with Anoka County is pleased to submit this proposal to the U.S. Department of Commerce, NTIA for the Recovery Act Broadband Opportunity Program (BTOP), seeking funding to build Middle Mile broadband infrastructure and connect 145 Anchor Institutions with 286 miles of fiber. This network will make broadband services available to governments, businesses, other anchor institutions, carriers and Last Mile Providers in Anoka County as well as parts of Isanti and Ramsey Counties.

Anoka County is the fourth largest county by population in Minnesota and is located in the northwestern metropolitan Twin Cities area. The County includes areas of high-density urban development as well as quaint communities and scattered farmsteads. There are twenty cities



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and one township in Anoka County, several school districts and two community colleges. Anoka County is the poorest and has the highest unemployment rate of the seven county metro area, and has the third highest rate of foreclosures of the 87 counties in Minnesota. This project also includes an economically distressed area in Isanti County.

#### Connect Anoka County

A project, called “Connect Anoka County,” was formed about a year ago by the County to determine the need for connectivity improvements. The County completed a statistically valid telephone survey with results that included 80% respondents saying that they favored the County constructing a fiber network that would go to every household and business. A business survey was used to obtain feedback from local businesses and area chambers of commerce, with many businesses stating that current data speeds available cause constraints and they would like much faster speeds. Community meetings were held to directly gain input from residents, with many attendees citing concerns with affordability, speed, and access. Group and individual meetings were held to determine interest from governmental partners including cities, school districts, and colleges. These entities have become enthusiastic partners providing resolutions and letters of support as they look forward to this project providing at long last, affordable high speed connectivity.

From this information gathering, the County concluded that government, businesses and residents shared a common connectivity problem. Most large institutions are limited to T1 service in the county, and due to the limited availability of higher speeds, there are many locations that receive bandwidth through DSL or cable modem service. There are even some areas in the north end of the County that do not even have access to cable or DSL service. The County has turned to the private sector to assist in finding a solution. The County issued an RFP, received 5 proposals and selected Zayo Bandwidth as the private partner for providing a broadband solution in the County.

#### Institutions, Businesses and Households

This project proposes to bring substantially upgraded broadband service to 145 Anchor Institutions through the deployment of a 286 mile broadband infrastructure. These Anchor Institutions include county buildings, all city and township halls, community buildings, libraries, license centers, public works buildings, 56 public safety facilities, water towers, school buildings, and community colleges. These institutions are highly supportive of this project as a way to solve their bandwidth problems at an affordable price.



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The project also includes two connections outside of the Anoka County borders: one to the Cambridge College campus in Isanti County, and one in Ramsey County that would be used to connect to other metro counties. Included in the project are 56 public safety facilities that include such locations as police stations, the sheriff's office, the 911 dispatch center, public safety radio towers, correctional facilities, and fire stations.

There are 141,252 households in the proposed funded service area, of which 70,324 are underserved. There are 11,558 businesses in the proposed funded service area, of which 6,356 are in the underserved area.

#### Proposed Solution

Zayo Bandwidth, LLC will build a fiber network with 3 core ring backbones containing between 96 and 144 strands of fiber, and distribution networks connected to the core rings with up to 96 strands of fiber. Zayo will provide Ethernet service, direct internet access (DIA), private line, wavelengths, and dark fiber. This 286 mile network will connect 145 Anchor Institutions and include the following:

- Broadband services will be provided by Zayo to the Anchor Institutions with speed of least 100Mb/s and up to 10 Gb/s, which is substantially greater service that these institutions operate with today.
- These services will be provided to the institutions at similar or lower cost than what the institutions currently pay for T1 or lower speed service.
- The network will pass through most of the key business districts in the county, allowing Zayo using its own capital, to extend the network to businesses directly or to provide fiber to carriers wanting to provide access to businesses.
- Zayo has a letter of intent from Omnicity for the provision of wireless Last Mile service in Anoka County and the surrounding counties, providing high speed wireless service to the unserved and underserved households.
- The County will work to encourage and assist other Last Mile providers in providing services throughout the county.

#### Project Benefits

This project meets all 7 BTOP Comprehensive Community Infrastructure priorities, meets the needs of key stakeholders within Anoka County, and provides the following benefits:



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- Provide immediate connectivity relief to Anchor Institutions with cost-effective high speed transport services.
- Creates a public-private partnership for the delivery of a broadband solution.
- Provides economic enhancements to an area with lower incomes, high unemployment and high foreclosure rates, by attracting businesses, retaining existing businesses, and encouraging entrepreneurship with affordable broadband.
- Brings broadband to a community college (Cambridge campus) in an economically distressed area (Isanti County) that would otherwise be unable to afford to obtain services.
- Provides connectivity to Public Safety entities to allow for sharing of data, and implementation of technologies that could otherwise not occur.
- Provides the opportunity to deliver Last Mile services to business and residents of the area.

#### Qualifications of the Applicant

The network will be operated by Zayo Bandwidth LLC, which has a Certificate of Authority from the Minnesota Public Utilities Commission. Launched in 2006, Zayo Bandwidth, LLC is managed by a seasoned group of industry veterans. Zayo has grown both organically and by acquisition. Since May of 2007, Zayo has completed acquisitions of thirteen businesses. Zayo Bandwidth, LLC network statistics includes over 20,000 Fiber route miles, 2,200 On-Net buildings and serves 141 markets in 23 States. Zayo Bandwidth was recently awarded a Round 1 BTOP grant for a Middle Mile fiber build in Indiana. This includes building a 626 mile comprehensive community infrastructure network connecting 21 Ivy Tech community colleges as well as making broadband available to the intermediate communities, businesses and anchor institutions.

#### Non-Discrimination and Interconnection

The core competency of Zayo Bandwidth, LLC is the provision of bandwidth to other carriers, Last Mile providers, businesses and anchor institutions. Zayo does not discriminate between potential customers, and will sell broadband services to any party wanting to interconnect to the Zayo network. Zayo's approach to the sale of broadband services is completely in line with the non-discrimination and interconnection requirements of the BTOP NOFA. Zayo already provides wholesale broadband services to other wireless and wireline Last Mile and Middle Mile providers, showing that they have experience negotiating interconnection rates, and welcomes interconnection by other parties.



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### Infrastructure Costs

The overall cost of the 286 mile broadband network proposed by this project is \$19.1M. Zayo Bandwidth LLC will be providing a cash match of 20% and Anoka County will be providing a 10% cash match. Thus, the grant request is for 70% of the total project cost.

### Subscriber Projections

It is expected that introduction of Middle Mile fiber as proposed by this project will result in additional broadband connectivity to 12,713 households, 119 larger, medium sized business customers and 189 community anchor institutions over the eight year period. 145 anchor institutions will be connected directly from day 1.

### Jobs

It is expected that that the project will be complete within 24 months, and create a total of 105 direct jobs, 27 indirect jobs and 75 induced jobs.

### Project purpose:

Over the past year, through meetings and surveys of residents, businesses and government stakeholders, Anoka County has determined that there is a significant lack of access to high speed broadband connectivity. Anoka County has identified about 4,000 homes with no access to broadband (unserved) and 70,324 households that are under-served.

Examples of feedback include a comment from a Nowthen resident that stated, “We have approximately 60 houses in our development that lack access to high speed internet. ...How can we help?” Another resident with a home based business commented, “Dial-up is the only option today. I would like to see an option to have improved broadband access. I would like to have better service to work from home.”

This project includes a public-private partnership between Anoka County and Zayo Bandwidth to build a fiber network throughout the county to provide cost effective high speed connectivity to 145 Anchor Institutions. Businesses will benefit directly through Zayo providing a full range of high speed broadband services, or through other carriers who will bring data and voice services directly to small businesses. In addition, this Middle Mile project provides the opportunity for Last Mile service providers to provide high speed broadband services to residents.



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This project would build the Middle Mile fiber that is the first key step in fulfilling the statutory grant objective to provide access to consumers in unserved areas and provide improved access to consumers residing in under-served areas. Zayo has a letter of intent for the provision of WiMAX services in Anoka County, for the residential community, including the unserved and under-served areas. The County has also had discussions with Last Mile providers who are interested in providing service to the county including the unserved and under-served areas. The County maintains this as a high priority and will be working over the next few years to find Last Mile providers to take advantage of this new fiber network. If this grant is not funded, there is no fiber available to provide the backhaul to serve the citizens and businesses that have no access to broadband today.

