Broadband Infrastructure Application
Submission to NTIA – Broadband Technology Opportunities Program

Submitted Date:	**Easygrants ID: 4395**
Funding Opportunity: Broadband Technology Opportunities Program	**Applicant Organization:** ONECOMMUNITY
Task: Submit Application - BTOP	**Applicant Name:** Charles Berry

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A. General Application Information

Applicant Information	
Name and Federal ID for Applicant	
DUNS Number	806546326
CCR # (CAGE)	56J20
Legal Business Name	ONECOMMUNITY
Point of Contact (POC)	CHERYL WILLIAMS 2169232258 Ext. cwilliams@onecommunity.org
Alternate POC	CHERYL WILLIAMS 2169232258 Ext. cwilliams@onecommunity.org
Electronic Business POC	MARK DULMAGE 2169232352 Ext. mdulmage@onecommunity.org
Alternate Electronic Business POC	ROBERT ARMSTRONG 2169232330 Ext. rarmstrong@onecommunity.org

Name and Contact Information of Person to be Contacted on Matters Involving this Application:	
Prefix	
First Name	Charles
Middle Name	
Last Name	Berry
Suffix	
Telephone Number	12169232236

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Fax Number	
Email	cberry@onecommunity.org
Title	Chief Operating Officer

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

Project Role	Name	Phone	Email
Secondary Point of Contact	Mr. Mark , Ansboury	12169232232	mark.anboury@onecommunity.org

Environmental Point of Contact

Prefix: Mr.
Name: Girt, Charles
Suffix:
Telephone Number: 12169232350
Title: VP Engineering

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

Authorized Organizational Representative

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AOR Name	ARMSTRONG, ROBERT
Result	Applicant Authorized

Project Title and Project Description

Project Title: Transforming NE Ohio: From Rust Belt to Tech Powerhouse – An Ohio Middle Mile Consortium Project

Project Description: This project is part of an integrated state-wide ask by the Ohio Middle Mile Consortium. It builds a robust middle mile infrastructure to revitalize an economically depressed 20-county area of NE Ohio,severely impacted by the economic crisis. This public-private partnership serves government, health care, education and public safety, as well as residents and businesses via last mile providers.

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

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

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

Easygrants ID	Project Title
6233	Connecting Appalachian Ohio Middle Mile Consortium
7296	GigEPAC ohio Middle Mile Consortium
2565	North Central Ohio Fiber Optic Network

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

Round 2 Synergies and Dependencies
OneCommunity's proposal was developed in concert with two BTOP-CCI Middle Mile Applications in collaboration with OARnet, the State of Ohio's research and education network. The result was the formation of the "Ohio Middle Mile Consortium" (OMMC).

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The participants in the OMMC designed a comprehensive, seamless, open and neutral network that optimizes middle mile services for the entire State. This public-private partnership integrated design components for maximum coverage, including network intersection points, collocation, transport standards. It features IRUs (capacity and fiber), co-investment, and peering agreements to ensure the seamless use and flow of traffic.

The three regional applications forming and single integrated whole from the OMMC are:

Tranforming NE Ohio: From Rust Belt to Tech Powerhouse (OneCommunity)
Connecting Appalachian Ohio Middle Mile Consortim (Horizon Telcom)
GigEPAC Ohio Middle Mile Consortium (ComNet)

The synergies and benefits for the residents, businesses, education, hospitals, public safety, libraries, government agencies and commercial carriers in Ohio are immense:

- A single open and neutral network, equipped for both middle mile and long-haul capacity will be available to all community anchor institutions, government agencies and commercial carriers.
- It creates a state-wide WAN that may be used for secure traffic between community anchor institutions and government agencies, while allowing open traffic and robust access and transport to the Internet.
- Advanced traffic routing creates virtual point-to-point synchronous connections for use by health care, research, and other band-width intensive users at up to 40 Gbps. This dramatically collapses costs for "On Middle Mile Network" transactions (e.g. telemedicine).
- Maximizes taxpayer investment through a reduction in overbuild.
- Solves many of the severe interlata problems plaguing Ohio by providing ample 'off-ramps' to service communities, residents, businesses and carrers across the entire State footprint.
- Opens markets statewide to new competition and expanded last-mile investment by carriers.

Each application can stand-alone in the event that any other project does not receive an award. The impact felt by the State and the OMMC awardees will be the loss of state-wide reach and a reduction in interconnectivity, transport and shared platforms between community anchor institutions in the major urban markets and rural communities.

Round 1 Awardees

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OneCommunity collaborated with Round 1 Awardee Consolidated Electric Cooperative (Easygrants ID 2565). Our collaboration includes all the features of the above, and will be fully integrated into the OMMC through a winning award to our coalition. Consolidated intends to directly use OneCommunity fiber for transport to the major urbans of Columbus and Cleveland, and OMMC connectivity for traffic from their community anchor institutions

Individual Background Screening

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

- No, Applicant is subject to these requirements

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

Name	**Title**	**Employer**
Charles Berry	Chief Operating Officer	OneCommunity
Sam Steinhouse	Chief Financial Officer	OneCommunity
Charles Girt	Vice President, Engineering	OneCommunity
Mark Ansboury	Chief Technology Officer	OneCommunity
David Corrado	Project Manager	OneCommunity
Ron Forster	Construction Manager	OneCommunity
Scot Rourke	Chief Executive Officer	OneCommunity

B. Executive Summary, Project Purpose and Benefits

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Essay Question

Executive Summary of the proposed project:

The 'Transforming NE Ohio: From Rust Belt to Economic Powerhouse' project is one of three (3) projects submitted by the Ohio Middle Mile Consortium (OMMC). The public-private partners of the OMMC joined forces to design a comprehensive, seamless, open and neutral network that optimizes middle mile services and coverage for the entire State of Ohio. It has been strongly endorsed by multijurisdictional political and civic leaders. Once completed, it will be one of the fastest, most reliable, and tightly integrated network platforms for health care, education, public safety, R&D, government and last mile carrier traffic in the country.

The three regional applications forming and single integrated whole from the OMMC are:
- Transforming NE Ohio (OneCommunity – non-profit Middle Mile Carrier);
- Connecting Appalachian Ohio (Horizon Telcom, Commercial Last Mile Carrier);
- GigEPAC (ComNet – Commercial Middle Mile Carrier).

Zayo (Commercial Middle Mile Carrier) and OARnet (State Agency) are also founding members of the coalition and sub-recipients under the OMMC applications. All consortium members are currently owners and operators of high speed broadband networks. All three BTOP-CCI Middle Mile applications were developed in collaboration with the Ohio's Office of Information Technology, Department of Administrative Services, and OARnet, the State's Academic and Research network.
The synergies and benefits for the schools, hospitals, public safety agencies, libraries, government agencies and last mile providers in Ohio are immense:
- A state-wide open and neutral middle mile network will be available to all community anchor institutions, government agencies and commercial carriers.
- It creates a state-wide WAN to be used for secure traffic between community anchor institutions and government agencies, while allowing open traffic and Internet access.
- Advanced traffic routing creates virtual point-to-point synchronous connections for use by health care, research, and other band-width intensive users at up to 40 Gbps.
- Maximizes taxpayer investment through a reduction in overbuild.
- Solves many of the severe interlata problems plaguing Ohio by providing ample 'off-ramps' to service communities across the entire State footprint.
- Opens markets statewide to new competition and expanded last-mile investment by carriers.

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OneCommunity's Transforming NE Ohio: From Rust Belt to Tech Powerhouse project ($44,794,046 grant, $69,982,479 total budget, 30% match) is fully "shovel-ready," including a set of contractors and equipment vendors that are currently executing a deployment of fiber under a prior award by the FCC Rural Health Care Pilot Program. The project meets or exceeds four (4) of (5) BTOP statutory goals.

OneCommunity is one of the few organizations in the US that currently owns and operates an open and carrier-neutral network that is fully compliant with the letter, spirit and intent of all provisions of the FCC Broadband Policy Statement and the nondiscrimination and interconnection obligations in the NOFA.

The OMMC members worked in collaboration in all phases of planning, design and integration of the network assets being contributed as part of this unified platform. In areas of existing fiber overlap, fiber swaps to avoid overbuild, peering agreements, capacity IRUs, or discounted access to dark fiber were negotiated to ensure the seamless transport of traffic between the networks.

The middle mile connection capacity achieved through this design for the State is significant:

- Expands OARnet's capacity from 14 counties to 88;
- Expands OneCommunity's capacity from 22 counties to 88;
- Expands ComNet's capacity from 20 counties to 88;
- Expands Horizon's capacity from 20 counties to 88.
- 'Stitches together' nearly 5000 route miles of fiber

As this network literally covers every county in Ohio, leveraging significant existing assets in all regions, the number of institutions, businesses and residents served is nearly synonymous with those of the State: roughly 11.5 million people, 425,000 businesses and over 15000 community anchor institutions. Between the partners, roughly 15% - 20% of all community anchor institutions are already on the network, representing a powerful platform for driving efficiencies, collaboration, service delivery capacity and institutional reach.

The geographic area covered by this proposal from OneCommunity is a 20-county area in NE Ohio plus Franklin county, representing ½ the State's population (5.4 million), over 200,000 businesses and nearly 9000 community anchor institutions. The OneCommunity network

already has 1500 community anchor institution sites on its network, and has dedicated 20% of this project's funding for fiber laterals for community anchor institution subscribers.

This unified statewide network goes far beyond providing basic access, literally transforming the service delivery capabilities for health care, educational, public safety and government. It collapses the geographic digital divides between rural and urban marketplaces for both community anchor institutions and local last mile providers currently held captive by expensive interlata tariffs. Key impacts:

Health Care: Speeds of 100 Mbps to 40 Gbps
- Expansion of the existing high speed broadband interconnectivity on a single network platform for over 200 hospitals and critical care facilities to thousands of facilities located across the State;
- Real-time Electronic Medical Record (EMR) exchange enablement;
- Advanced telemedicine and remote diagnostic service capabilities and capacity;
- Collapsed costs for regional and state-wide health care operations and provisioning;
- Improved emergency care and access to equivalent health care regardless of location;
- A powerful network asset representing the one of the largest interconnected test labs for telehealth, electronic medical records and telemedicine applications in the U.S.

Education: Speeds of 100 Mbps to 40 Gbps
- 21st century learning environments in K-12 and community colleges across the State;
- Distance learning program platforms for direct community outreach and collapsed education costs;
- Seamless voice/data connectivity to campus and metropolitan fire, safety and medical transport forces for enhanced communications and emergency response;
- Enhanced science, technology, education and math (STEM) opportunities for students through immersive learning environments, and real-time collaborations with leading institutions;.
- Connections to Internet 2 and the National LambdaRail for advanced R&D.

Public Safety: Speeds of 5 Mbps to 40 Gbps:
- Creation and extension of Enhanced Public Safety (EPS) systems through shared platforms and interoperability;

- Seamless collaboration across jurisdictional boundaries for police, fire, EMS, utility companies, NGOs and state and federal agencies;
- Collapsed government expenditures on infrastructure, systems and applications.

3rd Party Last Mile Provider Impact: Speeds of 10Gbps – 100 Gbps
The interlata boundary issues in Ohio are a major impediment to high speed broadband adoption by businesses and residents. An open and neutral middle mile network of this scale fully addresses this issue, increasing market competition and the ability for carriers to directly invest in local last mile infrastructure while reducing the price point for high speed connectivity.

The unified network is built on redundant, fiber optic rings, using both existing and new build assets. It 'stitches together' existing assets, while extending reach and capacity in mission critical areas for community anchor institution interconnection. Between the three (3) regional networks, over 40 carriers already use the regional backbones for middle-mile transport.

OneCommunity's transport layer consists of a DWDM backbone using the Fujitsu FW9500 series. This unit has the ability to deliver 88 lambdas at 40Gbps for a backbone throughput of 2.4Tbps. The FW9500 Chassis is certified for 100 Gbps backplane for future bandwidth growth to 8.8Tbps. With the use of the 9500's ROADM capabilities, it allows traffic to be cross-connected from any ring to any other ring. The FW9500 supports 1 to 40Gbps Ethernet and all SONET services to meet any customer's interface or bandwidth needs.

