



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

Submitted Date: 3/26/2010 6:18:04 PM	Easygrants ID: 6451
Funding Opportunity: Broadband Technology Opportunities Program	Applicant Organization: CVIN, LLC
Task: Submit Application - BTOP	Applicant Name: Mr. David Douglas

Table of Contents

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



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A. General Application Information

Applicant Information	
Name and Federal ID for Applicant	
DUNS Number	010738198
CCR # (CAGE)	5WSX7
Legal Business Name	CVIN, LLC
Point of Contact (POC)	DAVID DOUGLAS 5598465355 Ext. douglasd@cvin.com
Alternate POC	EARL BISHOP 2092961447 Ext. earlb@volcanotel.com
Electronic Business POC	DAVID DOUGLAS 5598465355 Ext. douglasd@cvin.com
Alternate Electronic Business POC	DAVID DOUGLAS 5598465355 Ext. douglasd@cvin.com

Name and Contact Information of Person to be Contacted on Matters Involving this Application:	
Prefix	Mr.
First Name	David
Middle Name	
Last Name	Douglas
Suffix	
Telephone Number	559-846-5355



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Fax Number	
Email	douglasd@cvin.com
Title	Manager

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

Project Role	Name	Phone	Email
Secondary Point of Contact	Ms. Deborah , Hunt	4157935034	deborah.lynn.hunt@pacbell.net

Environmental Point of Contact

Prefix: Mr. Name: Douglas, David Suffix: Telephone Number: 5598465355 Title: Manager
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Organization Classification

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

Authorized Organizational Representative

AOR Name	DOUGLAS, DAVID
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Result	Applicant Authorized
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Project Title and Project Description

Project Title: The Central Valley Next Generation Broadband Infrastructure Project

Project Description: CVIN/CENIC will build a 1371 mile fiber-optics infrastructure through 18 California counties: Amador, Calaveras, Colusa, El Dorado, Fresno, Kings, Kern, Mariposa, Merced, Madera, Nevada, Placer, San Joaquin, Stanislaus, Sutter, Tuolumne, Tulare & Yuba providing direct fiber connectivity to 63 anchor institutions & access by another 40 anchor sites & hundreds of thousands of businesses & residences

CCI Priority Checklist

The following items were selected from the CCI Priority Checklist:

1. This project will deploy Middle Mile broadband infrastructure to community anchor institutions.
2. The project will deploy Middle Mile broadband infrastructure and has incorporated a public-private partnership among government, non-profit and for-profits entities, and other key community stakeholders.
3. This project will deploy Middle Mile broadband infrastructure in economically distressed areas.
4. This project will deploy Middle Mile broadband infrastructure to community colleges.
5. This project will deploy Middle Mile broadband infrastructure to public safety entities.
6. This project will deploy Middle Mile broadband infrastructure and either includes a Last Mile infrastructure component in unserved or underserved areas or has received commitments from one or more Last Mile broadband service providers to utilize the Middle Mile components. Any Last Mile components in rural areas do not exceed 20% of the total eligible costs of the project.
7. This project will deploy Middle Mile broadband infrastructure and the applicant has proposed to contribute 30 percent or more in non-federal cost match.

Comprehensive Community Infrastructure Components

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



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Middle Mile

Last Mile Non-Rural

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
4464	Central Sierra Econ. Dev. Broadband Middle Mile Project
6145	Nevada County Connect
6078	Wireless Broadband Service for Unserved & Underserved Rural Areas of San Joaquin, Alameda &
7160	Mother Lode Broadband-A Community Network
4387	Free2 Connect 4 Success
6303	California Connects
4871	California Telehealth Network eHealth Broadband Adoption
7417	NorCal Broadband Access Consortium



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

The Central Valley Next Generation Broadband Infrastructure Project is a middle mile infrastructure project that will interconnect 18 counties and link them to CENIC’s robust statewide backbone and to the worldwide Internet. Of the applications being submitted seven could complement our project if they are funded; but our project is not dependent on any of them. An eighth, the Mediabon NorCal Broadband Access Consortium project (#7417), if funded, has a partial overlap with our project.

Four CCI projects focus on providing wireless infrastructure in specific counties: #4464 (Amador, Alpine, Calaveras and Tuolumne), #6145 (Nevada), #6078 (San Joaquin), and #7160 (Mother Lode). If funded, each could provide connectivity between individual schools, health care facilities, businesses, and residences in these counties and our middle mile infrastructure.

Three are SBA & PCC projects: California Connects (#6303) will develop an open-source online digital literacy training tool that can be utilized at public libraries and other computing centers across the state with specific focus in the Central Valley region, targeting and providing learning support to low income, Latino residents – populations that currently have low adoption rates within the state; California Telehealth Network (CTN) eHealth Broadband Adoption (#4871) will support sustainability of California's FCC-funded CTN, enable wide spread use of broadband applications by delivering multi-faceted training in partnership with libraries, community colleges, health organizations and public safety sites, and establish best practice Model eHealth Communities to demonstrate how to transition to technology-enabled health delivery; and, Free2 Connect 4 Success (#4387) will expand the public library computer access centers in 136 libraries statewide by providing much needed desktop workstations and laptops, 24/7 wireless access, new or upgraded wireless routers, and staff to help users access library resources.