The proposed network will facilitate the use of broadband by vulnerable populations including job-creating strategic facilities by providing broadband service to Anchor Institutions that include schools, libraries, the Anoka Job Training Center as well as Community Colleges. Providing this high speed access to these institutions will provide the necessary infrastructure for a Public Computing Grant Proposal, called Anoka-CAN, to provide and expand on training and assistance programs in the school, library, job training and college institutions. This related grant proposal seeks to improve computer literacy, expand computer access for citizens and provide training for the unemployed and for small business development. This related project also promotes education and awareness on the use of broadband in areas of the County with high unemployment, high foreclosures, and pockets of poverty.

The proposed network meets the statutory objective of improving broadband for public safety agencies. There are 56 public safety facilities that will be served directly by this grant. This includes such locations such as police stations, the sheriff's office, the 911 dispatch center, public safety radio towers, correctional facilities, and fire stations. These public safety agencies today primarily have T1 or lower bandwidth service today for broadband access. This grant will increase the broadband available at each location to a minimum of 100 Mb/s, which represents significantly greater bandwidth. In the words of the City of Ramsey, "The City currently has two fire stations, both connected to the municipal Center via a T1 service. It is critical that we have high-speed redundant service during an emergency situation. A fiber backbone between the two locations would provide that service." The benefits of increased bandwidth have been described elsewhere in the grant request, but it is clear that the grant is meeting this statutory objective.



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The grant meets the statutory objective of stimulating demand for economic growth and job creation. The grant will initially connect a number of Anchor Institutions to the fiber network. But the network has also been designed to provide broadband to all of the major business districts in the County. Zayo will be using its own capital outside of the grant process, to extend the network to businesses directly or to provide fiber to carriers who will provide access to businesses. This fiber network will provide for economic growth by attracting technology-based employers, promoting telecommuting, and increasing the ability to attract workers. Indeed there is evidence from various other fiber deployments that fiber promotes economic development as the need for bandwidth is high on the list of factors that any new business considers looking to open a new location. And in the words of Green Bay Packaging, Inc located in Coon Rapids, “very good initiative for Anoka County to attract or improve climate for current businesses.” In addition, the project will create 207 direct, indirect or induced jobs.

The grant also meets the additional statutory objective of enhancing education and health care delivery in the County. There are numerous schools and libraries that will be immediately connected to the fiber network. Schools today need a tremendous amount of bandwidth in order to operate efficiently. Classrooms routinely want to make video connections with remote sites, and schools heavily rely on distance learning to bring in specialty teachers and curriculum into the school. In addition, healthcare can benefit from this network by providing high speed access to hospitals, medical care facilities and through Last Mile providers, to residents that receive distance health care.

**Recovery Act and Other Governmental Collaboration:**

The following provides examples of how the proposed network will leverage Recovery Act, or other Federal or State programs.

**Neighborhood Stabilization**

The Anoka County Housing and Redevelopment Authority (HRA) received \$388,380 in ARRA funding and \$2,506,643 for the Neighborhood Stabilization Program through the Housing and Economic Recovery Act of 2007 (HERA). This funding is used for rehabilitation activities on neighborhood properties. The proposed broadband network will assist in bringing connectivity to these economically challenged areas to bolster growth and bring about neighborhood revitalization.

**Job Training Workforce Center**



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Anoka County received approximately \$1,478,430 in ARRA funds targeted at dislocated workers, adult and youth services, summer jobs, and senior community services programs. The proposed network will enable Zayo to extend the network to businesses which will facilitate bringing jobs to the county given the evidence that fiber deployments promote economic development. In addition, the proposed network will assist with the related grant proposal for the public computing center sites by providing the necessary infrastructure to provide and expand on training assistance programs in the county.

#### Sheriff COPS

The Anoka County Sheriff Office received \$2,122,730 for Community Oriented Police (COPS) program. The proposed network will improve connectivity for Sheriff locations and will enable connections to other local police and fire stations allowing for the countywide implementation of electronic police records management.

#### Human Services

Anoka County Human Services has received \$2,937,500 in ARRA funds for Children’s Mental Health, Medical Assistance, Child Support Incentives and Corrections Targeted Case Management. All of these programs require large complex automated data systems for the handling of caseloads. The proposed network will improve the connectivity between buildings for the transfer of data, completion of data backup, and implementing disaster recovery operations. As the Human Services Division Manager, Jerry Soma stated, “Staff resources are declining because of budget cuts. We must rely on technology to improve our efficiency so that we can provide the needed services to our citizens.”

#### Energy Efficiency and Conservation

Anoka County and other municipalities received approximately \$2,000,000 in ARRA Energy Efficiency and Conservation Block Grant funds. Eligible activities include implementing codes to improve energy efficiency; developing education programs; providing grants for energy-efficient retro fits; and creating an energy-efficient strategy. The proposed network will work in conjunction with these programs to improve connectivity for the transfer of energy management data between buildings to reduce staffing requirements, enable collaboration on energy-conserving initiatives among public stakeholders, and facilitate improved processes such as electronic meter reading.

#### Fit with BTOP CCI Priorities:



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This project meets or exceeds the goals as established by the NOFA, as follows:

**Serve Community Anchor Institutions**

The Zayo/Anoka County project proposes to bring substantially upgraded broadband service to 145 Anchor Institutions through the deployment of Middle Mile broadband infrastructure. This project brings fiber-based bandwidth to all of the Anchor Institutions with the creation of three rings with 10 Gb/s of bandwidth. Individual Anchor Institutions will be provided with a minimum of 100 Mb/s bandwidth transport at prices similar to what they pay today for T1 or lower transport service.

These Anchor Institutions include county buildings, all city and township halls, community buildings, all libraries, license centers, all public works buildings, all public safety facilities, water towers, school buildings, and all community colleges. The project also includes two connections outside of the County borders: one to the Cambridge College campus in Isanti County, and one in Ramsey County that would be used to connect to other metro counties. The institutions are highly supportive of this project as a way to solve their bandwidth problems at an affordable price since today these Anchor Institutions are primarily served by DSL, cable modem or T1 service. There is a small amount of private fiber built by school districts and for short connections between specific buildings. The schools that are served by existing fiber are not included in the Anchor Institutions to be covered by this grant; rather a connection is included in the proposed network to connect to the school district fiber network.

**Incorporate a Public-Private Partnership**

This project is a true public-private partnership between Zayo Bandwidth and Anoka County to build Middle Mile broadband infrastructure that will reach 145 Anchor Institutions. A letter of understanding has been developed between Anoka County and Zayo outlining the intended arrangement for the delivery of services. The network will be managed and operated by Zayo and will meet the demands of community stakeholders, who according to recent surveys and discussions have expressed a need for improved broadband service. The County did extensive research into the needs of the business community and found that businesses in the county today cannot get adequate and affordable broadband. Zayo or other retail providers riding the open access network will be able to use the network to serve businesses and the broader community.

**Bolster Growth in Economically Distressed Areas**



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This project includes the economically distressed area of Isanti County for the delivery of service to the Cambridge College Campus. In addition, Anoka County is the poorest of the seven county Twin Cities metropolitan area, has the highest unemployment rate and has the third highest rate of foreclosures of the 87 counties in Minnesota. Within county boundaries there are pockets of poverty, new immigrant concentrations, and areas where 38 different languages are spoken. There are several economically challenged areas that will be bolstered through the delivery of high speed services through this project. An example is in the City of Columbia Heights where the minority composition is 65%, and 73.9% receive free/reduced lunches.

#### Serve Community Colleges

One key feature of this project is that it will bring large broadband for the first time to a community college. This project will provide high speed connectivity between the main campus of the Anoka Ramsey Community College and the sister branch in Cambridge (Isanti County) that does not exist today. This will provide the immediate benefit of instructional technology to deliver higher quality learning environments and improve efficiency of services. The proposed network will also be connected to the main Anoka Ramsey Community College campus and the Anoka Technical College.

#### Serve Public Safety Entities

There are 56 public safety agencies that will be served directly by this grant. This includes such locations as police stations, the sheriff's office, the 911 dispatch center, public safety radio towers, correctional facilities, and fire stations. Connectivity of high speed broadband to the public safety institutions will provide for the Next Generation 9-1-1 pilot project, will enable police and fire departments to connect to one another for the sharing of data, will allow for video arraignments which frees deputies to focus on other priorities, will enable the electronic transmittal of evidence instead of physical transport, and allow for the countywide implementation of electronic police records management.

#### Benefit Unserved or Underserved Areas

In the proposed network, 61% of the fiber miles are routed through unserved and underserved areas, providing the Middle Mile backhaul necessary for Last Mile providers. Zayo has received a letter of intent from Omnicity for the provision of wireless Last Mile service in Anoka County and the surrounding counties. This will provide high speed wireless broadband to the unserved and underserved households in Anoka County.