The routed layer uses Juniper MX960's. These state of the art routers supports both MPLS and VPLS services for the highest reliability. MPLS allows differentiation of customer traffic at Layer 3, providing secure and robust routing. This provides the network the maximum diversity in the case of hardware failures or fiber cuts. The Juniper MX series also supports QoS to ensure real time packets are delivered as a priority making voice and video traffic seamless.

OneCommunity used the methodology suggested by the Council of Economic Advisors to estimate job-ye

Project purpose:

a) The Transforming NE Ohio: From Rust Belt to Tech Powerhouse project addresses the compelling problem of creating a comprehensive middle mile solution for the State of Ohio. OneCommunity's proposal was developed in concert with two BTOP-CCI Middle Mile

Applications in collaboration with OARnet, the State of Ohio's research and education network. The result was the formation of the "Ohio Middle Mile Consortium" (OMMC).

The participants in the OMMC joined forces to design a comprehensive, seamless, open and neutral network that optimizes middle mile services for the entire State. This public-private partnership integrated design components for maximum coverage, including network intersection points, collocation and transport standards. The three regional applications forming and single integrated whole from the OMMC are: Tranforming NE Ohio (OneCommunity), Connecting Appalachian Ohio (Horizon Telcom) and GigEPAC (ComNet).

The synergies and benefits for the schools, hospitals, public safety agencies, libraries, government agencies and last mile providers in Ohio are immense:
- A single open and neutral middle mile network, equipped for both middle mile and long-haul capacity will be available to all community anchor institutions, government agencies and commercial carriers.
- It creates a state-wide WAN that may be used for secure traffic between community anchor institutions and government agencies, while allowing open traffic and robust access and transport to the Internet.
- Advanced traffic routing creates virtual point-to-point synchronous connections for use by health care, research, and other band-width intensive users at up to 40 Gbps.
- Maximizes taxpayer investment through a reduction in overbuild.
- Solves many of the severe interlata problems plaguing Ohio by providing ample 'off-ramps' to service communities across the entire State footprint.
- Opens markets statewide to new competition and expanded last-mile investment by carriers.

This fully "shovel-ready" project is consistent with the BTOP statutory goals, and our public-private collaboration with the State and private sector partners produces an open and carrier neutral approach that brings together both public and private investment to service economically challenged areas.

b) The three (3) integrated OMMC projects offer an effective solution to the problems and opportunities facing the State of Ohio by providing a middle-mile broadband 'superhighway' interconnecting all 88 Ohio counties. The additions to the NE Ohio portion of the network backbone use 144-count fiber optic cable, adding 500 miles of fiber to an existing urban/rural superhighway serving over 1500 community anchor institutions. We project that the expanded

capacity will allow the addition of over 2000 community anchor institutions over the next three (3) years.

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The network will provide direct high-speed broadband fiber access to community anchor institutions at speeds ranging from 10 Mbps to 40 Gbps. Each point on the network being built serves as an interconnection point from which independent carriers may construct a last mile network, with the capacity for accepting service area traffic in excess of 100 Gbps that can scale in multiples to over 64 Tbps onto the OMMC core network 'super-highway.'

c) The impact and broad significance for enhancing public safety, K – 12 and higher education learning environments, e-government, social services, economic development and health care in Ohio is immense. High-speed broadband access (100 Mbps to 1 Gbps) is widely recognized as the minimum requirement for commercial investment by any Fortune 2000 or Global 5000 firm. 21st Century learning environments require synchronous connections at minimum speeds of 100 Mbps to exploit global information pathways, multi-media resources, distance learning and Science Technology Engineering and Math (STEM) curricula.

Real-time access to emergency response and criminal record data is mission critical for public safety personnel. Electronic medical records and advanced telemedicine services require minimum synchronous connectivity at speeds of 100 Mbps to 10 Gbps. As local governments and social service agencies struggle to deliver more services under diminishing budgets, the ability to collapse costs through regional shared services platforms is critical.

None of these things are currently available on a state-wide basis, or at a price point that allow adoption and meaningful use. Our project delivers a sustainable and robust solution designed to scale to meet exponentially growing demand.

d) This project specifically services multiple funded service areas across a 20-county footprint in northeast Ohio. Our middle mile service area passes through both served and underserved areas, and in concert with the other two (2) proposals of the OMMC, provides a single open and neutral backbone capable of providing middle mile, back haul and direct interconnectivity for community anchor institutions spanning the entire State of Ohio.

e) The project fully addresses four (4) of five (5) BTOP statutory purposes:

1) Providing improved access to broadband service to consumers residing in "underserved" areas of the United States;
2) Providing broadband education, awareness, training, access, equipment, support to: Schools, libraries, medical and health care providers, community colleges and other institutions of higher education, and other community support organizations by or through these organizations, organizations and agencies that provide outreach, access, equipment, and support services to facilitate greater use of broadband service by low-income, unemployed, aged, and otherwise vulnerable populations;
3) Improved access to, and use of, broadband service by public safety agencies;
4) Stimulated demand for broadband,economic growth, and job creation.

Recovery Act and Other Governmental Collaboration:

Early this year, OneCommunity formally launched our Regional Community Technology Stimulus Office, focused on bringing stakeholders together across Northern Ohio to maximize the collective benefit of a coordinated technology strategy to elevate the region. Initially kicked off in a large session keynoted by Ohio Senator Sherrod Brown, we meet weekly with top regional, state and municipal civic leaders to align, optimize and leverage State and Federal funding opportunities to maximize governmental efficiencies and service delivery through shared platforms and services.

Our community recognizes that broadband is the foundation for growth. More specifically, OneCommunity convened and engaged top civic leaders in government, health care, education and public safety agencies to coordinate all of our pending region‘s efforts. The formation of the Ohio Middle Mile Coalition (OMMC), led by OARnet,the State of Ohio’s Academic and Research Network, is one of the fruits of these efforts. The OMMC has put forth three (3) tightly integrated CCI Middle Mile Network applications that create a single, seamless middle mile backbone spanning the entire State. The three regional applications forming and single integrated whole from the OMMC are:
Tranforming NE Ohio: From Rust Belt to Tech Powerhouse (OneCommunity)
Connecting Appalachian Ohio Middle Mile Consortim (Horizon Telcom)
GigEPAC Ohio Middle Mile Consortium (ComNet)

OneCommunity and the OMMC also closely coordinated our network designs with Round 1 awardee Consolidated Electric Cooperative (Application ID 2565, award value $2,433912). Consolidated will be using OneCommunity fiber for back haul to the Columbus and Cleveland

markets, and the OMMC network to interconnect community anchor institutions to peer across the State.

OneCommunity has also been the network anchor for a number of ARRA and Federal grants for Health Care institutions in NE Ohio. With over 60 hospitals on our network, including the prestigious Cleveland Clinic, University Hospitals, and Akron Children's Hospital, we often act as a 'neutral agent,' bringing organizations that traditionally compete together for aggregated asks that collapse costs, extend service capabilities and increase efficiencies. We are involved in nearly a dozen in-process and pending asks for electronic medical records, telemedicine and health information technologies at the State and Federal level.

Cuyahoga and Summit, two of our most heavily populated counties have begun to move towards shared services using public safety and emergency management as a starting point to demonstrate interoperability. In addition the State of Ohio Information Technology organization, Dept. of Emergency Management and the State of Ohio's Dept. of Transportation are looking to develop a shared infrastructure strategy to support the State's MARCs 800 MHz emergency, municipal 4.9 GHz municipal wireless for public safety and intelligent traffic management.

Fit with BTOP CCI Priorities:

The 'Transforming NE Ohio: From Rust Belt to Tech Powerhouse, an Ohio Middle Mile Consortium project meets or exceeds the objectives of seven (7) CCI Priorities. We have described how and to what extent our project meets each of these priorities individually below.

1. This project will deploy Middle Mile broadband infrastructure to community anchor institutions.
OneCommunity is a non-profit provider of high speed broadband services to the health care, government, education and social service sectors. Our existing middle mile network currently provides services to over 1500 community anchor institutions, and we believe that the increase in capacity and reach provided by this project will allow us to add an additional 2000 community anchor institutions in the next three (3) years.

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

At the heart of this project is a coalition of government, non-profit and for-profit providers, brought together in the formation of the Ohio Middle Mile Consortium (OMMC). The OMMC is putting forward three (3) integrated proposals for the creation of a seamless middle mile backbone spanning the entire State of Ohio. The coalition partners are OarNet (the State of Ohio's Academic and Research Network), OneCommunity (a non-profit dedicated to providing broadband to community anchor institutions), ComNet (a commercial middle mile provider servicing 30 voice, data, wireless and cable companies in Western Ohio), Horizon (commercial carrier providing services primarily in Appalachia). Zayo Group, a provider of telecommunication and Internet services is an OMMC partner and contributing member to two of the proposals as a sub-grantee. The OMMC also coordinated with Round 1 awardee Consolidated Electric Cooperative in its design, mapping points of intersection and middle mile service routes.

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

This project deploys a middle mile broadband infrastructure in Northeast Ohio, an area hard hit by the economic and housing crises, especially in the areas of manufacturing and automotive jobs. NE Ohio had the unfortunate distinction of making every top 25 list for 'hardest by foreclosures' in 2007, 2008 and 2009. In February of 2010, Forbes Magazine named Cleveland 'America's Most Miserable City.' East Cleveland, an area that will receive middle mile services through this proposal, is a typical example of the pockets of economic distress that checker NE Ohio. With unemployment at 16% as of January 2010, a job loss rate of 55% from December 2008, 28% of all homes in foreclosure, and 58% of all households living on less than $25,000 per year (household incomes shown in chart below), East Cleveland is the epitome of an economically distressed area, a story repeated in town after town all across NE Ohio.

East Cleveland Household Income

Less than $10,000	26%
$10,000 to $14,999	12%
$15,000 to $24,999	20%
$25,000 to $34,999	14%
$35,000 to $49,999	12%
$50,000 to $74,999	9%
$75,000 to $99,999	4%
$100,000 to $149,999	2%
$150,000 to $199,999	0%

$200,000 or more 1%

4. This project will deploy Middle Mile broadband infrastructure to community colleges. Educational institutions, including community colleges, are at the heart of the services provided by this proposal and the trio of proposals presented by the OMMC. OARnet is the State of Ohio's Academic and Research network, providing broadband connectivity to universities, community colleges and K-12 schools. Our proposal features Lorain Community College as a sub-grantee, providing fiber to connect all their facilities in Lorain County.

5. This project will deploy Middle Mile broadband infrastructure to public safety. OneCommunity has worked closely with the State of Ohio and the counties of Cuyahoga, Summit County, Stark and Medina to ensure that the middle mile fiber deployed through this project hits critical sites required for augmented public safety capabilities. Radio towers owned and operated by the State of Ohio are being connected directly to fiber for the first time through this proposal, and Cuyahoga and Summit counties are integrating their emergency response and 911 systems via OneCommunity fiber with municipalities, using shared platforms to increase service levels and capacity while simultaneously reducing costs. Stark and Medina county are significantly expanding their public safety and emergency response capabilities through the deployment of the first major fiber rings interconnecting government and law enforcement facilities.

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 percent of the total eligible costs of the project.
OneCommunity has received commitments from five (5) last mile broadband service providers to utilize our Middle Mile components: Conneaut Cable, Hometown Cable,Consolidated Electric, Horizon Telecom, ComNet and Zayo. In addition, OneCommunity partners with last mile providers in its servicing for community anchor institutions in NE Ohio, and currently has traffic running over its middle mile network from last mile connections provided by Time Warner, AT&T, Armstrong Cable and Cavalier Telephone Company.

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.

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

- No

Is the applicant deliquent on any federal debt?

- No

If Yes, justification for deliquency:

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

- No

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

- No

C. Partners

Are you partnering with any other key institutions, organizations, or other entities for this project?