If funded, these projects will provide individuals, especially new Internet adopters the programming, hardware and training to effectively utilize the infrastructure we will install. This will also help personnel in the various anchor institutions including health-care facilities, public libraries and schools that will be utilizing our infrastructure.



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Both the NorCal Broadband Access Consortium project (#7417) and our project intend build a fiber infrastructure between Nevada City and Colusa. If both projects are funded the two parties have already agreed the implementation and funding should be the responsibility of CVIN/CENIC.

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
Earl Bishop	Chairman & CFO	Volcano Telephone
Kirby Smith	Secretary	Calaveras Telephone
David Douglas	President & Project Manager	D & D Technical Management

B. Executive Summary, Project Purpose and Benefits

Essay Question

Executive Summary of the proposed project:

In June 2009, the Public Policy Institute of California reported that Internet & broadband use has increased in all regions of the state except the Central Valley where only 67% of the citizens use the Internet; 49% of the households & 15% of the communities do not have broadband; &, only 20% of the users have more than a 10Mbps connection. Over 57% of the Central Valley is



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classified as either unserved or underserved by broadband infrastructure, the per capita income in 2007 was \$29,790, 29% below the state average, & some counties are now ranked among the poorest in the nation.

Given these facts, coupled with the recent FCC National Broadband Plan calling for affordable access at 100Mbps download & 50Mbps upload for a 100 million homes, strongly suggest that this region would benefit from the tools, resources & potential job growth a fiber-based infrastructure could provide.

In a public-private partnership, Central Valley Independent Network, LLC.(CVIN) & the Corporation for Educational Network Initiatives in California (CENIC) will build, operate & maintain a 1371 middle mile fiber-optics network infrastructure that will provide robust open access network capabilities for 18 Central Valley counties: Amador, Calaveras, Colusa, El Dorado, Fresno, Kings, Kern, Mariposa, Merced, Madera, Nevada, Placer, San Joaquin, Stanislaus, Tuolumne, Tulare, Sutter & Yuba. This new infrastructure will be linked to CENIC’s advanced statewide backbone & to the worldwide Internet.

The key goal is to directly connect primary anchor institutions to this infrastructure via direct fiber or by a circuit at 1GE to 10GE speeds. Initially, 63 anchor sites will be connected directly by fiber: 14 community college districts & colleges, all 19 County Offices of Education sites, the three (3) CSU universities, 20 County & Main libraries, 7 public safety sites. Additional public safety & health sites are to be designated later.

To address public safety needs, CVIN/CENIC is working with the Northern Planning Area of California (NPAC) & the Central Planning Area of California (CPAC) groups, under California’s Statewide Interoperability Executive Committee (CalSIEC), to develop plans for regional Emergency Services Networks utilizing this infrastructure & the CENIC statewide backbone to interconnect the major Public Safety Answering Points (PSAPs) located throughout the region. Initially, 7 major sites in the CPAC 7-county region will be directly connected by fiber. Planning continues to link major sites in the other 11 counties & to find last mile solutions for the other 60-70 PSAPs. Also, CENIC is in conversation with the State Office of Emergency Services about a statewide public safety network.

We have been limited in connecting major health facilities because the FCC Rural Health Pilot Program recently funded the formation of a California Telehealth Network (CTN) with a three-



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year grant of \$22 million to interconnect major healthcare facilities statewide. Consequently, facilities in the 18 counties are committed to use CTN for the next three years. With CTN's consent CVIN/CENIC has begun pursuing the 2000 secondary health facilities in the region that CTN cannot accommodate

While there is a primary focus on connecting anchor institutions, this infrastructure is also designed to serve all the needs of the communities. The service areas encompass 1,973 communities, most of which currently only have access to limited network speeds. The number of households & businesses that could be served by CVIN & other commercial last mile providers by interconnecting at strategically located aggregation points on this middle mile infrastructure include: 1,549,008 households & 161,570 businesses. This project will also facilitate local businesses, residences & governmental agencies in gaining access to cost-effective higher-speed broadband Internet capabilities not readily available today in this region of California. CVIN has already begun to develop its own comprehensive marketing plan as well as engaging other commercial providers in how they might use this infrastructure to better serve their clientele

Implementation of this project is intended to have the following results:

- Enhance students access to leading edge learning resources & online programs that will help develop their knowledge, understanding & skills necessary to compete in a global community
- Provide faculty & staff access technology tools & solutions that can improve the quality of teaching & achieve administrative economies of scale & cost savings
- Improve citizens' access to library resources in the county & regional library systems as well as on the web
- Improve the quality & cost-effectiveness of the current administrative systems shared among the county & main libraries in the region & open up other collaborative opportunities
- Improve current communication systems of public safety entities within the region by establishing a dedicated emergency network that interconnects the Public Safety Answering Points (PSAP) across the 18 counties that is seamless & interoperable
- Improve coordination of care among hospitals, clinics, skilled nursing facilities, home care agencies, pharmacies, physicians & other health professionals as well as provide consumers with their own health information to encourage greater participation in their health care decisions
- Provide access to this infrastructure by government agencies, at all levels, local businesses & residences at costs that are very competitive