**Broadband Infrastructure Application  
Submission to NTIA – Broadband Technology Opportunities Program**

<b>Submitted Date:</b> 3/26/2010 8:32:07 PM	<b>Easygrants ID:</b> 6417
<b>Funding Opportunity:</b> Broadband Technology Opportunities Program	<b>Applicant Organization:</b> ZAYO BANDWIDTH, LLC
<b>Task:</b> Submit Application - BTOP	<b>Applicant Name:</b> Mr. Chris Morley

In addition as part of this project, the County has also met with Last Mile providers, and they have expressed interest in providing Last Mile services in the county. The County intends to ensure that Last Mile services are a priority and will work to encourage and assist Last Mile providers in serving the county. Without this network it is unlikely that these areas will get broadband for a very long time. The reason these areas are not served today is lack of adequate fiber backbone in the county that can provide the backhaul transport needed to serve these areas. Attached to this grant is a map showing the proposed network including the unserved and underserved areas.

Contribute a non-federal cost match that equals or exceeds 30 percent of the total eligible costs of the project: This project is providing a non-federal cash match of 30%.

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

- No

**Is the applicant delinquent on any federal debt?**

- No

If Yes, justification for delinquency:

**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

If YES, key partners are listed below:

Project Role: Other Name: Kevern, Cindy
--



**Broadband Infrastructure Application  
Submission to NTIA – Broadband Technology Opportunities Program**

<b>Submitted Date:</b> 3/26/2010 8:32:07 PM	<b>Easygrants ID:</b> 6417
<b>Funding Opportunity:</b> Broadband Technology Opportunities Program	<b>Applicant Organization:</b> ZAYO BANDWIDTH, LLC
<b>Task:</b> Submit Application - BTOP	<b>Applicant Name:</b> Mr. Chris Morley

Phone: 7633235368  
Email: cindy.kevern@co.anoka.mn.us  
Address 1: 2100 3rd Avenue  
Address 2: Room 300  
Address 3:  
City: Anoka  
State: Minnesota  
Zip Code: 55303  
Organization: Anoka County  
Organization Type: County Government  
Small business: No  
Socially and economically disadvantaged small business concern: No

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

**Government Partners**

A project, called “Connect Anoka County,” was formed about a year ago by the County to determine the need for connectivity improvements. As part of this project, the County completed a statistically valid telephone survey of residents, sent out a survey to community businesses, and held community meetings to gain input from residents. In addition, the County reached out to governmental partners including cities, school districts, libraries, public safety entities and colleges to determine their connectivity needs and interest in a county-wide project.

Once interest in the project was determined, there has been ongoing interaction between the County and the government stakeholders. This interaction has included one-on-one briefing sessions with each of the partners as well as attendance at city, public safety and school district meetings. These interactions have enabled the County to gather information on current broadband connectivity and to discuss collaboration for a shared county-wide network with funding through BTOP. These conversations led to more formal, regularly scheduled, and well attended “Stakeholder Group” meetings which allowed for the development a shared vision among the partners for broadband development in the form of a middle-mile fiber build between Anchor Institutions. A formal stakeholder questionnaire was used to collect data on current infrastructure and facility location, business density and development, connectivity costs and limitations, as well as on expected future needs. This process of identifying current capacity and forecasting future demand was used to create the proposed fiber ring map in this application.



**Broadband Infrastructure Application**  
**Submission to NTIA – Broadband Technology Opportunities Program**

<b>Submitted Date:</b> 3/26/2010 8:32:07 PM	<b>Easygrants ID:</b> 6417
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<b>Task:</b> Submit Application - BTOP	<b>Applicant Name:</b> Mr. Chris Morley

This project proposes to bring substantially upgraded broadband service to 145 Anchor Institutions. These Anchor Institutions include county buildings, all city and township halls, community buildings, libraries, license centers, public works buildings, public safety agencies, water towers, school buildings, and community colleges. Included in the project are 56 public safety sites that will be served directly by this grant. This includes such locations as police stations, the sheriff's office, the 911 dispatch center, public safety radio towers, correctional facilities, and fire stations. A list of the Community Anchor Institutions, including addresses, is included in this proposal. We have also included resolutions of support from governing bodies, and detailed letters of support from the county, cities, libraries, school districts, public safety agencies, and colleges.

#### Zayo Partnership

To find a solution to the broadband connectivity problem experienced by the government stakeholders and broader county community, the County turned to the private sector. The County issued an RFP, received 5 proposals and selected Zayo Bandwidth as the private partner for providing a broadband solution in the County. A letter of agreement has been developed between Anoka County and Zayo outlining the intended arrangement for delivery of services. The proposed network will be managed and operated by Zayo Bandwidth, LLC, providing high speed broadband connectivity to the 145 Anchor Institutions. Anoka County will act as the lead agency for the collaboration with the stakeholder partners. There will be continued dialog and close cooperation between the County and institutional partners for future decisions related to network planning and implementation, fee schedules, maintenance needs, equipment upgrades, and potential network expansion.

As a result of the agreement with Zayo, the government institutions will be receiving bandwidth services from Zayo Bandwidth. In addition, the County will be providing a 10% Cash Match for the Connect Anoka County Community Broadband Network. It is also anticipated that the County will manage the relationship with the government institutions and provide liaison activities to Zayo Bandwidth for ongoing bandwidth changes and updates. To offset these costs, the government institutions will be charged an annual fee, collected by the County, corresponding to the bandwidth that each location is receiving. These charges will be much lower than what would have been paid by the government institutions using current market rates, and will be similar or lower than what the institutions pay today for T1 or lower speed service.

#### Benefits



**Broadband Infrastructure Application  
Submission to NTIA – Broadband Technology Opportunities Program**

<b>Submitted Date:</b> 3/26/2010 8:32:07 PM	<b>Easygrants ID:</b> 6417
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<b>Task:</b> Submit Application - BTOP	<b>Applicant Name:</b> Mr. Chris Morley

The Anchor Institution partners will enjoy drastically improved cost effective connectivity. The network design will ensure redundant connectivity – a first for most stakeholder partner facilities. In addition, partners will be offered the opportunity to access dark fiber. Examples of partner-specific benefits include: a direct fiber connection extending between the two campuses of Anoka Ramsey Community College; connectivity for public safety agencies throughout the county, an opportunity that would not otherwise exist to pilot Next Generation 911 (NG911) services; and an improved broadband environment for education. In addition, the stakeholder partner engagement process has allowed for broader policy discussions – including a possible effort to streamline municipal and county processes through shared services that would be made possible by the institutional fiber network.

This fiber network will also provide the opportunity for Zayo Bandwidth to extend the network to businesses directly or to provide fiber to carriers wanting access to businesses. This network will enable Zayo to provide wholesale services to providers including Ethernet, private line, direct internet access, wavelengths and dark fiber. In addition, Zayo has a letter of intent from Omnicity for the provision of WiMAX services in Anoka County for the residential community.

## **D. Congressional Districts**

### **Applicant Headquarters**

- Colorado

### **Project Service States**

Minnesota

### **Project Service Areas**

Minnesota - 3

Minnesota - 5

Minnesota - 6

Minnesota - 8



**Broadband Infrastructure Application  
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<b>Submitted Date:</b> 3/26/2010 8:32:07 PM	<b>Easygrants ID:</b> 6417
<b>Funding Opportunity:</b> Broadband Technology Opportunities Program	<b>Applicant Organization:</b> ZAYO BANDWIDTH, LLC
<b>Task:</b> Submit Application - BTOP	<b>Applicant Name:</b> Mr. Chris Morley

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?

- Yes

## E. Service Area Details

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

- No

### Project Details

**Service Area Type:** Middle Mile  
**Service Area Name:** Anoka North  
**Rural Classification of the Last Mile Service Area:** Rural  
**Service Status of the Last Mile Service Area:** Underserved

<b>If Service Status is "Underserved" please select at least one applicable option from this list.</b> The rate of broadband subscribership for the proposed funded service area is 40% of households or less.
---

**Total Square Miles in Service Area:** 795  
**Total Population in Proposed Service Area:** 204,779  
**Total Number of Households in Service Area:** 70,324  
**Total Number of Businesses in Service Area:** 6,356  
**Total Number of Community Anchor Institutions and Public Safety Entities in Proposed Funded Service Area:** 399



**Broadband Infrastructure Application  
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<b>Submitted Date:</b> 3/26/2010 8:32:07 PM		<b>Easygrants ID:</b> 6417	
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<b>Task:</b> Submit Application - BTOP		<b>Applicant Name:</b> Mr. Chris Morley	

**Unemployment Rate in the Service Area:** 9  
**Median Income in the Service Area:** 70,231  
**Estimated Percentage of Households with Access to Broadband:** 94  
**Estimated Percentage of Households Subscribing to Broadband:** 38