- Yes

If YES, key partners are listed below:

Project Role: Sub-recipient
Name: Shah, Pankaj
Phone: 6142921486
Email: pshah@oar.net
Address 1: 1224 Kinnear Road
Address 2:
Address 3:
City: Columbus
State: Ohio
Zip Code: 43212
Organization: OARnet
Organization Type: State or State Agency
Small business: No

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Socially and economically disadvantaged small business concern: No

Project Role: Sub-recipient
Name: Church, Roy
Phone: 4403664050
Email: rchurch@lorainccc.edu
Address 1: 1005 Abbe Road North
Address 2: SP 203
Address 3:
City: Elyria
State: Ohio
Zip Code: 44001
Organization: Lorain County Community College
Organization Type: State or State Agency
Small business: No
Socially and economically disadvantaged small business concern: No

Project Role: Other
Name: McKell, William
Phone: 7407728289
Email: bill.mckell@horizontel.com
Address 1: 68 East Main Street
Address 2:
Address 3:
City: Chilicothe
State: Ohio
Zip Code: 45601
Organization: Horizon Telecom
Organization Type: For-profit Entity
Small business: No
Socially and economically disadvantaged small business concern: No

Project Role: Other
Name: Berelsman, Tim
Phone: 4197393151
Email: tberelsman@comnetteam.com
Address 1: 13888 County Road
Address 2: Suite 25A
Address 3: PO Box 2038
City: Wapakoneta
State: Ohio
Zip Code: 45895

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Organization: ComNet
Organization Type: For-profit Entity
Small business: No
Socially and economically disadvantaged small business concern: No

Project Role: Other
Name: Morley, Christopher
Phone: 6106289295
Email: bproffit@zayo.com
Address 1: 901 Front Street
Address 2: Suite 200
Address 3:
City: Louisville
State: Colorado
Zip Code: 80027
Organization: Zayo Bandwidth
Organization Type: For-profit Entity
Small business: No
Socially and economically disadvantaged small business concern: No

Project Role: Other
Name: Payauys, Doug
Phone: 4199492941
Email: dpayauys@conelec.com
Address 1: 5255 State Route 95
Address 2:
Address 3:
City: Mount Gilead
State: Ohio
Zip Code: 43338
Organization: Consolidated Electric Cooperative
Organization Type: For-profit Entity
Small business: No
Socially and economically disadvantaged small business concern: No

Project Role: Other
Name: Dentler, Bethany
Phone: 3307229215
Email: bdentler@medinacounty.org
Address 1: 144 North Broadway Street
Address 2:
Address 3:

Submitted Date:	**Easygrants ID: 4395**
Funding Opportunity: Broadband Technology Opportunities Program	**Applicant Organization:** ONECOMMUNITY
Task: Submit Application - BTOP	**Applicant Name:** Charles Berry

City: Medina
State: Ohio
Zip Code: 44256
Organization: Medina County Port Authority
Organization Type: County Government
Small business: No
Socially and economically disadvantaged small business concern: No

Project Role: Third party in-kind contributor
Name: Clute, Dave
Phone: 7208956012
Email: dclute@cisco.com
Address 1: 9155 East Nichols Avenue
Address 2: Suite 400
Address 3:
City: Englewood
State: Colorado
Zip Code: 80112
Organization: Cisco
Organization Type: For-profit Entity
Small business: No
Socially and economically disadvantaged small business concern: No

Project Role: Third party in-kind contributor
Name: Isler, Mike
Phone: 6149321431
Email: misler@juniper.net
Address 1: 545 Metro Place South
Address 2: One Metro Place, Suite 164
Address 3:
City: Dublin
State: Ohio
Zip Code: 43017
Organization: Juniper
Organization Type: For-profit Entity
Small business: No
Socially and economically disadvantaged small business concern: No

Project Role: Contractor
Name: Pampush, Dave
Phone: 4403221000
Email: dave.pampush@adtechnologies.com

Submitted Date:	**Easygrants ID: 4395**
Funding Opportunity: Broadband Technology Opportunities Program	**Applicant Organization:** ONECOMMUNITY
Task: Submit Application - BTOP	**Applicant Name:** Charles Berry

Address 1: 860 Garden Street
Address 2:
Address 3:
City: Elyria
State: Ohio
Zip Code: 44035
Organization: A-D Technologies
Organization Type: For-profit Entity
Small business: No
Socially and economically disadvantaged small business concern: No

Project Role: Contractor
Name: Beverage, Jeanette
Phone: 9724792879
Email: Jeanette.beverage@us.fujitsu.com
Address 1: 2801 Telecom Parkway
Address 2:
Address 3:
City: Richardson
State: Texas
Zip Code: 75082
Organization: Fujitsu
Organization Type: For-profit Entity
Small business: No
Socially and economically disadvantaged small business concern: No

Project Role: Contractor
Name: Conti, Tim
Phone: 3302573000
Email: tim@gnjconstruction.com
Address 1: 500 West Main Street
Address 2:
Address 3:
City: Alliance
State: Ohio
Zip Code: 44601
Organization: GNJ Construction
Organization Type: For-profit Entity
Small business: No
Socially and economically disadvantaged small business concern: No

Project Role: Contractor

Submitted Date:	**Easygrants ID: 4395**
Funding Opportunity: Broadband Technology Opportunities Program	**Applicant Organization:** ONECOMMUNITY
Task: Submit Application - BTOP	**Applicant Name:** Charles Berry

Name: Carlson, Spence
Phone: 4403221000
Email: scarlson@multilinkone.com
Address 1: 580 Ternes Avenue
Address 2:
Address 3:
City: Elyria
State: Ohio
Zip Code: 44035
Organization: Multilink
Organization Type: For-profit Entity
Small business: No
Socially and economically disadvantaged small business concern: No

Project Role: Contractor
Name: Spehr, Pete
Phone: 7707982132
Email: pspehr@ofsoptics.com
Address 1: 2000 NE Expressway
Address 2: Suite C075
Address 3:
City: Norcross
State: Georgia
Zip Code: 30071
Organization: OFS Fitel
Organization Type: For-profit Entity
Small business: No
Socially and economically disadvantaged small business concern: No

Project Role: Contractor
Name: Atkins, Bud
Phone: 2165141818
Email: batkins@texcelinc.net
Address 1: 23220 Chagrin Boulevard
Address 2: Suite 202
Address 3:
City: Cleveland
State: Ohio
Zip Code: 44122
Organization: Texcel
Organization Type: For-profit Entity
Small business: Yes

Submitted Date:	**Easygrants ID: 4395**
Funding Opportunity: Broadband Technology Opportunities Program	**Applicant Organization:** ONECOMMUNITY
Task: Submit Application - BTOP	**Applicant Name:** Charles Berry

Socially and economically disadvantaged small business concern: Yes

Project Role: Other
Name: Johnson, Kenneth
Phone: 4405937140
Email: kjohnson@suite224.net
Address 1: 224 State Street
Address 2: PO Box 579
Address 3:
City: Conneaut
State: Ohio
Zip Code: 44030
Organization: Conneaut Telephone Company
Organization Type: For-profit Entity
Small business: No
Socially and economically disadvantaged small business concern: No

Project Role: Other
Name: Prueter, Scott
Phone: 4196784090
Email: sprueter@hometowncable.net
Address 1: 305 East Main Street
Address 2: PO Box 106
Address 3:
City: Coldwater
State: Ohio
Zip Code: 45828
Organization: Hometown Cable
Organization Type: For-profit Entity
Small business: No
Socially and economically disadvantaged small business concern: No

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

The Transforming NE Ohio: From Rust Belt to Tech Powerhouse project is one of three (3) projects submitted by the Ohio Middle Mile Consortium (OMMC). The OMMC is a public private partnership between four (4) principal partners:

OneCommunity: A NE Ohio-based non-profit network operator for community anchor institutions;
OARnet: The State of Ohio's Academic and Research Network;
Horizon Telecom: A commercial middle mile and last mile provider in Appalachian Ohio;
ComNet: A commercial middle mile provider in Western Ohio;

The 'Transforming NE Ohio: From Rust Belt to Tech Powerhouse Project', completes the NE Ohio section of the OMMC's open, neutral, and fully integrated middle mile backbone spanning the entire State of Ohio. This collaboration extends and interconnects the existing assets of the 3 other OMMC core partners: OARnet, Horizon Telecom in SE Ohio and ComNet in Western Ohio. It maximizes the impact of the coalition's existing footprint to bring synchronous high speed connectivity to community anchor institutions while providing open and neutral mid-haul and long-haul capacity for last mile providers.

The OMMC members worked in collaboration in all phases of planning, design and integration of the network assets being contributed as part of this unified platform. In areas of existing fiber overlap, fiber swaps to avoid overbuild, peering agreements, capacity IRUs, or discounted access to dark fiber were negotiated to ensure the seamless transport of traffic between the two networks for the benefits of both community anchor institutions located at disparate locations across the State, as well as for commercial carriers desiring mid-haul or long-haul services for expanded capacity for local business and residential consumers.

The middle mile connection capacity achieved through this design for the OMMC is significant:

- Expands OARnet's capacity from 14 counties to 88;
- Expands OneCommunity's capacity from 22 counties to 88;
- Expands ComNet's capacity from 20 counties to 88;
- Expands Horizon's capacity from 20 counties to 88.

The unified network is built on redundant, fiber optic rings, using both existing and new build assets. It 'stitches together' existing assets, while extending reach and capacity in mission critical areas for community anchor institution interconnection ("On Middle Mile Network" services between any two facilities in the State). Between the three (3) regional networks, over 40 carriers already use the regional backbones for middle-mile transport.

Zayo and Consolidated Electric also participated in the design process and are direct beneficiaries should the OMMC's trio of projects be funded. Zayo contributed both in-kind assets and direct cash investment to the initiative and is providing the state-wide network with significant long-haul and interstate capabilities. Consolidated Electric, a first round awardee, collaborated in design with OneCommunity and the OMMC in both rounds, and will be using OneCommunity fiber for transport to the major urban centers of Cleveland and Columbus, OH. In exchange, OneCommunity will pass traffic over the Consolidated Electric network in direct traffic transit from Cleveland to Columbus.

Each of the networks will manage its own construction and operation (all six OMMC collaborators cited above are owners and operators of fiber optic networks in their respective geographies). OARnet is a State of Ohio network, OneCommunity's network focuses on last mile services to community anchor institutions and middle mile services for commercial carriers, and Horizon and ComNet are commercial carariers. All parties possess significant construction and network management expertise and experience.

OneCommunity's Transforming NE Ohio: From Rust Belt to Tech Powerhouse project is fully "shovel-ready," including a set of contractors and equipment vendors that are currently executing a deployment of fiber under a prior award by the FCC Rural Health Care Pilot Program. OneCommunity will be extending orders and Statements of work to these federally approved vendors, who are already knowledgeable regarding OneCommunity's network operations, construction management process, and USAC interface. These vendor partners include A-D Technologies, Fujitsu, GNJ Construction, Multilink, OFS Fitel, and Texcel.

Cisco and Juniper were active partners in the design phase with several of OneCommunity's larger community anchor institutions, and have contributed in-kind engineering expertise and equipment to the project.

Conneaut Cable, Hometown Cable are taking advantage of the middle mile services that are being offered through this project to reduce the costs associated with crossing interlata boundaries, and redirecting investment into upgrades and extension of services into both existing and new business and residential last mile territories.

Submitted Date:	**Easygrants ID: 4395**
Funding Opportunity: Broadband Technology Opportunities Program	**Applicant Organization:** ONECOMMUNITY
Task: Submit Application - BTOP	**Applicant Name:** Charles Berry

The Medina Port Authority is collaborating with OneCommunity to build an enterprise zone with a strategically placed fiber ring to attract businesses and residents to Medina. They are contributing to the project match, and will be recipients of both direct connectivity and dark fiber services.

Lorraine Community College and OarNet are sub-recipients of grants under our application, and will directly receive fiber IRUs and equipment to light up both a VWAN between campuses, and direct inter-institutional connectivity over the unified network footprint as well as the expanded OARnet backbone.