**Service Area Type:** Middle Mile  
**Service Area Name:** Anoka South  
**Rural Classification of the Last Mile Service Area:** Non-Rural  
**Service Status of the Last Mile Service Area:** Served

**If Service Status is "Underserved" please select at least one applicable option from this list.**

**Total Square Miles in Service Area:** 125  
**Total Population in Proposed Service Area:** 192,353  
**Total Number of Households in Service Area:** 70,928  
**Total Number of Businesses in Service Area:** 5,202  
**Total Number of Community Anchor Institutions and Public Safety Entities in Proposed Funded Service Area:** 283  
**Unemployment Rate in the Service Area:** 9  
**Median Income in the Service Area:** 63,640  
**Estimated Percentage of Households with Access to Broadband:** 100  
**Estimated Percentage of Households Subscribing to Broadband:** 49

## F. Community Anchor Summary

Community Anchor Summary	
Schools (k-12)	11
Libraries	11
Medical and Healthcare Providers	0
Public Safety Entities	56



**Broadband Infrastructure Application  
Submission to NTIA – Broadband Technology Opportunities Program**

<b>Submitted Date:</b> 3/26/2010 8:32:07 PM		<b>Easygrants ID:</b> 6417	
<b>Funding Opportunity:</b> Broadband Technology Opportunities Program		<b>Applicant Organization:</b> ZAYO BANDWIDTH, LLC	
<b>Task:</b> Submit Application - BTOP		<b>Applicant Name:</b> Mr. Chris Morley	

<b>Community Colleges</b>	3
<b>Public Housing</b>	0
<b>Other Institutions of Higher Education</b>	0
<b>Other Community Support Organization</b>	0
<b>Other Government Facilities</b>	64
<b>TOTAL COMMUNITY ANCHOR INSTITUTIONS</b>	<b>145</b>
<b>Historically Black colleges and Universities</b>	0
<b>Tribal Colleges and Universities</b>	0
<b>Alaska Native Serving Institutions</b>	0
<b>Hispanic Serving Institutions</b>	0
<b>Native Hawaiian Serving Institutions</b>	0
<b>TOTAL MINORITY SERVING INSTITUTIONS</b>	<b>0</b>

## G. Project Benefits

### Demographics

<b>Jobs</b>	
<b>How many direct jobs-years will be created from this project?</b>	105
<b>How many indirect jobs will be created from this project?</b>	27



**Broadband Infrastructure Application  
Submission to NTIA – Broadband Technology Opportunities Program**

<b>Submitted Date:</b> 3/26/2010 8:32:07 PM	<b>Easygrants ID:</b> 6417
<b>Funding Opportunity:</b> Broadband Technology Opportunities Program	<b>Applicant Organization:</b> ZAYO BANDWIDTH, LLC
<b>Task:</b> Submit Application - BTOP	<b>Applicant Name:</b> Mr. Chris Morley

<b>How many jobs will be induced from this project?</b>	75
---	----

**Methodology used to estimate jobs:**

The report by the Presidents Council of Economic Advisers is used as guidance to determine the number of direct jobs, indirect jobs and induced jobs created. After determining number of job years by dividing total project cost by \$92K, we then state that 64% of job years provide direct / indirect jobs effects and 36% account for induced jobs. The split between direct and indirect is 80:20. Thus applying the calculation gives 105 direct jobs created, 27 indirect jobs created and 75 induced jobs created.

**Project Impact:**

Communities must have ready access to high speed connectivity in order to remain competitive in our global economy. Anoka County has received an enthusiastic response from residents, businesses, and government stakeholders for the Connect Anoka County project due to the current lack of connectivity in the County. This proposed network will provide a direct impact through improved bandwidth, as well as more reliable and affordable connectivity services allowing the County to become competitive in the 21st Century.

The following sections describe how this project addresses and serves to comprehensively meet both directly and indirectly, these broadband needs and provide benefits to the County.

**Community Anchor Institutions**

This grant will bring enhanced, affordable broadband service with a minimum of 100Mb/s with connectivity up to 10Gb/s to 145 Anchor Institutions that will be directly connected as part of this project. Of the 145 Anchor Institutions, approximately 50 sites and 61% of the fiber are in underserved areas. It is Zayo's intent to connect all community Anchor Institutions from the first day of service, to provide Ethernet service, direct internet access (DIA), wavelengths, and dark fiber. Each entity (e.g. county, city, school district, college, etc.) will be on their own VLAN, or VPN.

These Anchor Institutions include the county, 21 cities, 1 township, 4 school districts, 3 community colleges, 11 libraries and 2 multi-city fire departments. In addition, the project includes two connections outside of the Anoka County borders: one to the Cambridge College in Isanti County, and one in Ramsey County that will be used connect to other metro counties. Connections to the Anchor Institutions include: city halls, government centers, community



**Broadband Infrastructure Application**  
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<b>Task:</b> Submit Application - BTOP	<b>Applicant Name:</b> Mr. Chris Morley

buildings, libraries, license centers, public works buildings, fire stations, police and sheriff facilities, water towers, school buildings, and colleges.

Included in this grant proposal are 23 resolutions of support and over 61 letters of support indicating the Anchor Institutions interest in obtaining these services from Zayo. The institutions are highly supportive of this project as a way to receive bandwidth they would not otherwise be able to obtain and to purchase bandwidth at an affordable rate. A quote from the letter of support from the City of Fridley summarizes many of the statements received from other institutions, “Currently available solutions to the City’s bandwidth problems are cost prohibitive. ....This lack of capacity prevents the City from providing the level of service the community deserves.”

Following summarizes many of the stated benefits:

- Provide services to institutions in the unserved and underserved portions of the county that today have very limited options for service;
- provide a much improved response time aiding the libraries and community colleges with access for the public, as well as aiding outreach and training;
- provide improved and reduced cost bandwidth for county buildings, city halls, fire stations, police stations, 911 towers, and colleges to provide for: improved bandwidth connections including the use of towers as a backbone for wireless networks, improved transfer and backup of data, enable shared services among government agencies, and provide the ability to implement new technology solutions;
- provide for projects that couldn’t otherwise be completed such as the Next Generation 9-1-1 pilot project which requires high speed interconnections between public service agencies;
- provide for the transfer of GIS data between communities replacing large time delays due to bandwidth limitations and replacing manual processes (i.e. mailing hard drives);
- enable the community colleges to provide remote classes (high speed video based distance learning);
- enable the public safety agencies to improve their connectivity for the sharing of data among agencies, aid in communication for fire calls, allow for video arraignment, and allow for the transmittal of evidence using data files instead of physical transport of evidence;
- connect the Cambridge campus to the main Anoka Ramsey Community College providing shorter wait-times for all college users, increased capacity for work productivity, and providing the capability for collaboration through video conferencing;
- connect to Ramsey County for shared services with other county governments;



**Broadband Infrastructure Application**  
**Submission to NTIA – Broadband Technology Opportunities Program**

<b>Submitted Date:</b> 3/26/2010 8:32:07 PM	<b>Easygrants ID:</b> 6417
<b>Funding Opportunity:</b> Broadband Technology Opportunities Program	<b>Applicant Organization:</b> ZAYO BANDWIDTH, LLC
<b>Task:</b> Submit Application - BTOP	<b>Applicant Name:</b> Mr. Chris Morley

- provide for economic growth by attracting technology-based employers, promoting telecommuting, increasing ability to attract workers, and providing the ability to handle large amounts of data;
- address current problems in the schools by enabling a stronger 21st century learning environment, enabling faster access to internet resources, facilitating the ability to meet increased online mandated testing requirements, and providing higher bandwidth reliability and redundancy.

There are additional Anchor Institutions such as hospitals and medical facilities, a national sports center, city-owned liquor stores, recreation facilities, a Department of Natural Resources wildlife area, and a local airport that have expressed interest in purchasing services from Zayo through this fiber network.

#### The Business Community

There are an estimated 11,558 businesses in the proposed funded service area. Anoka County completed a survey of the business community and many large businesses stated that they have tripled or quadrupled their use of data in the last two years and see their data needs continuing to grow at a fast pace in the future. In addition, many businesses complained they have no access to fiber or high speed connectivity today.

Companies surveyed are interested in obtaining improved connectivity to enable them to save their data in remote off-site data storage facilities for disaster recovery and redundancy, to increase video connection capabilities for employee training and to reduce travel expenses, to obtain dedicated paths to branch offices, and to implement Voice over IP. Many also experience business limitations today such as having to drive data files to customers rather than sending them through e-mail and have problems with productivity due to long wait times for sending and receiving large data files and working in on-line databases.

This project comprehensively addresses the critical broadband needs by providing a full range of high speed broadband services, including Ethernet, private line, direct internet access and even wavelengths if required. Businesses will benefit either directly through Zayo service delivery or through other carriers who will bring data and voice services directly to small businesses.