D. Congressional Districts

Applicant Headquarters

- Ohio

Project Service States

Ohio

Project Service Areas

Ohio - 4

Ohio - 5

Ohio - 6

Ohio - 7

Ohio - 9

Ohio - 10

Ohio - 11

Ohio - 12

Ohio - 13

Ohio - 14

Ohio - 15

Ohio - 16

Ohio - 17

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

- No

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

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

- No

E. Service Area Details

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: NE Ohio Middle Mile in Focus: Underserved Spans
Rural Classification of the Last Mile Service Area: Non-Rural
Service Status of the Last Mile Service Area: Underserved

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Funding Opportunity: Broadband Technology Opportunities Program	**Applicant Organization:** ONECOMMUNITY
Task: Submit Application - BTOP	**Applicant Name:** Charles Berry

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

Total Square Miles in Service Area: **975**
Total Population in Proposed Service Area: **529,912**
Total Number of Households in Service Area: **240,869**
Total Number of Businesses in Service Area: **21,869**
Total Number of Community Anchor Institutions and Public Safety Entities in Proposed Funded Service Area: **1,300**
Unemployment Rate in the Service Area: **15**
Median Income in the Service Area: **30,169**
Estimated Percentage of Households with Access to Broadband: **46**
Estimated Percentage of Households Subscribing to Broadband: **28**

Service Area Type: Middle Mile
Service Area Name: Snapshot NE Ohio - 20 County Footprint
Rural Classification of the Last Mile Service Area: Non-Rural
Service Status of the Last Mile Service Area: Underserved

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

Total Square Miles in Service Area: **9,148**
Total Population in Proposed Service Area: **5,378,204**
Total Number of Households in Service Area: **2,166,554**
Total Number of Businesses in Service Area: **210,997**
Total Number of Community Anchor Institutions and Public Safety Entities in Proposed Funded Service Area: **6,850**
Unemployment Rate in the Service Area: **13**
Median Income in the Service Area: **52,918**
Estimated Percentage of Households with Access to Broadband: **68**
Estimated Percentage of Households Subscribing to Broadband: **51**

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Funding Opportunity: Broadband Technology Opportunities Program	**Applicant Organization:** ONECOMMUNITY
Task: Submit Application - BTOP	**Applicant Name:** Charles Berry

Service Area Type: Middle Mile
Service Area Name: Ohio Middle Mile Coalition Impact – State of Ohio
Rural Classification of the Last Mile Service Area: Non-Rural
Service Status of the Last Mile Service Area: Underserved

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

Total Square Miles in Service Area: **41,256**
Total Population in Proposed Service Area: **11,444,845**
Total Number of Households in Service Area: **4,518,973**
Total Number of Businesses in Service Area: **421,781**
Total Number of Community Anchor Institutions and Public Safety Entities in Proposed Funded Service Area: **13,625**
Unemployment Rate in the Service Area: **12**
Median Income in the Service Area: **52,212**
Estimated Percentage of Households with Access to Broadband: **65**
Estimated Percentage of Households Subscribing to Broadband: **48**

Service Area Type: Middle Mile
Service Area Name: NE Ohio Middle Mile in Focus: Served Spans
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: **500**
Total Population in Proposed Service Area: **1,639,646**
Total Number of Households in Service Area: **745,294**
Total Number of Businesses in Service Area: **62,000**
Total Number of Community Anchor Institutions and Public Safety Entities in Proposed Funded Service Area: **1,100**
Unemployment Rate in the Service Area: **13**
Median Income in the Service Area: **61,249**
Estimated Percentage of Households with Access to Broadband: **64**
Estimated Percentage of Households Subscribing to Broadband: **42**

Submitted Date:	**Easygrants ID: 4395**
Funding Opportunity: Broadband Technology Opportunities Program	**Applicant Organization:** ONECOMMUNITY
Task: Submit Application - BTOP	**Applicant Name:** Charles Berry

Service Area Type: Middle Mile
Service Area Name: Underserved Network Community Anchor Institutions Areas
Rural Classification of the Last Mile Service Area: Non-Rural
Service Status of the Last Mile Service Area: Underserved

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

Total Square Miles in Service Area: **500**
Total Population in Proposed Service Area: **124,491**
Total Number of Households in Service Area: **56,587**
Total Number of Businesses in Service Area: **4,975**
Total Number of Community Anchor Institutions and Public Safety Entities in Proposed Funded Service Area: **1,394**
Unemployment Rate in the Service Area: **15**
Median Income in the Service Area: **31,463**
Estimated Percentage of Households with Access to Broadband: **40**
Estimated Percentage of Households Subscribing to Broadband: **24**

Service Area Type: Middle Mile
Service Area Name: Served Network Community Anchor Institutions Areas
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: **500**
Total Population in Proposed Service Area: **464,243**
Total Number of Households in Service Area: **211,020**
Total Number of Businesses in Service Area: **3,150**
Total Number of Community Anchor Institutions and Public Safety Entities in Proposed Funded Service Area: **1,100**

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Funding Opportunity: Broadband Technology Opportunities Program	**Applicant Organization:** ONECOMMUNITY
Task: Submit Application - BTOP	**Applicant Name:** Charles Berry

Unemployment Rate in the Service Area: **13**
Median Income in the Service Area: **57,869**
Estimated Percentage of Households with Access to Broadband: **66**
Estimated Percentage of Households Subscribing to Broadband: **49**

F. Community Anchor Summary

Community Anchor Summary	
Schools (k-12)	10
Libraries	50
Medical and Healthcare Providers	59
Public Safety Entities	44
Community Colleges	8
Public Housing	0
Other Institutions of Higher Education	28
Other Community Support Organization	3
Other Government Facilities	15
TOTAL COMMUNITY ANCHOR INSTITUTIONS	**217**
Historically Black colleges and Universities	0
Tribal Colleges and Universities	0
Alaska Native Serving	0

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Institutions	
Hispanic Serving Institutions	5
Native Hawaiian Serving Institutions	0
TOTAL MINORITY SERVING INSTITUTIONS	**5**

G. Project Benefits

Demographics

Jobs	
How many direct jobs-years will be created from this project?	192
How many indirect jobs will be created from this project?	127
How many jobs will be induced from this project?	180

Methodology used to estimate jobs:
OneCommunity used the methodology suggested by the Council of Economic Advisors, as adjusted for the balance between material spend and direct construction and engineering labor in any large scale fiber outside plant build. Based on the amount invested by the Federal government in the project (not including matching funds), OneCommunity arrived at the following job-years estimates:

Direct job-years: 192
Indirect job-years: 127
Induced jobs: 180

OneCommunity then used the methodology developed by the Information Technology and Innovation Foundation (ITIF) to calculate the jobs estimated as an additional check. The methodology and tool were published under ?The Digital Road to Recovery: A Stimulus Plan to Create Jobs, Boost Productivity and Revitalize America, providing detailed analysis of the job impacts of spurring investment in three critical digital networks: broadband, the smart grid, and

health IT. Using the methodology for jobs calculations as limited by the federal induced jobs definition, the jobs estimated to be created are as follows:

Direct job-years: 170
Indirect job-years: 152
Induced jobs: 202

The similarity of the results from these two different methods of calculating the jobs created through this project have given us great confidence in the validity of our estimates. Furthermore, after a careful review of the reporting requirements, we believe that OneCommunity will be able to meet and document all quarterly results related to job creatio

Project Impact:

The Transforming NE Ohio: From Rust Belt to Tech Powerhouse project is part of a trio of Ohio Middle Mile Consortium (OMMC) projects that provide a uniquely comprehensive middle mile solution for communities in all 88 counties in the State of Ohio. The OMMC was designed to maximize impact while minimizing investment overlap. By bringing together a strong coalition of public and private partners willing to share access to existing network infrastructure assets in disparate geographic locations across the State, the OMMC has literally been able to create a network design that 'stitches' these networks together into a single integrated whole to be governed under a shared transport agreement for community anchor institution, government and public safety traffic.

This translates into federal dollars being spent exactly where they are needed most:
- Creating an open and carrier-neutral network that facilitates competition;
- Spurring investment in local last mile deployments benefiting residential and business consumers by solving the interlata, mid-haul and long-haul issues facing many of our providers, thereby liberating private sector capital for direct end user benefit;
- Deploying direct synchronous connectivity between any two community anchor institutions or public safety entities on any of the three (3) applicant's networks without incurring Internet charges;
- Increasing core network capacity and fiber count to ensure exponential scalability and effective traffic management;
- Reduction of overbuild through the leveraging of the existing assets and footprints of government, non-profit, and for-profit operators of long-haul, middle mile and last mile networks.

The impact on this for community anchor institutions and underserved residential and business customers receiving services through last mile providers is profound. This unified statewide network goes far beyond providing basic access, instead literally transforming the service delivery capabilities of health care, educational, public safety and government. It collapses the geographic digital divides that exist between northern and southern Ohio, as well as that between the rural and urban marketplaces, not only for community anchor institutions, but also for local last mile providers currently held captive by expensive interlata tariffs.

Examples of key impacts for Ohio include:

Health Care: Direct Fiber Connectivity at Speeds of 100 Mbps to 40 Gbps
- Expansion of the existing high speed broadband interconnectivity on a single network platform for over 200 hospitals and critical care facilities to thousands of facilities located across the State;
- Real-time Electronic Medical Record (EMR) exchange enablement;
- Advanced telemedicine and remote diagnostic service capabilities and capacity;
- Collapsed costs for regional and state-wide health care operations and provisioning;
- Improved emergency care and access to equivalent health care regardless of geographic location;
- A powerful network asset representing the one of the largest interconnected test labs for telehealth, electronic medical records and telemedicine applications in the United States, including both rural medical facilities and premier urban providers.

Health Care in Focus:

OneCommunity has been a foundation partner in Better Health Greater Cleveland, one of 15 multi-stakeholder programs supported by the Robert Wood Johnson Foundation under its Aligning Forces for Quality initiative. Better Health aligns northeast Ohio's primary care providers and public health agencies with the region's employers and health plans,focusing on electronic medical records (EMR)-catalyzed public reporting of performance on quality standards, collaborative region-wide quality improvement (QI) and eliminating disparities in outcomes among the chronically ill. As virtually all safety net systems share data and report alongside our most affluent health care systems, gaps in data that could be reduced by better health information exchange (HIE) have been identified and are being implemented over the

HealthNet network provided by OneCommunity. In the past year, 10 major urban hospitals joined forces to measure, report and reduce avoidable readmissions for common chronic conditions (heart failure, diabetes, high blood pressure, obesity, smoking related illnesses).

Education: Direct Fiber Connectivity at Speeds of 100 Mbps to 10 Gbps
- 21st century learning environments leveraging digital learning tools and rich, multi-media content in K-12 and community colleges across the State;
- Distance learning program platforms for direct community outreach and collapsed education costs, featuring real-time training for teachers, students, administration and security;
- Seamless voice/data connectivity to campus and metropolitan fire, safety and medical transport forces for enhanced communications and emergency response;
- Enhanced science, technology, education and math (STEM) opportunities for Northern Ohio students through immersive learning environments, real-time collaborations with leading institutions, and access to advanced STEM curricula and applied software applications.
- Connections to Internet 2 and National LambdaRail for educational content, tele-immersive environments, connection to international educational networks and more.

Education in Focus:

OneCommunity, in a project that involved partners Time Warner Cable, Cisco and the Cleveland Clinic, connected every school in the Cleveland Metropolitan School District with fiber to each building. This transformative event changed the accessibility of STEM education for the largely low income students which make up the District. In addition to the host of rich media content and advanced learning resources made immediately available and incorporated into the curriculum, classrooms became real-time learning laboratories through the participation of partners like NASA and the Cleveland Clinic. For many high school students, the ability to view a live surgery broadcast over the network in high definition from the Cleveland Clinic and actually have real time interaction, and Q&A with the actual surgeon during the procedure is a life changing and inspirational experience that draws students otherwise disengaged to STEM programs.

Social Services and Public Safety: Wireless and Fiber Connectivity at Speeds of 5 Mbps to 10Gbps:
- Leveraging of existing local investments to create a powerful regional network capable of elevating social services delivery and public safety across N. Ohio;

- Robust fixed and mobile broadband connectivity for public safety and social service agencies in urban and rural service areas via fiber and WiMAX wireless services;
- Collapsing of government and social service agency expenditures on infrastructure, systems and applications, thereby freeing valuable resources for core, mission-critical services.

Public Safety in Focus:
Cuyahoga and Summit Counties, two of the largest and most populous counties in the State of Ohio, in collaboration with OneCommunity and Cisco Systems to leverage fiber, VoIP, WiFI, WiMAX video, web-based and traditional radio technologies in the implementation of a Enhanced Public Safety (EPS) system. As the EPS platform is extended to municipalities and surrounding areas, it provides significantly greater IP-based interoperability and collaboration across jurisdictional boundaries through unified platforms and standards. Once completed, this project will provide a common radio communications band for First Responder and Emergency Management personnel impacting nearly 4 million citizens in NE Ohio. It allows for seamless communications and coordination between traditional first responders (e.g. police, fire and EMS), allied agencies (e.g. utility companies), non-governmental organizations (e.g. Red Cross) in any crisis situation within its footprint, as well as full interoperability and robust synchronous connectivity to mission critical state and federal agencies and resources.

3rd Party Last Mile Provider Impact in Focus:

The interlata boundary issues in Ohio are a major impediment to high speed broadband adoption by businesses and residents. An open and neutral middle mile network fully addresses this issue, increasing not only market competition, but also the ability to directly invest in local last mile infrastructure while reducing the price point for high speed connectivity. Conneaut Cable, for example, located only 40 miles from Cleveland could not get data traffic to Cleveland without being routed via traditional carrier long-haul fiber to either Pittsburgh or Columbus first. By taking advantage of the open and carrier neutral OneCommunity middle mile network, Conneaut was able to reduce its mid-haul traffic costs by 60%, and is this savings directly expanded VoIP, video and data circuits to local businesses and consumers.

Vulnerable Populations:
The proposed middle mile service area for the "Transforming NE Ohio: From Rust Belt to Tech Powerhouse project has a number of vulnerable populations groups overrepresented, including low-income, unemployed and the aged. OneCommunity, a non-profit organization providing broadband technologies to the government, health care and education sectors is uniquely

positioned to aid the many community anchor institutions that directly impact quality of life. Institutions impacted by this project are able to extend their reach, impact, capacity and service delivery capabilities while reducing costs through direct interconnectivity with peer organizations, service providers and constituents (e.g. telemedicine, distance learning programs, job banks and services).

The Unemployed:
As a whole, the 20-county footprint for our project has an average unemployment rate as of January 2010 of 13.1%, far in excess of the national average of 10.6%. The figures for the counties break down as follows:

County	Unemployment Rate (January 2010)
Ashland County	14.0%
Ashtabula County	15.4%
Crawford County	14.5%
Cuyahoga County	10.2%
Erie County	14.2%
Franklin County	9.4%
Geauga County	9.7%
Huron County	18.3%
Lake County	10.3%
Lorain County	11.0%
Mahoning County	13.7%
Medina County	9.8%
Ottawa County	19.8%
Portage County	12.0%
Richland County	13.8%
Sandusky County	13.5%
Stark County	14.5%
Summit County	11.7%
Trumbull County	14.3%
Wayne County	11.1%

Low Income:

The high concentration of low-income citizens in the municipalities and towns of NE Ohio is well documented. What is particularly disturbing is the number of people living below the poverty level in the towns served by this project. The latest available figures from the US Census Bureau American Community Survey 2008 make the scale of this problem clear:

Cleveland, OH: 30.5% of the population is living in poverty, including 41.6% of all children and 37.2 % of all African Americans.

Akron, OH: 22.5% of the population is living in poverty, including 35.1% of all children and 33.1% of all African Americans.

Lorain City: 25.4% of the population is living in poverty, including 36.4% of all children and 41.8% of all African Americans.

The Aged:
There are approximately 4 million people living in the Cleveland-Canton-Youngstown metroplex, with a startling 20% of this population in the age range of 60+. Nearly 15% of the population is in the 54 – 59 age range, leading to a projected increase in the over 60 population of 70% by 2020. This is higher than the national average, and is a growing concern for health care providers, long term care facilities, social service and government agencies. This project enables hospitals, clinics and long term care facilities to address this issue, through innovative telemedicine, remote diagnostic, home health monitoring and health and wellness programs,all delivered via direct inter-institutional connectivity or over the Internet.

Level of Need:
Economic Conditions Impacted by Broadband:

NE Ohio has been severely impacted by lay-offs from automotive, steel, plastics, construction and other industries. The decrease in manufacturing jobs has slowed growth in areas such as Ohio with high concentrations of manufacturing employment. Declines in manufacturing are particularly painful because it accounts for a larger-than-average portion of Ohio's unemployment. Seventy-five Ohio counties derive an above average portion of their earning from manufacturing. In 2007, 14.2% of Ohio non-farm employment was in manufacturing compared to 10.1% for the U.S. These facts are further exacerbated when one considers that manufacturing employment in general is 40% more concentrated in Ohio than in the U.S. as a whole.

As a result of the high unemployment rates in NE Ohio (13.1% average across the 20-count footprint), local governments have seen their tax bases erode, company down-sizing and closures that have lead to government employees also being laid-off. While counties and municipalities struggle with the cuts and have been trying to bolster existing companies through economic development retention efforts that are intended to stop corporate bleeding, the plight of the workers who are already impacted remains a critical issue.

Economic development through business attraction has become a major focus for most counties and municipalities, and as they have attempted to bring in Fortune 1000 firms that could fill the economic gaps left by closing factories, economic development officers, mayors and commissioners have discovered that they are unable to any businesses of size due to the lack of affordable, robust, high-capacity connectivity to even traditional manufacturing businesses. The new paradigm of manufacturing, with global sourcing, product design and 'just-in-time' inventory for both finished goods and raw materials requires a highly connected enterprise. The pressure to attract companies has become so intense that counties and municipalities all across NE Ohio are investing in broadband fiber networks and economic development zones specifically for the attraction of domestic and overseas firms.

This is particularly true given the educational demographics for much of NE Ohio's population: rapid transition to a knowledge-based workforce is simply not an option, and with an accessible broadband infrastructure the base level requirement for economic turn-around and employment for the existing population, there is no choice for many counties, cities and towns in NE Ohio than to invest in broadband. But with the tax coffers bare due to the foreclosure crisis, capital simply isn't available for the very thing needed to turn the tide.

Lorain County is a perfect example of NE Ohio's educational attainment rate. In terms of educational attainment per the 2000 census, for the population age 25 and over (representing 185,491 people): 31,880 (17.2%) have no high school diploma; 68,348 (36.8%) are high school graduates; 41,694 (22.5%) have some college, but no degree; 12,828 (6.9%) have an associate degree; 20,203 (10.9%) have a bachelor's degree; and, 10,538 (5.7%) have a master's degree or higher. With 76.5% of the overall population having less than an associate degree and 54% of the population having a high school diploma or less, the area needs to boost the educational attainment rates of its residents to be able to compete with other regions throughout the state and the nation in terms of a highly trained workforce. This is where the community college system

can make significant contributions in job training, but once, again, with the capacity or platforms for distance learning programs, the take rate for training is very low.

Infrastructure and Competitive Landscape:

The Ohio Middle Mile Consortium (OMMC) was created to address the regional shortfall for cost effective high capacity broadband services throughout Ohio. The provider landscape in Ohio is very fragmented and lacks any cohesive access to middle mile backhaul facilities. In addition, where services may be available, the physical paths are strictly dedicated to long-haul and unavailable for short or mid haul usage. If access can be achieved it is often routed through alternative long distance routes instead of from Ashtabula to Cleveland, may need to be routed to Pittsburg, Cleveland and Akron and Ashtabula at a significantly greater expense, often over older more expensive SONET-based facilities. This greatly limits the ability of local providers to subscribe to greater bandwidth for their business and residential consumers, leaving them with the need to constrain services. Often, tough investment choices must made, with carriers being forced to invest in mid-haul and long-haul infrastructure rather than upgraded facilities for the last mile users. This creates opportunities for providers to eliminate services for businesses and consumers based on the expense of infrastructure, compounding the economic and business attraction woes of the region.

The OMMC and OneCommunity have been developing statewide strategies to help address community, regional and statewide solutions for more comprehensive community infrastructure services. The objectives for the design are based on:

- Creating an open and carrier neutral network strategy for interconnection and routing of services across the state;
•
- Interconnection points driven by availability of fiber without long haul restrictions;
•
- Enhance competition and reduce commercial and residential user price points for services through the provisioning of intercarrier access for a choice of carriers;

- Cost effective provider access to multiple upstream service providers for voice, video and data services;

- Providing broadband infrastructure to anchor institutions that can serve as a community partners (e.g., community colleges, education, local/state government, and health facilities) for aggregating capacity and use within underserved communities; and

- Create integrated local, regional, and statewide public safety and health network service platforms that address the needs for emergency management and public health.

Demand-side approaches to broadband development and use are crucial if a community is to realize the full economic, cultural, and social benefits broadband may provide. Middle mile providers must advance broadband infrastructure, if independents, Tier 2 and 3 providers, community providers, and WISPS are to meet the exponentially growing bandwidth demands of the emerging markets and today's heavy consumers of digital media.

Middle mile providers will help maximize the value to major stakeholders by identifying applications and tailoring the network to meet their needs. The more effectively the community uses broadband infrastructure assets, the more sustainable the projects, institutions and communities will be. Middle Mile providers must work closely with institutional, carrier and business stakeholders to ensure that the network infrastructure and services will be of most benefit to them.

Characteristics of the Northeast Ohio Broadband Landscape;

Lack of High Capacity Service Availability

• Multi-carrier interconnection requirements with capacity interconnection limitation;
• Fragmented and high cost incongruous last mile services across Ohio counties with the inability to effective deliver high capacity short haul or backhaul services to upstream providers;.
• Limited and fragmented access to lower cost metro Ethernet versus SONET based services;
• Reduced internet capacity and increased oversubscription to end-users, affecting their quality of service and upstream capacity; limited upgrade paths due to link saturation;
• Reduced Internet capacity and increased oversubscription to county offices, impacting their quality of service and upstream capacity ;
• Limited ability to upgrade to lower cost technology such as VoIP and shared applications such as GIS for county wide deployment;

• Limited choice of providers or upstream service partners in many urban and rural communities

Cost/Pricing Inefficiencies

• Inconsistent availability and pricing of services throughout the region to meet the needs of the over 60 Public safety and administrative offices;
• Competitive landscape dominated by monopolistic providers with distinct territories and little to no competition;
• High-cost middle mile link driving higher cost to end-users;
• Cost of deployment too significant for any one provider to upgrade middle mile infrastructure;
• Financially constrained Tier 1 and Tier 2 providers in rural communities building parallel Independent networks across the same geography;
• Inability for any of the individual providers to justify the Return on Investment to upgrade infrastructure, isolating numerous small rural communities and saddling them with higher-cost, older technology solutions;
• Inconsistent availability and pricing of services throughout the region.

H. Technology

Technology Type

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

Wireline - xDSL

Wireline - Coaxial Cable

Wireline - Fiber-optic Cable

Wireline - Hybrid System

Wireless - Terrestrial Fixed

Wireless - Terrestrial Mobile

Other

Submitted Date:	**Easygrants ID: 4395**
Funding Opportunity: Broadband Technology Opportunities Program	**Applicant Organization:** ONECOMMUNITY
Task: Submit Application - BTOP	**Applicant Name:** Charles Berry

Other: MM Fiber Optic Plus WIMAX for Public Safety

Technology Questions

Methodology for Area Status:

OneCommunity used a formal five (5) stage methodology for determining the status of the proposed Middle Mile and last Mile Service Areas as classified as unserved or underserved:

- Stage 1: Identify and Gather Source Data.
- Stage 2: Evaluate Target Serving Area
- Stage 3: Review and Validate Data
- Stage 4: Correlate and Analyze Findings
- Stage 5: Categorize and Validate Service Areas

The research effort was conducted by a seasoned team of trained analysts and broadband/telecommunications experts for the State of Ohio led by:

- William (Garn) Anderson: Former VP of Business and Community Intelligence for the Knight Center of Digital Excellence, and former Directorate of Operations Group for the Central Intelligence Agency (CIA);

- Mark Ansboury, CTO of OneCommunity, Member of the State of Ohio's Broadband Council, former CTO of ClearData Communications, and former Director of Telecommunications for the State of Texas Department of Information Resources;

- Chuck Girt, Ph.D. (Theoretical Physics), VP of Engineering at OneCommunity, former Senior Network Engineer for Adelphia (now Time Warner) for Ohio.