#### Residential Customers



**Broadband Infrastructure Application  
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<b>Submitted Date:</b> 3/26/2010 8:32:07 PM	<b>Easygrants ID:</b> 6417
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<b>Task:</b> Submit Application - BTOP	<b>Applicant Name:</b> Mr. Chris Morley

There are a total of 141,252 households in the proposed funded service area, of which 70,324 are in the underserved area. This Middle Mile project is the first key step in fulfilling the County’s vision that every household in the County should have the opportunity to obtain high speed broadband services through the fiber network. Today there are no competitive over builders of fiber due to the lack of Middle Mile fiber available. This proposed network will provide the opportunity for Last Mile service providers to provide high speed broadband services in Anoka County. As part of this project the County has met with Last Mile providers (i.e. Jaguar, Frontier and Velocity) and they have expressed interest in providing Last Mile services once the Middle Mile project is completed. The County intends to ensure that Last Mile fiber is a priority and will work to encourage and assist Last Mile providers in serving the County.

**Carriers**

Providing Middle Mile fiber in Anoka County, and in particular, in the unserved and underserved areas will provide for an improved business case for the Last Mile providers, providing the incentive to offer services to the residential and the business community. Zayo will provide the ability for these other carriers to provide better access, transport, and wholesale services in the County through an open access network with the following benefits:

- Improved cell phone coverage including 3G and 4G data
- Lower backhaul costs for all data providers (meaning lower cost data products)
- Ability for wholesale providers to bring improved data products for small businesses
- Offering a lower cost the opportunity for Last Mile residential over builders.

Zayo is in discussion with Omnicity (letter of intent included) for the provision of WiMAX services in Anoka County, for the residential community. Zayo will provide wholesale services to other providers including Ethernet, private line, direct internet access, wavelengths and dark fiber. Zayo has extensive experience providing wholesale services to other providers including wholesale services to Tier 1 carriers, rural LECs, and wireless providers.

**Vulnerable Populations:**

**Unemployment and Income**

This project includes the economically distressed area of Isanti County for the delivery of service to the Cambridge College Campus. This improved connectivity will provide the increased capacity to support improved teaching and learning environments, instructional technology usage could increase, and most important, it will serve to provide bandwidth capacity to the vulnerable populations in this economically distressed area.



**Broadband Infrastructure Application  
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<b>Task:</b> Submit Application - BTOP	<b>Applicant Name:</b> Mr. Chris Morley

Anoka County is the poorest and has the highest unemployment rate of the seven county metro area. There are pockets of poverty, new immigrant concentrations, and areas where 38 languages are spoken. An example of an area that would be bolstered with high speed services is the City of Columbia Heights where the minority composition is 65% and 38 languages are spoken.

U.S. Census data describe Anoka County as an aging, and increasingly diverse population where poverty among the young is actually outpacing that of the elderly. A large portion of the county is served by the Anoka Hennepin School District, Minnesota's largest district by enrollment and one of the metropolitan area's poorest as measured by the rate of students eligible for free/reduced lunches. In addition, two other school districts in the county also have high free/reduced lunch rates; Columbia Heights at 72% and Fridley at 44.8%. Not only are the rates high, but since 2005, eligibility for free or reduced price lunch has increased 21.7% throughout the county.

#### Foreclosure

Anoka County has experienced the third highest rate of foreclosures in Minnesota. Between 2005 and 2008, annual foreclosures grew from 520 to 2,285; an increase of 339%. Home valuations have declined 56% since 2007 in the City of Bethel and building permits are down 81% since 2004 in the City of Andover. In addition, census tracks of the highest foreclosure incidence align with the underserved broadband areas within the county with approximately 83 of the proposed institutional fiber network locations within the census blocks of greatest need. The proposed broadband network will assist in bringing connectivity to these economically distressed areas to bolster growth and bring about neighborhood revitalization.

#### Human Services

Anoka County Human Services provides services for such vulnerable populations as Adult and Children's Mental Health, Child and Adult Protection, and those populations at or near poverty level. All of these programs require large complex automated data systems for the handling of caseloads. The proposed network will improve the connectivity between buildings for the transfer of data, completion of data backup, and implementing disaster recovery operations. As the Human Services Division Manager, Jerry Soma has stated, "Staff resources are declining because of budget cuts. We must rely on technology to improve our efficiency so that we can provide the needed services to our citizens."

**Level of Need:**  
Background



**Broadband Infrastructure Application  
Submission to NTIA – Broadband Technology Opportunities Program**

<b>Submitted Date:</b> 3/26/2010 8:32:07 PM	<b>Easygrants ID:</b> 6417
<b>Funding Opportunity:</b> Broadband Technology Opportunities Program	<b>Applicant Organization:</b> ZAYO BANDWIDTH, LLC
<b>Task:</b> Submit Application - BTOP	<b>Applicant Name:</b> Mr. Chris Morley

Anoka County is the fourth largest county in the State by population, and is located in the northwestern metropolitan Twin Cities area. The County includes areas of high-density urban development as well as quaint communities and scattered farmsteads. Anoka County is the poorest and has the highest unemployment rate of the seven county metro area, and has the third highest rate of foreclosures of the 87 counties in Minnesota. This project also includes an economically distressed area in Isanti County.

A project was formed about a year ago by the County to determine the need for connectivity improvements, and completed the following:

- A statistically valid telephone survey was completed of Anoka County residents in September of 2009, which served to gather information on broadband service and usage in Anoka County.
- A business questionnaire was distributed to local businesses and area chambers of commerce, and County staff met with a number of businesses to discuss their broadband needs.
- Community meetings were held in September and October, 2009 to directly gain input from residents and interested businesses.
- Group and individual meetings were held to determine the interest from governmental partners including cities, school districts, and colleges.

Upon receiving an enthusiastic response from residents, businesses and other governments, the County turned to the private sector to assist in finding a solution. In our meetings with the incumbents, Qwest and Comcast, neither would identify their specific areas of service in the county and they did not present solutions for providing a fiber option for the County. The other vendors interviewed currently offer little or no services in the County, but did express interest in the County's project and presented possible suggestions for solutions. Thereafter, the County issued an RFP, received 5 proposals, and selected Zayo Bandwidth as the private partner for providing a broadband solution in the County.

#### Incumbent Service Providers

While Anoka County is a large county located on the fringe of the Twin Cities urban area, the only fiber providers that offer competitive high-capacity data products are located near the very southern border, and in most cases less than a mile into the County. The remainder of the County has little commercial fiber or the large bandwidth that is available with fiber. Businesses and government entities have been requesting large data circuits for several years and have been told



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Submission to NTIA – Broadband Technology Opportunities Program**

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<b>Task:</b> Submit Application - BTOP	<b>Applicant Name:</b> Mr. Chris Morley

by the incumbents, Qwest and Comcast, either that fiber is not available or that the only option is to pay high up-front fees for constructing the fiber.

Our surveys revealed no instance where Qwest has built fiber to a business or government building. For the most part, the broadband service that is available to most businesses and the Anchor Institutions today is limited to T1 service. There are a few circuits with higher than a T1 speed (such as a 10 mbps circuit or a DS3) but they are available only in limited locations. Due to the limited availability of higher speeds, there are many locations that receive bandwidth through DSL or cable modem service, at relatively low data speeds, particularly upload speeds. There are even some places in the north end of the County that are being told that they cannot get T1 service due to the condition of the existing copper, and also do not have access to cable or DSL service. The only other data providers in the County are companies that resell Qwest T1 service and cable providers in adjacent counties that have a very small presence in Anoka County – there are no competitors with their own networks.

There is a small amount of private fiber in the county today owned by government entities, primarily built by school districts or for short connections between specific buildings. This fiber has not been routed to, nor is it readily available to other Anchor Institutions. The schools that are served by existing fiber are not included in the Anchor Institutions to be covered by this grant; rather a connection is included in the proposed network to connect to any school district fiber network that already exists.

#### Current Infrastructure in the Area

In our surveys, the County found only one large business that is connected via fiber. This business, a large medical device company, is located just inside the southern county border and is connected to fiber from nearby Hennepin County. This business had to pay \$30,000 per mile to get the fiber connected to their building. While Qwest and Comcast have probably built some fiber to connect their own nodes and facilities, we haven't found an example where they have provided a fiber-based bandwidth product to any business or government entity. Thus, for the vast majority of the County the existing infrastructure seems to still be copper.