Stage 1 data gathering targeted Availability, Adoption and At Risk Population data from a national, state, region, county, city, census track, census block and census sub block level. The resultant data sets were analyzed against the standards defined in the BTOP NOFAs 1 and 2 and Grant Guidelines.

Sources for Availability data and analysis included: Connected Nation (Connect Ohio), Carrier Data (Tier 1, Tier 2, Cable, ISP), and the results of census block/tract surveys. Sources for Adoption data and analysis included: Carrier data, Pew Research Center analysis, Community

Anchor Institution surveys, Advertised and Actual Cost per Mbps and Gbps for circuits and Internet, Capacity Desired vs. Market Availability at Price Point for Community Anchor Institutions, Media Research & Intelligence (MRI) and Scarborough Research data and analysis, and the results of census block/tract surveys.

At Risk Population data and analysis sources included, but were not limited to demographic data produced by the Dept. of Agriculture, HUD, Dept. of Education (including school lunch program data), Dept. of HHS (subsidized medical facilities, FQHC, MUA), US Census data, U.S. Treasury Department Community Development Financial Institutions Fund Low Income Community Database, Updated January 2010 Unemployment Statistics by Census Tract, SafetyNet, DemographicsNow, and numerous academic and commercial studies.

This data was then analyzed against our proposed Middle Mile and Last Mile Service Areas to determine the classification of the area as unserved, underserved or served.

Two or more sources of validation were required for the validation of unserved and underserved status qualification at each of the four (4) remaining stages of our methodology for a service area to be deemed qualified as unserved or served.

Description of Network Openness:

OneCommunity is one of the few organizations in the US that currently owns and operates an open and carrier-neutral network that is fully compliant with the letter, spirit and intent of the FCC Broadband Policy Statement and the nondiscrimination and network interconnection obligations detailed in the NOFA.

This project , through its participation, collaboration and formation of the Ohio Middle Mile Consortium (OMMC) with partners OarNet (Ohio's Research and Education Network), Horizon Telcom in SE Ohio, ComNet in Western Ohio, and Consolidated Electric (Round 1 Awardee) in Central Ohio, extends that open neutral operating ethos to a single fully-integrated middle mile network backbone spanning the entire State.

Our own network interconnects thousands of community anchor institutions across a 22-county footprint in NE Ohio. Expanding the capacity and footprint of this open network to cover the entire State through the OMMC will dramatically increase access and bandwidth (20 Mbps to 100 Gbps) for carriers, community anchor institutions, government, public safety, and via last

mile providers, businesses and residents. It also addresses the many challenging interlata issues in Ohio, reducing costs, opening markets to competition, and facilitating last mile investment by providers.

Specifically, OneCommunity:

1. Has adopted and manages its network according to all four (4) provisions of the FCC Broadband Policy Statement 05-151 adopted 08/15/2005;
2. Does not favor any lawful Internet applications or content over others, thereby ensuring neutral traffic routing;
3. Displays it network management policies in a prominent location on our website, and provides notice to customer to changes to these policies;
4. Connects to the public Internet directly and indirectly, such that this project and our network as a whole is not an entirely closed private network;
5. Offers interconnection (including wholesale access), where technically-feasible, on reasonable rates and terms to requesting parties. Our operating model includes the ability to connect to the public Internet and diverse physical interconnections for the exchange of traffic, allowing users a choice of service providers;
6. Commits to binding private arbitration of disputes concerning interconnection obligations for facilities built through this project;
7. Provides interconnections and an operating model allowing more than one provider to serve end-users across our entire network.
8. Is fully CALEA compliant, and uses access control lifts in our routers to segregate and block access to illegal or harmful content by IP addresses.

As a non-profit whose mission is to provide next generation broadband and toc atalyze meaningful use for government, education and health care, we provide platforms and managed services for telemedicine, public safety, distance learning and VPNs, using synchronous connections for enhanced quality of service rather than the public Internet.

System Design:

The Transforming NE Ohio project completes the NE Ohio section of the OMMC's open, neutral, and fully integrated middle mile backbone spanning the entire State of Ohio. This collaboration extends and interconnects the existing assets of the 3 other OMMC core partners: OARnet, Horizon Telecom in SE Ohio and ComNet in Western Ohio. It maximizes the impact

of the coalition's existing footprint to bring synchronous high speed connectivity to community anchor institutions while providing open and neutral mid-haul and long-haul capacity for last mile providers.

The middle mile connection capacity achieved through this design for the OMMC is significant:

- Expands OARnet's capacity from 14 counties to 88;
- Expands OneCommunity's capacity from 22 counties to 88;
- Expands ComNet's capacity from 20 counties to 88;
- Expands Horizon's capacity from 20 counties to 88.

The unified network is built on redundant, fiber optic rings, using both existing and new build assets. It 'stitches together' existing assets, while extending reach and capacity in mission critical areas for community anchor institution interconnection ("On Middle Mile Network" services between any two facilities in the State). Between the three (3) regional networks, over 40 carriers already use the regional backbones for middle-mile transport. Exact intersection points between the four (4) networks are shown in detail in the 'Network Diagram' and 'Network Maps' uploads in this application.

The NE Ohio design centers on extending network capacity and interconnections between the three other networks. The new construction uses 144 count fiber. The architecture features DWDM and Layer 2 MPLS, connecting providers and their customers through a Layer 3 MPLS Internet Protocol Switching to the Internet. The robust transport capacity supports expanded requirements for multi-data voice, video and Internet services.

Our design incorporates "fixed" and "mobile" wireless technologies for expanded public safety, government and point-to-point access. Fiber is directly deployed to mission critical State of Ohio MARCS towers. We use unlicensed spectrum in the 900 MHz, and 5.0 GHz band and licensed Spectrum in the 2.5 GHz, 3.65 GHz and 4.9 GHz bands, providing over 100 MHz in mixed use spectrum. The mixed spectrum use addresses the morphology and topology of the region which transverses from flat land to heavy foliage, trees and rolling hills.

Transport Layer

OneCommunity's network design is made up of two distinct layers for data transport; this includes the Transport Layer and the Routed Layer. The transport layer consists of a DWDM backbone using the Fujitsu FW9500 series. This unit has the ability to deliver 88 lambdas at 40Gbps for a backbone throughput of 2.4Tbps. The FW9500 Chassis is certified for 100Gbps backplane for future bandwidth growth to 8.8Tbps. With the use of the 9500's ROADM capabilities, it allows traffic to be cross-connected from any ring to any other ring. This allows circuits to be built regionally without the need for field personnel to dispatch to the field for service turn-up. The FW9500 supports 1 to 40Gbps Ethernet and all SONET services to meet any customers' needs.

The DWDM architecture allows data replication links for community anchor institutions to be provisioned separate from the traffic that rides the main ring. For example, a direct link between two health care facilities provides a separate logical channel on the same physical network between the two locations. Configured this way, bandwidth is provided without impacting other traffic running the network backbone. Interfaces supported include: 1 Gbps, 10 Gbps, SONET OC-3, OC-12, OC-48, OC-192, OC-768, SAN transport using fiber or SCON, and Alien waveform line cards.

Routed Layer

Below the transport layer is the Routed layer using the Juniper MX960's. These state of the art routers have the capability of doing Layer 2 or Layer 3 transport. The MX series supports both MPLS and VPLS services for the highest reliability. MPLS allows differentiation of customer traffic at Layer 3, providing secure and robust routing. The MPLS core allows for every node to be aware of diverse paths to every other node in the network allowing for the highest reliability. Layer 2 service delivery can be implemented using either a full set of standard Layer 2 options, but the key feature of the MX series is the capability of routing layer 2 traffic via VPLS, which can be used onto a layer 3 routed backbone which eliminates the problems with path loops that can slow network performance.

This provides the network the maximum diversity in the case of hardware failures or fiber cuts. The Juniper MX series also supports QoS to ensure real time packets are delivered as a priority making voice and video traffic seamless. Both the FW9500 and MX use a fully meshed architecture providing the best level of service and reliability. In tandem this will provide carrier

class services to its customers and partners, giving the peace of mind that critical data will always reach its destination. Benefits include:

- Loss of upstream ISP does not affect network;
- Loss of core node(s) does not fully affect network;
- Fiber cuts or port failures do not affect network.

WIRELESS ACCESS:
The WiMAX and Point-To-Point wireless design is based on 5.0 GHz unlicensed high capacity links and augmented by licensed spectrum use. The multi-spectrum wireless architecture use WiMAX technologies for the wireless digital communications system (IEEE 802.16). WiMAX technologies provide broadband wireless access (BWA) up to 30 miles (50 km) for fixed stations, and 3 - 10 miles (5 - 15 km) for mobile stations.

The design uses the following WiMAX configurations:
900 MHz Unlicensed TBD 6
2.5 GHz Licensed TBD 6
3.65 GHz Licensed 25 MHz 6
4.9 GHz Licensed 20 MHz 4
5.9 GHz Unlicensed 30 MHz 1

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

No

I. Project Budget

Project Budget		
	Federal Grant Request	**Match**
Last Mile	0	0
Middle Mile	44,794,046	25,188,433
Total	44,794,046	25,188,433

Project Budget Total: $69,982,479

Submitted Date:	**Easygrants ID: 4395**
Funding Opportunity: Broadband Technology Opportunities Program	**Applicant Organization:** ONECOMMUNITY
Task: Submit Application - BTOP	**Applicant Name:** Charles Berry

Match Percent: 36.0%

Projects Outside Recommended Funding Range:

-

Outside Leverage	
Applicant is providing matching funds of at least 20% towards the total eligible project costs?	Yes
Matching cost detail	OneCommunity has brought together a number of committed community anchors to contribute to the Ohio Middle Mile Consortium network. The overall cash match of $21,155,602 equals 47% against the grant request of $44,794,046 and 30.2% of the larger $69,982,479 project. The cash break down below describes the source of the capital that will fund construction over the twenty (20) county servicing area.. OneCommunity is the process of a $13,820,000 network build for the FCC Rural health Care Pilot Project and has secured a new Market Tax Credit Loan specifically to help connect underserved health care providers. In addition, OneCommunity has secured funding from First Merit Bank to build additional capacity for the region. This funding, combined with cash earnings will produce $12,983,338 over the build period to fulfill OneCommunity's portion of the cash match. In addition the Medina County Port Authority has secured bonds for a fiber construction project that will need Middle Mile connectivity and is providing $5,797,601 to the capital campaign to facilitate the construction of the regional OMMC network. This provides 8% to the overall match and combined with OneCommunity covers 42% of the funding requirements against a grant request of $44,794,046. There are a number of community anchor partners including Lorain County Community College and OARnet, both sub-recipients to this application, who will bring an additional cash match of $2,374,663 for the remaining 5%. These additional project requests bring the total for

	the overall project to $69,982,479. Juniper is making a capital contribution of $1,137,726 for the purchase of hardware to connect the middle mile partner consortium. This service area is distressed, and as demonstrated by partners' investments it is clear that additional funding is needed to address the larger needs of the region and the State of Ohio. Letters of commitment have been provide by our sub-recipients and partners partners. Cash Contribution Match; OneCommunity Cash $2,412,210, 3% First Merit Capital Construction Line $1,985,280, 3% Medina County Port Authority Bonds $5,797,601, 8% OARnet $774,735, 1% Juniper $1,137,726, 2% Lorain Community College $462,202, 1% Earned Income/New Market Tax Credit Line, $8,585,848, 12% NMTC Financing for seed capital to connect underserved anchors, $2,700,000, 3.86% Earned Income from Subscriber Connections over 30 Months, $5,885,848, 8.41% The partners are also providing in-kind matching through fiber IRUs, additional equipment for network interconnection and expansion of regional services that address the needs of the anchor institutional partners. Two key contributors are Lorain Community College and OARnet. Both are partnered up with the regions colleges and workforce programs and greatly benefit from the deployment of the regional middle mile network. Oarnet will be providing equipment and wave services to support the regions interconnection with the State through OARnet. This core infrastructure will serve as a super ring connecting higher education the research and education community as a whole.