#### What Value This Network Offers Over the Incumbents

The proposed network provides tremendous benefit over the current copper network offered by the incumbents. Many businesses in the county and all of the Anchor Institutions require much



**Broadband Infrastructure Application**  
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<b>Submitted Date:</b> 3/26/2010 8:32:07 PM	<b>Easygrants ID:</b> 6417
<b>Funding Opportunity:</b> Broadband Technology Opportunities Program	<b>Applicant Organization:</b> ZAYO BANDWIDTH, LLC
<b>Task:</b> Submit Application - BTOP	<b>Applicant Name:</b> Mr. Chris Morley

more bandwidth than can be provided today. The County interviewed and surveyed businesses and Anchor Institutions and following is a list of needs that were discussed

- Provide higher bandwidth to meet increasing data needs (tripling or quadrupling in the last two years);
- Provide data back-up and storage of data records off-site;
- Provide for more video conferencing to reduce travel expenses and facilitate off-site training;
- Provide for the ability to transmit and receive large data files, as well as use online databases;
- Provide VoIP services within the network;
- Operate secure private networks allowing for separation of data from other entities.

Additionally, the network proposed by this grant brings the following benefits:

- Fiber will bring direct connectivity to the unserved and underserved areas of the county.
- Fiber will enable discussions with Last Mile providers to bring broadband to those areas of the County that are unserved or underserved.
- Fiber will allow for competition among multiple broadband vendors providing services on the open access network.
- Fiber will provide cost effective data transport for Anchor Institutions allowing them to vastly expand their use of data and to initiate numerous new benefits for citizens.
- Fiber will bring significant bandwidth to cellular sites and other key infrastructure in the County, improving voice and other key services.
- Fiber is now an important economic development tool. Without fiber, the County will not be able to attract new employers, and may lose existing employers.

#### Why the Proposed Network is the Most Efficient Way to Address the Issue

The current incumbents in the area seem to have no plans for capital expansion. For example, Qwest's annual capital budget is much smaller per customer than for other large carriers like AT&T and Verizon. It also does not appear that Qwest or Comcast will be making any appreciable investment in fiber in the county in the foreseeable future. Meanwhile, the data requirements for government and commercial entities are exploding, unable to keep up with the current available service offerings. Only fiber is going to satisfy the bandwidth need of larger businesses and Anchor Institutions. The proposed network is the most efficient way to address the issue for several reasons:



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- It puts the fiber network in the hands of Zayo, who is an existing provider of wholesale data services, which for all practical purposes has been operating open access networks for years. Zayo sells bandwidth or dark fiber to any customer at going commercial rates.
- It brings fiber transport and bandwidth to a large number of Anchor Institutions at a fraction of the cost of getting this bandwidth from Qwest, and in many places where Qwest would not provide fiber at any price (see example below).
- This grant brings fiber and large bandwidth to the county now, as opposed to an undefined future time when Qwest might provide fiber.

**Availability of Dark Fiber and High Capacity Services for Anchor Institutions.**

The County recently asked the incumbent provider, Qwest, for information on gaining fiber access to county library buildings and was told there is no fiber in the area. In addition, adding T1's is growing increasingly expensive (City of Ramsey sites a \$1,083 monthly charge) and for one location, the County was told that copper was not available for an additional T1. For many years, the County has inquired about obtaining fiber for its Lino Lakes Correctional buildings due to high data requirements, and has been told by providers that fiber is currently unavailable and would be expensive to construct.

Other Anchor Institutions have similar problems with current service. For example, the City of Columbus can only get DSL coverage today, even after extensive requests for higher bandwidth service. The City of Circle Pines uses a Comcast cable connection for access to the internet and has no interconnections to their Police and Fire locations. They have also found that fiber access is not available to their police department site. The City of Fridley has limited communication connections between their City Hall and remote sites such as fire stations and also finds that their current infrastructure is both slow and costly, and that currently available solutions to their bandwidth problems are cost prohibitive.

Through an RFP process, Qwest quoted fiber transport for a connection between the primary Sheriff building and the County Government Center which they presented as example pricing for supplying fiber throughout the County. This example serves to demonstrate the issue faced by the County in getting reasonably priced bandwidth. The quote was to provide 1 Gigabyte of data transport for a five-mile connection at a monthly recurring price of \$9,320 as well as an unspecified 'special construction charge' to implement the fiber facilities. While Qwest did not provide an estimate of the special construction charge, we could use a recent special construction completed by a business in the south end of the County which cost \$30,000 per mile. Thus, in



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this example, to connect the Anoka County Sheriff building to a 1 GB fiber would have cost \$150,000 for construction and ongoing charges of \$111,840 per year. Extrapolating on this example, the Qwest charges to supply the entire network being built by this grant would require tremendous up-front charges, while also incurring huge ongoing costs.

**Infrastructure Cost Comparison**

As a cost comparison, we could extrapolate upon the Qwest quote and assume, for example, that the average monthly fee for each five miles of transport would be a lower amount of \$5,000 instead of \$9,600, which would mean that the Anchor Institutions would be paying \$3.6 Million per year just for fiber transport. If the County also had to pay \$30,000 per mile for the 300 miles of fiber proposed by this network that would be an up-front payment to Qwest of \$9 million in addition to the \$3.6 Million annual charge. In comparison, all of these Anchor Institutions today pay about \$300,000 to \$400,000 per year for bandwidth charges (note that this fee does not include Internet bandwidth, just the transport), which is similar to the cost they will also pay annually for the proposed network.

Since Anoka County has such a current lack of fiber, the proposed network will provide very cost effective transport for the Anchor Institutions while also providing a revenue opportunity for Zayo to provide bandwidth to other carriers, large commercial customers and providers of Last Mile services. The fiber from this project will drive down the cost of fiber transport for government, businesses and potentially to residents, and providing at last, the opportunity to be globally competitive.

**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

Other:

**Technology Questions**

**Methodology for Area Status:**



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For our determination of unserved, underserved, and served proposed service areas for MN, we used a combination of 1) known broadband service provider presence, 2) an accurate proxy for 3Mbps advertised speed, and 3) survey-based broadband penetration.

Coverage: We compiled a broadband availability database of broadband network presence to determine whether Census blocks are served, unserved, or underserved:

- DSL. Used standard DSL radii from each LEC central office for sufficiently dense wirecenters to calculate number of households with DSL availability by block
- Cable Modem. Compiled database of known cable modem presence by cable system and overbuilder networks to calculate number of households with cable modem availability by block
- WiMax. Digitized published WiMax coverage map for Clearwire to calculate number of households with WiMax availability by block
- 3G Wireless. Digitized published 3G coverage maps for AT&T, Verizon, Sprint, T-Mobile to calculate number of households with 3G wireless availability by block

We calculated the percentage of households within each Census block that are covered by the network contours of each of these technologies. If more than 90% of the households within a Census block have no coverage, it is unserved. If more than 50% of the households within a Census block have no coverage, it is underserved.

Speed: We used cable modem presence by Census block as a proxy to determine the presence of operators advertising data speeds of at least 3Mbps. A random block-level supporting survey shows this proxy to be 95% accurate. If there is no cable modem presence within a block indicating no 3Mbps availability by proxy, it is underserved.

Penetration: We calculated broadband penetration at the Census block level using a 2009 survey by Pew and calibrating to the most current FCC state-level residential high-speed data access lines. We calculated broadband penetration for each state using FCC lines and U.S. Census Bureau households. We used Census block-level demographics and the Pew survey to calculate penetration by block. We calculated the percent of FCC-defined broadband lines in MN that were between 200 and 768Kbps and excluded this from the block-level penetration based on the NOFA 768Kbps broadband speed threshold. If broadband penetration for a Census block is less than 40%, it is underserved.

In lieu of a MN broadband map in line with NOFA definitions, we believe our study to be the best Census block-level data and methodology available. Caveats: network availability is based



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on known provider presence; e.g., data is unavailable for small WISPs. The presence of advertised 3Mbps service is based on a proxy, which was tested as 95% accurate nationwide. Census-block penetrations are calculated using a statistically significant survey and down-sampled to the Census block level based on the high correlation of demographics and broadband penetration.

**Description of Network Openness:**

The core competency of Zayo Bandwidth LLC, is as a provider of bandwidth. Zayo is predominantly a middle mile provider for other telecommunication companies (including wireless and wireline companies), last mile providers as well as a provider of bandwidth to businesses and anchor institutions. For connectivity to residential households Zayo provides bandwidth via last mile providers.

Zayo will provide bandwidth and broadband services to any party that wants to interconnect to Zayo's fiber network. Zayo already provides bandwidth and fiber connectivity to the major wireless and wireline carriers, that includes both last mile and middle mile providers, as well as connectivity to local last mile providers. Zayo thus has experience in negotiating rates, and the management and billing of all its customers.

This explanation of the core strength of Zayo shows the approach Zayo takes to network openness and non discrimination is completely aligned with the requirements of NTIA with regards to network openness and network non discrimination.