	Lorain Community College is providing fiber wave services, to interconnect the workforce development efforts in a greatly distress employment region. Their efforst combined with the OMMC will produce a truly remarkable public/private partnership between the employers, government, health and private sector providers to ensure that the county will be able to set a standard across the region and provide advanced tele-working capability. Cisco and juniper are providing in-kind services in the form of engineering support to build out the network and provide the equipment necessary to create an integrated public safety network that will serve the entire region and with the support of the State MARCS system will provide the region and the state access to Northeast Ohio's emergency management network. In-Kind Match; OneCommunity, Lab and Test Equipment, $115,000, >1% OARnet, Equipment and Fiber Wave Services IRU, $1,890,405, 3% Lorain Community College, 15 Mile Fiber IRU, $250,000, > 1% Cisco, Public Safety Network Equipment, $877,426, 1% Juniper, Network Engineering Services, $900,000, 1%
Unjust enrichment	The 'Transforming NE Ohio: From Rust Belt to Tech Powerhouse' project is not receiving, nor has OneCommunity or the OMMC requested, federal support for non-recurring costs that would result in our receipt of duplicative federal funding to cover the same costs in the service areas for which we are seeking an award. There are no other federal sources directly contributing to the scope of work envisioned under this project. The project does leverage an $11 million dollar award from the Federal Communications Commission (FCC) through the Rural Health Care Pilot Program to construct a network interconnecting 19 medically-underserved-area (MUA) hospitals across 22 counties to the OneCommunity HealthNet broadband network. This project, which began construction in January of 2010, provides a core middle mile

	transport backbone to which the funded middle mile network expansion rings requested under this project will interconnect. Leveraging the FCC project in this fashion significantly reduces the overall cost of the network expansion into communities across the 20-county footprint represented as the outcome of the project, not only through the construction of redundant middle mile rings from the closest network point rather than building from the urban core, but also through a careful integration of the build-out itself, allowing for collapsed costs through parallel construction activities and an economy of scale for fiber and equipment purchases, as well as construction and make ready services. There is no physical overlap between the two designs excepting interconnection points, resulting in a single unified middle mile network backbone that will provide direct services to over 200 hospitals, 2000 schools, hundreds of state, county and municipal agencies, and long haul and mid-haul transport for dozens of commercial carriers and service providers. There is also no overlap in equipment purchases required to light up the dark fiber laid by the two projects. In addition, there is no requested federal support for non-recurring costs that would result in OneCommunity receiving duplicative federal funding to cover the same costs in service areas from our Round 1 Sustainable Broadband Adoption Award for the Connect Your Community Project (Application Number 2434). The program is unrelated to this project, and does not share costs, outcomes or personnel.
Disclosure of federal and/or state funding sources	OneCommunity has both received and applied for funds from a number of Federal and/or State funding sources for initiatives related to the Transforming NE Ohio: From Rust Belt to Economic Powerhouse, an Ohio Middle Mile Consortium project.

	These include: - OARnet, the State of Ohio's Academic and Research Network is providing matching funds for portions of the build in our project that augment their ability to deliver services to K-12, community college and universities across the State. Details of their matching investment for this project are found in the Matching Cost Detail Section, above. - OneCommunity received an $11.228 million award from the FCC to connect 19 medically underserved area (MUA) hospitals to our HealthNet high speed broadband network through the Rural Health Care Pilot Program (RHCPP). The network provides a platform for electronic medical records (EMR), remote diagnostics and advanced telemedicine services through connectivity at up to 40 Gbps. The Transforming NE Ohio: From Rust Belt to Economic Powerhouse project will create an infrastructure that will allow hundreds of additional medical facilities across the State to be connected to the network, creating one of the largest and most advanced telemedicine networks in the world. - OneCommunity was awarded an $18.7 million grant under the Sustainable Broadband Adoption program in Round 1, designed to accelerate the adoption in broadband in communities in five (5) states. The program's purpose is to engage, train, equip and support broadband users, ultimately empowering more than 50,000 individuals from vulnerable groups to reap the benefits of being digitally connected. The program is not related to this proposal, and has no overlapping project costs or personnel. - OneCommunity is the network anchor for a number of ARRA and Federal grants for Health Care institutions in NE Ohio. With over 60 hospitals on our network, including such prestigious institutions as the Cleveland Clinic, University Hospitals, and Akron Children's, we often act as a 'neutral agent,' bringing organizations that traditionally compete together for aggregated asks that collapse costs, extend

	service capabilities and increase efficiencies. We are involved in nearly a dozen in-process and pending asks for electronic medical records, telemedicine and health information technologies at the State and Federal level. - OneCommunity worked closely with the Cleveland Metropolitan School District to receive nearly $8 million in federal technology funds secured through the State of Ohio's e-Rate program to secure the routing, switching, server and internal wiring equipment required to bring the benefits of the OneCommunity network into every school (107) in the district.
Budget reasonableness	This project is one of three (3) tightly integrated proposals through the Ohio Middle Mile Consortium (OMMC) designed to create a seamless middle mile backbone for the entire state of Ohio. The government, non-profit and commercial partners brought significant existing fiber assets to the project, and literally 'stitched' them together to create an integrated whole. This drastically reduced the route miles of new fiber that had to be deployed to achieve the State's objective, and represents a significant multiplier effect (20:1) for every dollar invested in this 3-part OMMC application. The resultant network from the three (3) proposals of the OCCM provides seamless middle mile broadband transport for 88 counties, 11 million citizens, thousands of community anchor institutions, and (indirectly through last mile providers) millions of small businesses and residents starved for next generation broadband access. The 144-count fiber has virtually unlimited capacity under our DWDM architecture, allowing the open and neutral flow of carrier traffic and the capacity for direct VPN connectivity between any two community anchor institutions on the network. We have significant experience constructing fiber, wireless, and WiMAX projects in NE Ohio. OneCommunity currently has over 600 route miles of fiber under contract for construction through similar morphologies, and our application takes into account the 'lessons

	learned' in project planning, resourcing, scheduling and cost containment. The average cost of our proposed fiber build is approximately $7.00 per foot (typical builds range average as high as $9 to $12 per foot in this morphology). The planned design is 53% underground deployment and 47% aerial. Our experience and recent validations have demonstrated that these are achievable numbers and at the lower end of the cost spectrum. We launched construction for the FCC Rural Health Care Pilot Program build in January of 2010 (identical equipment/services) validating the state of current pricing under our current arrangements with primary equipment, fiber and construction vendors.. The accuracy of these numbers is further confirmed through numerous small builds during Q4 of 2009 and Q1 of 2010. Our budget assumes a reasonable build schedule, and the flexibility to manage crews across multiple sub-projects, thereby maximizing utilization and build efficiency. Finally, scale matters. A project of this size allows for significant discounts from major equipment and fiber vendors through volume purchasing payment and delivery. This has a three-fold effect: 1) Maximizes purchasing power; 2) Minimizes the impact timeline for the stimulus program, putting manufacturing personnel to work immediately on large orders; 3) Creates efficiencies for manufacturers by reducing set-up, administration, and transportation requirements.
Demonstration of need	Northern Ohio suffers from a history of financial need and, as such, has created a climate of financial difficulty. Even without the recent banking crisis, our traditional banks, investment banks and venture funding capacity have had little impact in freeing up long-term capital projects. Most of the investment community in our region looks for financial

	deals outside of Northern Ohio. In addition, the recent banking crunch took its toll on the region's capital intensive carriers, cable companies and independents. These companies are further impacted by the local financial community's reluctance to use telecom assets as collateral. Even companies with significant capital have been seeing banks decreasing line activity, making access to capital even harder to get, forcing carriers to slow down or cancel planned infrastructure upgrades or expansion. OneCommunity has not been immune to these financial realities. Our $14 million project interconnecting rural and urban hospitals through the FCC Rural Health Care Pilot Program was held up for 12 months because of constrained capital. The region's needs are significant (with one of the highest poverty and foreclosure rates in the country), which makes finding financial resources almost impossible. Over the last 12 months, all of our partners have seen reduced credit lines and denial of capital loans putting pressure on existing lines and cash resources. OneCommunity has long been a believer in stakeholder investment and follows a tradition of building cooperative investments from the public sector which in turn attracts private sector investment. We have seen multiples of 3:1 and as high as 6:1; and have brought over $70 million in new investments into the NE Ohio. The OMMC project will require a significant investment to ensure the future of Ohio's core infrastructure and the interconnection of local access providers and public interest sites across the entire State. This investment will attract additional investment from outside, and serve as an economic engine that will produce results for years to come. The need is now and the impact of BTOP will itself produce multiples of investment that will not only serve Ohio but our neighboring states, Pennsylvania, Indiana and Michigan. In the heart of the rust belt and the auto corridor there is a tech belt initiative that will introduce workforce, job training, new advance technology careers in polymers, bio-tech, green energy and the list

	goes on. To get these programs going we will need to attract investment from nontraditional resources such as the BTOP program. Our recent efforts with fund raising and bank financing have all forced us to search for nontraditional funding mechanisms. Our projects, along with a number of other transformative infrastructure projects are at risk without the help of BTOP.

Funds to States/Territories

States	Amount of Federal Grant Request
Ohio	44,794,046

Funds to States/Territories Total: $44,794,046

J. Historical Financials

Matching Funds			
	2007	**2008**	**2009**
Revenue	11,615,868	28,518,975	7,823,802
Expenditures	6,218,396	16,112,185	11,994,419
Net Assets	11,554,072	22,763,077	18,402,892
Change in Net Assets from Prior Year	5,397,472	11,209,005	-4,360,985
Bond Rating (if applicable)			

K. Project Readiness

BTOP Organizational Readiness

OneCommunity, an established non-profit builder, owner and operator of a regional fiber-optic broadband network in NE Ohio, is, by charter, a direct provider of broadband services to

government, education, health care and civic organizations, as well as a middle-mile transport provider to last mile wire line and wireless providers. In addition to operating an open, carrier-neutral network, it peers with multiple State, county and national networks, provides Internet connectivity via Global Crossing and Level 3 Communications, and directly connects to Internet2 and the National LambdaRail.

OneCommunity has in-house engineering, make-ready, permitting, construction management, field support and network operations center personnel for the implementation, management and operation of its networks. We also have in-house sales, accounting, marketing, customer service and human resource personnel to ensure proper institutional support for on-going operations. Highlights are detailed below.

Engineering, Make-Ready, Permitting and Construction Management: OneCommunity staffs these functions in-house, and manage new projects according to formal methodologies leveraging best-in-class design tools (e.g. MapInfo, Bentley Fiber, AutoCAD).

Network Operations Center, Customer Care and Field Support: OneCommunity operates 24x7x365 network operations centers, complete with ticket tracking systems and staffed by senior network engineers with intimate knowledge of the network they monitor and troubleshoot. Customer care is a function of the network operations center, staffed by a customer care specialist, and focused on customer relationship management, level of service, contractual issues and changing requirements.

Provisioning: OneCommunity notifies customers in writing (typically e-mail) of the status of each stage in the provisioning process:
- Confirmed Order Receipt: In writing (typically e-mail).
- Firm Order Commitment, including due date and a network services agreement detailing technical specifications, demarcation point, monthly recurring fees, one-time installation charges and estimated date for circuit installation and cut-over.
- Progress Updates: By voice and in writing (typically e-mail) weekly.
- Installation Verification and Follow-Up: By voice, e-mail and web.