Zayo Bandwidth collaborates with both enterprise and wholesale customers with large and growing needs for bandwidth. The network itself consists of over 20,000 fiber route miles in 23 states. As a carrier's carrier, Zayo has relationships with major carriers (local and interexchange carriers), CATV companies, internet providers, wireless companies and enterprises requiring bandwidth solutions that require fiber optics.

Zayo accommodates companies requiring internet traffic in one of two ways. First, Zayo can provide transport and bandwidth, or transport alone. Specifically, Zayo's internet offer (ie. transport and bandwidth) is a wholesale service in which the customer (enterprise or wholesale) is obligated to provide their own Class of Service or Quality of Service parameters, DNS, firewall services, encryption and filtering. Second, Zayo offers to simply provide transport to multiple internet backbone providers. In this arrangement, Zayo would carry traffic from a



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<b>Task:</b> Submit Application - BTOP	<b>Applicant Name:</b> Mr. Chris Morley

customer’s location directly to a third party provider. This third party would then provide the internet portal, and any/all features (CoS/QoS, DNS, firewall, encryption and filtering).

In either arrangement, Zayo’s network passes traffic on a FIFO basis, and on a “per circuit” basis, and does not discriminate or “favor” any lawful content or application. As a wholesale provider, Zayo does not provide a managed network service offer, but does publish both Customer Care and Network Control Center information on its public web site.

Further, either of the above two scenarios allows companies to take advantage of the openness of Zayo’s network. In order for Zayo to provide for a physical interconnection of exchange traffic, companies can place orders directly with Zayo for on-net locations. Zayo’s current on-net buildings include most major data centers, carrier hotels, LEC Serving Offices and IXC POPs in Zayo’s footprint.

**System Design:**

**Introduction:**

The Anoka County Community Broadband Network leverages dark fiber and Ethernet technologies to provide Point to Point Ethernet, Switched Ethernet and Dedicated Internet services to community anchor institutions, businesses, last mile providers and end users in Anoka County, Minnesota. The project design initially directly connects 145 community anchor institutions within Anoka County and 2 surrounding Counties, Isanti County to the North and Ramsey County to the South East.

High count single mode fiber is being deployed in a core backbone and distribution network architecture providing high speed broadband connectivity to 145 anchor institutions. Ethernet technologies are being deployed over the fiber to enable 100Mbps to 10Gbps services from the newly reached communities to the Zayo network infrastructure and the internet. The proposal provides interconnect points for connectivity to end users in the various markets via strategically placed points along the fiber path.

**Services:**

The proposal leverages Interconnection Points in the network to deliver services to end users. Interconnection points will be capable of delivering Point to Point Ethernet, Switched Ethernet and Dedicated Internet Access services from 100Mbps to 10Gbps via industry standard interfaces. An end user can connect to Zayo Bandwidth at any interconnection point via 2 fiber



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<b>Task:</b> Submit Application - BTOP	<b>Applicant Name:</b> Mr. Chris Morley

or 4 fiber optical interfaces. The interconnection will leverage standard optical Gigabit or 10Gigabit Ethernet interfaces for Point to Point Ethernet, Switched Ethernet and Dedicated Internet Access services. An end user can also request that Zayo Bandwidth extend from a standard interconnection point to their facility. In this case Zayo Bandwidth would construct new fiber from an interconnection point to the customers designated premise and deploy equipment at the premise as appropriate for the requested service type. This extension is provided on an Individual Case Basis (ICB) and is dependent on the distance and complexity of the build.

#### Fiber:

The proposal includes the deployment of 286 miles of core network fiber and distribution fiber. 190 miles being core and 96 miles being distribution. Fiber strand counts in the core are 144 and 96, and in the distribution network range from 12 up to 96. Fiber is the most flexible communications technology available. Ethernet, Private Line, Wavelength, and Dedicated Internet Access services from 1.5Mbps to 10Gbps can be delivered over fiber with the deployment of optical equipment. Fiber is also the most scalable communications technology. When equipped with optical transport equipment a single pair of fiber can support up to 400Gbps of service capacity. This service capacity is only limited by the optical equipment available today and will grow in capacity and flexibility as the optical equipment grows.

#### Optronics

The proposal includes the deployment of Ethernet equipment. The Ethernet equipment that will be deployed is capable of up to 10Gbps of service capacity and has the ability to directly terminate Point to Point Ethernet, Switched Ethernet and Dedicated Internet Access services. The equipment is designed with redundancy and scalability to insure the long term reliability of the network.

Based on fiber distance and desired services multiple node types will be deployed. The node types include Service Termination and Aggregation.

Service Termination nodes provide for the direct termination of the desired services. These nodes are the closest to the end customer and are capable of terminating Point to Point Ethernet, Switched Ethernet and Dedicated Internet Access services. Various sizes and types of service termination nodes will be deployed based on the type and size of service required.



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Aggregation nodes are similar to Service Termination nodes and are capable of terminating Point to Point Ethernet, Switched Ethernet and Dedicated Internet Access services but will carry the local services onto the CORE ring and into other service locations.

**Reliability:**

Along with the carrier class design of the optronics to be deployed, much of the network will be deployed in rings. Ring architectures leverage nodes connected in a closed path. Each node has an East and West facility connecting it to the adjacent node with the west facility of the 1st node connected to the east facility of the last node. With this level of Ethernet protection and diverse fiber optic paths the network is capable of providing highly reliable services with an availability of 99.999%.

**Sustainability:**

As the new network is interconnected with Zayo Bandwidths existing Minnesota network, end users and last mile providers can purchase Private line, Ethernet, and Dedicated Internet Access services across the entire state of Minnesota. Along with these intra-state services the architecture allows services to traverse the entire Zayo Bandwidth network. Last mile providers and end users will be able to leverage Zayo Bandwidths existing network covering over 20,000 route miles of fiber, 23 states and 141 markets to connect to over 2,200 on net buildings.

**Internet Connectivity:**

Connectivity from the end user or last mile provider to the Internet is enabled via Minnesota University Interconnect point at Anoka County Government center.

**Network Operations:**

The Zayo NCC in Tulsa, OK has visibility to the entire Zayo Bandwidth network and is the center of Zayo Bandwidth operations. The NCC is staffed 24 hours per day, 7 days per week, 365 days per year. The team utilizes a single network monitoring system, a single set of processes, and talented, cross-trained personnel versed in the entire suite of services supported to deliver industry leading levels of service to our customers.

**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



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## I. Project Budget

Project Budget		
	Federal Grant Request	Match
Last Mile	0	0
Middle Mile	13,382,593	5,735,397
<b>Total</b>	<b>13,382,593</b>	<b>5,735,397</b>

**Project Budget Total:** \$19,117,990

**Match Percent:** 30.0%

**Projects Outside Recommended Funding Range:**



Outside Leverage	
<b>Applicant is providing matching funds of at least 20% towards the total eligible project costs?</b>	Yes
<b>Matching cost detail</b>	<div style="background-color: black; height: 15px; width: 100%;"></div>



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	<p>[REDACTED]</p>
<b>Unjust enrichment</b>	This project and Zayo Bandwidth, LLC has not received and has not applied for any Federal support for non-recurring costs for the proposed service areas.
<b>Disclosure of federal and/or state funding sources</b>	Zayo Bandwidth, LLC has not received or requested Federal and/or State funding.
<b>Budget reasonableness</b>	<p>[REDACTED]</p>









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<b>Prior Year</b>			
<b>Bond Rating (if applicable)</b>			

## K. Project Readiness

### BTOP Organizational Readiness

Zayo Bandwidth, LLC today owns and supports a multi-state network consisting of over 19,000 fiber route miles. The Zayo Bandwidth management team has deep and extensive experience in telecommunications and are recognized leaders throughout the industry. The company is supported by five main organizations: Sales, Service Delivery, Operations, Finance and Legal.

Sales is responsible for day-to-day revenue generation, engagement with current and prospective customers, and overall customer satisfaction. The sales organization consists of both wholesale and enterprise representatives. Wholesale Directors market services to ILECs and Carriers (AT&T, Verizon, Sprint, Qwest, Frontier, etc.) while Enterprise Directors focus on high-bandwidth users such as Higher and K-12 Education, Hospital & Medical, Internet and Wireless Internet Service Providers, regional wireless and wireline companies.

Service Delivery is responsible for the installation and activation of new services. Project Managers are assigned to each circuit or group of circuits. Project Managers work with Outside Plant on permit, Rights of Way and build timeframes, Inside Plant on equipment required on the Zayo network to bring circuits into activation, and Material Management on Customer Premises Equipment needed at the customer's location.