Sales and Marketing: OneCommunity employs seasoned sales and marketing staff to maximize middle mile transport services market penetration and on-boarding of community anchor institutions.

Accounting: OneCommunity uses the robust Microsoft Dynamics ERP system with integrated billing modules for seamless management and audit of customer billings by circuit and/or transport segment use.

Construction and Vendor Contracts

OneCommunity uses in-house engineering talent and field personnel as well as contractors and vendors for the deployment of network facilities. This project was designed using our in-house engineering team. We will be using the services of contractors and vendors for certain aspects of construction and equipment acquisition.

"Shovel ready" is a concept OneCommunity took very seriously in its design and project plan. In an effort to maximize the speed to which we create additional
and immediate jobs through this project, we leveraged the construction timelines and federally approved vendor roster from a prior $11.238 million award from the FCC under the Rural Health Care Pilot Program. We will be extending an additional scope of work to these vendors and putting additional personnel to work on Day 1.

Our breakdown of scope of work for this project:

- Engineering: OneCommunity
- Construction Management: OneCommunity
- Permitting: OneCommunity
- Make Ready: OneCommunity
- Backbone Equipment: Vendor(s)
- Build Materials: Vendor(s)
- Fiber: Vendor(s)
- Fiber Installation: OneCommunity and Contractor(s)

OneCommunity has a history of partnering with socially and economically disadvantaged small businesses (SDB). Our operating philosophy is built around spurring regional economic development through the use of regional firms and regional SDBs as much as possible.

Signed contracts, MOUs, and expressions of interest are attached as evidence.

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Customer Base

OneCommunity is a non-profit provider of broadband services to community anchor institutions and last mile providers. Our wholly owned and operated network spans a 22-county area of NE Ohio. We primarily serve three verticals: health care, government and education. We connect over 1500 community anchor sites, including approximately 750 education, 400 health care, 250 government, and 150 civic organization facilities. Six carriers use our network for middle mile connectivity for businesses and residential customers.

Our health care network is one of the most robust in the country, interconnecting urban and rural hospitals with synchronous connectivity at speeds from 100 Mbps to 40 Gbps. Our urban hospital subscribers include prestigious institutions such as the Cleveland Clinic, University Hospitals and Akron Children's Hospital.

Our government client base includes small town and major metro customers, including Cuyahoga County, the largest and most populous county in Ohio. We provide platforms for advanced voice, data and video services, including E-911, video arraignment, remote surveillance, and fixed/mobile emergency response.

We provide middle mile transport for the Ohio Education Computer Network servicing K-12, as well as direct fiber connectivity to public and private schools. OneCommunity also provides connectivity and interconnection to Internet2 and the National Lambda Rail for universities, including Case Western Reserve University.

Licenses, Regulatory Approvals and Agreements

The Transforming Ohio: From Rust Belt to Tech Powerhouse Project requires the utilization of staggered walk-out crews prior to scheduled construction for each middle mile segment being constructed.

Our walk-out and permitting methodology has proven to be predictable at 38 days:

1. Walk-out crew registers with required local, county and state officials.
2. Walk-out of network path on township, city, county and state right-of-ways.
3. Determination whether fiber is being placed underground or aerial.
4. Underground permits are submitted to responsible entity for right of way permits.

5. Aerial permits are submitted to responsible entity for right of way permits.

The status of required licenses and regulatory approvals is as follows:
Tower Leases: Approved for all towers in route;
State Authorizations: Currently hold all necessary state authorizations;.
Pole permits: Standing contracts with 95% of all required providers;
Right-of-Ways (non-utility): 50% secured, 50% to be determined during walk-out.
Duct Occupancy Permits: 50% secured, 50% TBD during walk-out.
Licensed and Unlicensed Spectrums: All authorizations secured.
Construction permits: To be filed and acquired during walk-out.
All required building and equipment leases have been secured.
There are no land leases, video franchise agreements or local loop leases required.
Utility Right-of-Ways: 90% secured, 10% to be determined during walk-out.

SPIN Number

Applicant: OneCommunity, SPIN 143029177
Sub-Recipient: OARnet, SPIN 143032480

Equipment, Fiber and Construction Vendors:
A-D Technologies, SPIN 143033597
Fujitsu, SPIN 143029609
GNJ Construction, SPIN 143033584
MultiLink, SPIN 143033582
OFS Fitel, SPIN 143033576
Texcel, SPIN 143033593

Ohio Middle Mile Consortium Members:
OneCommunity, SPIN 143029177
OARnet, SPIN 143029177
Horizon Telecom, SPIN 143001654
ComNet, SPIN 143022551
Zayo Enterprise Networks, SPIN 143033526

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L. Environmental Questionnaire

Project Description

All assets acquired for fiber optic broadband distribution will be mounted on existing structures that exist presently or, in in the case of sub terrestrial fiber placement, that will be constructed following county and state right of way guidelines for fiber optic placement. These structures, either sub terrestrial or facility based pole structures, follow federal environmental guidelines and must comply in Ohio under the Public Utilities Commission of Ohio. Fiber optic assets to deliver services for this project are also regulated by the FCC to remain within specified guidelines that assure no environmental impact to any living or non-living entities that are in direct contact with these assets. The fiber optics that require new construction will be installed by a certified facility provider, and proper state and local permitting will be required to meet all environmental and safety guidelines. Location and equipment descriptions for all cable and equipment deployments are to be found in our Network Maps and Network Diagram uploads.

We believe that all construction and equipment to be deployed as part of this project fall under Categorical Exclusion A-6, 'Adding fiber optic cable to transmission structures or burying fiber optic cable in existing transmission line rights-of-way,' and/or Categorical Exclusion A-7, 'Acquisition, installation, operation, and removal of communications systems, data processing equipment, and similar electronic equipment.'

Property Changes

Not applicable. This project does not include any property to be cleared, excavated, fenced or otherwise disturbed, excepting construction activities that fall under Categorical Exclusion A-6, Adding fiber optic cable to transmission structures or burying fiber optic cable in existing transmission line rights-of-way. This CE is supported by a longstanding categorical exclusion with the U.S. Department of Energy and Findings of No Significant Impact on Environmental Assessments prepared for the Bureau of Land Management, Vandenberg Air Force Base, the U.S. Park Service, and the Tennessee Valley Authority.

Buildings

Not applicable. This project does not include the construction or modification of any buildings or other structures. To the extent that any modifications would be required within a room in an

existing building for the installation of new network equipment, these activities would fall under Categorical Exclusion A-7, Acquisition, installation, operation, and removal of communications systems, data processing equipment, and similar electronic equipment. This CE is supported by a legacy
categorical exclusion from the U.S. Department of Energy and Findings of No Significant Impact on several Description Memorandums from the U.S. Department of Energy.

Wetlands

Not applicable. There are no wetlands present or near the project site(s) affected by construction.

To the extent that it was later determined that any wetlands did indeed fall within the project site(s), our construction activities would fall under Categorical Exclusion A-6, Adding fiber optic cable to transmission structures or burying fiber optic cable in existing transmission line rights-of-way. This CE is supported by a longstanding
categorical exclusion with the U.S. Department of Energy and Findings of No Significant Impact on Environmental Assessments prepared for the Bureau of Land Management, Vandenberg Air Force Base, the U.S. Park Service, and the Tennessee Valley Authority.

Critical Habitats

Not applicable. There are no critical habitats present or near the project site(s) affected by construction.

To the extent that it was later determined that any critical habitats did indeed fall within the project site(s), our construction activities would fall under Categorical Exclusion A-6, Adding fiber optic cable to transmission structures or burying fiber optic cable in existing transmission line rights-of-way. This CE is supported by a longstanding categorical exclusion with the U.S. Department of Energy and Findings of No Significant Impact on Environmental Assessments prepared for the Bureau of Land Management, Vandenberg Air Force Base, the U.S. Park Service, and the Tennessee Valley Authority.

Floodplain

Not applicable. There are no facilities or sites located within a 100 or 500-year floodplain in this project.

To the extent that it was later determined that facilities or sites did indeed fall within 100 or 500 year floodplains our construction activities would fall under Categorical Exclusion A-6, Adding fiber optic cable to transmission structures or burying fiber optic cable in existing transmission line rights-of-way. This CE is supported by a longstanding categorical exclusion with the U.S. Department of Energy and Findings of No Significant Impact on Environmental Assessments prepared for the Bureau of Land Management, Vandenberg Air Force Base, the U.S. Park Service, and the Tennessee Valley Authority.

Protected Land

Not applicable. There are no historic facilities governed by the SHPO or tribal lands impacted by this project.

To the extent that it was later determined that historic facilities were within 1 mile of the construction path, our construction activities would fall under Categorical Exclusion A-6, Adding fiber optic cable to transmission structures or burying fiber optic cable in existing transmission line rights-of-way. This CE is supported by a longstanding categorical exclusion with the U.S. Department of Energy and Findings of No Significant Impact on Environmental Assessments prepared for the Bureau of Land Management, Vandenberg Air Force Base, the U.S. Park Service, and the Tennessee Valley Authority.

Coastal Area

Not applicable. The project is not within the boundaries of a coastal zone management area.

To the extent that it was later determined that the project fell within a coastal zone management area, our construction activities would fall under Categorical Exclusion A-6, Adding fiber optic cable to transmission structures or burying fiber optic cable in existing transmission line rights-of-way. This CE is supported by a longstanding categorical exclusion with the U.S. Department of Energy and Findings of No Significant Impact on Environmental Assessments prepared for the Bureau of Land Management, Vandenberg Air Force Base, the U.S. Park Service, and the Tennessee Valley Authority.

Brownfield

Not applicable. The project is not within a brownfield site.

To the extent that it was later determined that the project was in a brownfield site, our construction activities would fall under Categorical Exclusion A-6, Adding fiber optic cable to transmission structures or burying fiber optic cable in existing transmission line rights-of-way. This CE is supported by a longstanding categorical exclusion with the U.S. Department of Energy and Findings of No Significant Impact on Environmental Assessments prepared for the Bureau of Land Management, Vandenberg Air Force Base, the U.S. Park Service, and the Tennessee Valley Authority.

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Uploads

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

Upload Name	File Name	Uploaded By	Uploaded Date
Service Offerings and Competitor Data	CCI Service Offerings and Competitor Data Attachment.xlsx	Berry, Charles	03/26/2010
Network Diagram	Network Diagram.pdf	Berry, Charles	03/25/2010
Build Out Timeline	CCI Build-Out Timeline Attachment.pdf	Berry, Charles	03/26/2010
List of Community Anchors and Points of Interest	CCI Anchor Detail and POI Attachment Final.xls	Berry, Charles	03/26/2010
Management Team Resumes and Organization Chart	Org Chart and Management Team Resumes.pdf	Berry, Charles	03/25/2010
Government and Key Partnerships	CCI Government and Partnerships FINAL.pdf	Berry, Charles	03/26/2010
Historical Financial Statements	OneCommunity Financial Statements.pdf	Berry, Charles	03/25/2010
Budget Narrative	CCI Budget Narrative Attachment.pdf	Berry, Charles	03/26/2010

Detailed Budget	CCI Detailed Budget 1C Final Version 032610.xls	Berry, Charles	03/26/2010
Pro-forma Forecast	CCI Pro Forma 1C Financial Projections Final Attachment.xls	Berry, Charles	03/26/2010
Subscriber Estimates	CCI Subscriber1C Estimates Attachment Final.xls	Berry, Charles	03/26/2010
Dashboard Metrics	CCI Key Metrics Dashboard Attachment FINAL.pdf	Berry, Charles	03/26/2010
Service Area Data	CCI Service Areas Attachment.xls	Berry, Charles	03/26/2010
Network Maps	CCI Network Maps Final.pdf	Berry, Charles	03/25/2010
BTOP Certifications	CCI BTOP Certifications Attachment.pdf	Berry, Charles	03/25/2010
SF-424 C and D	CCI SF 424 C and D 1C Final Forms.pdf	Berry, Charles	03/26/2010
Supplemental Information	CCI Letters of Support.pdf	Berry, Charles	03/26/2010

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