Operations has responsibility for engineering which includes Solution Design at the customer location and overall reinforcement of the network build-out. This team processes an average of 260 design requests monthly, which provide input to customers requesting interconnection to Zayo's network. Zayo's Network Operations Center, staffed 24x7x365 supports all customer services and interfaces within Operations to determine the most efficient method of restoring services during outage and degradation situations. The NOC processes an average of 750 tickets per month, for services spanning Zayo's 18,000+ network.



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The Zayo Finance team has responsibility for all P&L areas. This team also includes Zayo's billing and collections department, which ensures billing and bill-payments are accurate and work performed within expected timeframes.

Anoka County will be charging cities and other governmental units a connection cost equal to the sum of the debt service and ongoing maintenance costs divided by the number of connections. Currently, the Anoka County Treasury Department uses an Oracle application and personnel in place to oversee both the invoicing and receipt of payments. There will be no additional systems or staff needed to implement these functions. The Accounting and Budget Department will oversee and monitor all transactions. The existing Information Services Department will handle all customer care and network related issues.

**Construction and Vendor Contracts**

Zayo Bandwidth LLC will rely on experienced contractors to perform the fiber lay. It is planned to use the below contractors. Each of these contractors have been previously engaged by Zayo Bandwidth LLC in prior projects (with exception of CableCom) and perform work in a timely manner and to high quality levels as required by Zayo. Support letters from these contractors can be found in the supplemental information attached to this application. Each of the below contractors are ready to start work on receipt of a Purchase Order from Zayo, and can start work at the time required by Zayo to meet the project build out schedule.

Michels Communication  
2641 Deadrick Ave SE  
Buffalo, MN 55313

MP Nexlevel  
500 City Road, 37 E  
Maple Lake, MN 55358

Telecom Construction  
2218 200th Street East, PO Box 189,  
Clearwater, MN 55320

Access Communications  
2415 Annapolis Lane North,



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<b>Task:</b> Submit Application - BTOP	<b>Applicant Name:</b> Mr. Chris Morley

Suite 170,  
Minneapolis, MN 55441.

Mastec North America, Inc  
PO Box 70  
152 Park Avenue, Shevlin  
Minnesota 56676

CableCom  
3701 W. Burnham Street,  
Suite C  
Milwaukee, WI 53215

**Customer Base**

Zayo Enterprise Networks (ZEN) resells Qwest T1 service to 66 business customers in Anoka County. Zayo Bandwidth, LLC has no direct customers in Anoka County. Zayo Enterprise Networks is a subsidiary of Zayo Group, LLC.

**Licenses, Regulatory Approvals and Agreements**

Zayo Bandwidth LLC is experienced in implementing large scale middle mile projects and understands the certifications, agreements and permits required for a successful and timely implementation.

Zayo Bandwidth, LLC holds a Certificate of Authority from Minnesota Public Utilities Commission – please see supplementary information to this application.

Prior to fiber lay, Zayo Bandwidth is required to obtain :

- i) Right of Way permits
- ii) Railroad crossing permits
- iii) Pole attachment permits
- iv) Conduit usage licenses with the LEC
- v) Actual land Right of Way negotiation with private land owners (should there be an instance where we need to cross private property due to lack of existing public or utility Right of Way.)
- vi) Construction permits.



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<b>Task:</b> Submit Application - BTOP	<b>Applicant Name:</b> Mr. Chris Morley

If successful in grant award, Zayo Bandwidth will work immediately to secure right of way permits for the fiber lay.

Zayo has experience obtaining right of way permits, and foresees no issues or roadblocks in obtaining right of way permits for the new fiber build in Minnesota.

Negotiation with respect to above permits and leases will start immediately on award notification.

**SPIN Number**

Entity : Zayo Bandwidth, LLC  
SPIN : 143023855

## L. Environmental Questionnaire

**Project Description**

The project requires the construction of no new buildings. This project involves the installation of 286 miles of optical fiber in Anoka County and two surrounding counties, with electronics located along the route at pre-existing buildings. The optical fiber route will follow existing roads.

The fiber construction will include buried and aerial segments.

It should be noted that 100% of the fiber build will be using one of the following rights of way :

- Utility company
- Department of Transport
- County
- Municipality

Zayo expects the impact of this project to the environment to be minimal if not zero impact.

Zayo has experience constructing several thousand miles of fiber per year and in all cases Zayo complies with all environmental requirements.

**Property Changes**

There are no plans for new buildings or sites to be constructed.



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The fiber is planned to be installed along existing utility rights of way and along existing roads. Power right of way, railroad right of way or private easement may occasionally be required.

**Buildings**

There are no plans for new buildings or sites to be constructed. The fiber is planned to be installed along existing utility rights of way and along existing roads. Power right of way, railroad right of way or private easement may occasionally be required. Existing poles are expected to be used.

**Wetlands**

Wetlands have been identified near to the project site, using the Google earth wetlands file located at <http://www.fws.gov/wetlands/Data/GoogleEarth.html>

Wetland types identified include :

- Lake
- Freshwater Emergent Wetland
- Freshwater Forested/Shrub Wetland

Since the project site uses existing rights of way, there is expected to be minimal to zero environmental impact to the wetlands.

Zayo does not foresee any activity that would have an environmental impact to the wetlands.

**Critical Habitats**

Zayo does not foresee any activity that would have an environmental impact to critical habitats. Zayo is not aware of any project site that would affect threatened, endangered or candidate species.

The information for each county with fiber install was taken from below website, showing endangered and candidate species :

<http://www.fws.gov/midwest/endangered/lists/minnesot-cty.html>

In Isanti County the Gray Wolf (*Canis Lupus*) is a threatened species, its habitat is in the Northern forested area.

In Ramsey County the Higgins eye pearlymussel (*Lampsilis higginsii*) is an endangered species, its habitat is in the Mississippi River.

According to the above website, there are no endangered species in Anoka County, Minnesota.

**Floodplain**



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<b>Task:</b> Submit Application - BTOP	<b>Applicant Name:</b> Mr. Chris Morley

There are no plans for new buildings or sites to be constructed, thus Zayo does not anticipate any impact to or from floodplains.

The fiber route does fall within 100 year floodplains, however, since existing rights of ways will be used for the fiber, Zayo does not anticipate any impact to or from floodplains.

**Protected Land**

The State Historic Presevation Officer (SHPO) and tribes that may have an interest in the land near the proposed fiber build have been contacted, regarding the questions listed in the environmental questionnaire.

**Coastal Area**

The project is not within the boundaries of a coastal zone.

**Brownfield**

Although there are brownfield sites within the vicinity of the fiber install, there is not expected to be any impact to or from the brownfield sites.



**Broadband Infrastructure Application  
Submission to NTIA – Broadband Technology Opportunities Program**

<b>Submitted Date:</b> 3/26/2010 8:32:07 PM		<b>Easygrants ID:</b> 6417	
<b>Funding Opportunity:</b> Broadband Technology Opportunities Program		<b>Applicant Organization:</b> ZAYO BANDWIDTH, LLC	
<b>Task:</b> Submit Application - BTOP		<b>Applicant Name:</b> Mr. Chris Morley	

**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 Srvce Offerings and Competitor data.xls	Morley, Chris	03/26/2010
Network Diagram	Network diagram.pdf	Morley, Chris	03/25/2010
Build Out Timeline	Buildout timeline.pdf	Morley, Chris	03/26/2010
List of Community Anchors and Points of Interest	CCI Anchor Detail and POI Attachment.xlsx	Morley, Chris	03/25/2010
Management Team Resumes and Organization Chart	Resumes and Org charts.pdf	Morley, Chris	03/25/2010
Government and Key Partnerships	Gov and Key Partnerships.pdf	Morley, Chris	03/26/2010
Historical Financial Statements	Historical Financials.pdf	Morley, Chris	03/23/2010
Budget Narrative	CCI Budget Narrative.pdf	Morley, Chris	03/26/2010
Detailed Budget	CCI Detailed Budget_.xls	Morley, Chris	03/25/2010



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Pro-forma Forecast	Zayo_Pro Forma.xlsx	Morley, Chris	03/26/2010
Subscriber Estimates	Subscriber estimates.xlsx	Morley, Chris	03/26/2010
Dashboard Metrics	CCI Key Metrics Dashboard Attachment.pdf	Morley, Chris	03/26/2010
Service Area Data	CCI Service Areas Attachment.xls	Morley, Chris	03/25/2010
Network Maps	Network map.pdf	Morley, Chris	03/26/2010
BTOP Certifications	BTOP Certification.pdf	Morley, Chris	03/25/2010
SF-424 C and D	CCI SF 424 C and D Forms.pdf	Morley, Chris	03/25/2010
Supplemental Information	Supplemental info 1.pdf	Morley, Chris	03/26/2010