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CENIC will extend its enhanced high-bandwidth (1Gbps & above) services to the anchor institutions it will serve under this proposal utilizing cost effective Ethernet-based offerings. This standard suite of services consists of access to CENIC's CalREN network, Internet2, National LambdaRail & the commodity Internet at CENIC's low wholesale-like rates achieved through aggregation with other R&E networks nationwide. In the past at many of the proposed locations, like Earlimart for example, CENIC has been unable to acquire high bandwidth connectivity at reasonable costs. The connectivity (circuit) costs to be recovered under this proposal will utilize available discounts (e.g. Erate) for the qualifying anchor institutions to deliver value comparable to the costs for similar services in the competitive metropolitan markets in California

CVIN will extend wholesale & retail broadband services in those communities along the fiber route, including wholesale Internet access to existing Last Mile Providers & dark fiber leases where available. CVIN will also offer cellular backhaul services as well as the transport of the aggregated long distance traffic for the independent telephone companies. In addition, CVIN will construct a last mile WiMax wireless broadband network in the rural portions of Fresno, Tulare, Kings & Kern to provide broadband access to these unserved & underserved areas CVIN/CENIC will adhere to the principles contained in the FCC's Internet Policy Statement so that it can properly address the non-discrimination & interconnection obligations listed within the NOFA

Formed in 1995, Central Valley Independent Network (CVIN) LLC has 8 rural independent telco-company members: Sebastian, Ponderosa, Sierra, Calaveras, Volcano, Ducor, Cal-Ore, & Siskiyou. They serve territories covering over 7,000 square miles of this region providing over 63,000 access lines & 1700 miles of fiber. They are experienced in providing broadband services & several have been in business over 100 years

CENIC a 501c3 founded in 1997, has five members: UC System, CSU System, California Community Colleges, K-12 System, & the private universities (USC, Stanford, Caltech). CENIC provides these members advanced networking serving nearly 10 million users. CENIC currently owns & operates CalREN, a network consisting of over 2,900 miles of CENIC owned-and-operated fiber extending from the Mexican border to Corning & San Diego into Arizona, plus over 300 managed circuits leased from telecommunications carriers. Today, CENIC is a



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major player in both the national & international networking arenas & manages the largest & most robust statewide optical network for education in the nation

Both CVIN & CENIC are organizations that are very experienced in installing, operating & managing fiber optics networks. The management & technical leaders of both companies are individuals each with over 30 years of experience and share the philosophy of providing robust, cost-effective, state-of-the-art communication networks while working with their clients to ensure quality services that add value

CVIN/CENIC estimates the total infrastructure cost to be \$66,599,668 with cumulative subscriber rates over the next 8 years of 106,794. Additionally, CVIN/CENIC estimates the project will generate 724 job years broken down by direct & indirect job effects of 463 & induced job effects of 261

Project purpose:

The Central Valley is one of the world's most productive agricultural regions. On less than 1 percent of the total farmland in the United States, the Central Valley produces 8 percent of the nation's agricultural output by value: 17 billion USD in 2002 alone. And yet, with all this abundance, close to 57% of the Valley is classified as either unserved or underserved by broadband infrastructure. With a per capita income in 2007 of \$29,790, 29% below the state average, a labor force growing faster than job growth with unemployment rates from 2002 to 2008 averaging 2.6% higher than the state average and wages in the region in every industry being lower than the state average, now, more than ever, this region requires the tools, resources and potential job growth a robust network infrastructure built throughout the region could provide.

The compelling infrastructure problem is multifaceted—

- Lack of availability-----49% of the households and 15% of the communities do not have broadband
- Lack of access ----- 285 communities do not have access
- Lack of bandwidth----- 20% of the users have more than a 10Mbps connection
- Too costly to the user----cost to user is most often distance sensitive
- Lack of a cohesiveness—there is no middle mile fiber-based infrastructure linking these counties together and to the larger worldwide Internet.



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For the anchor education and library institutions---community colleges, county offices of education and county/main libraries the major challenges are bandwidth, redundancy and costs. For the anchor public safety sites the challenges are interoperability, cost and cohesiveness across public safety groups—fire, police and emergency service and between them across county lines. For health anchor sites the challenges are costs, cohesiveness and bandwidth. For businesses and residences the challenges are the first four above.

This infrastructure will enable CENIC and the California Community Colleges, the K-12 System, the CSU System and the State Libraries to achieve their long-term goal of connecting these institutions to the CENIC statewide backbone via fiber. It will enable them to grow their capacities at marginal cost, as needed and assure control on annual costs. This is to say nothing about giving their clientele access to leading edge information resources.

This infrastructure will assist the public safety entities in this region to build their interoperable network for the purpose of better serving the community and to do so more cost effectively.

This infrastructure will enable CVIN/CENIC to assist the California Telehealth Network by offering to connect those health facilities in the 18 county regions to our infrastructure that CTN cannot accommodate during the pilot period of CTN. In the long range this infrastructure could be used by CTN to provide more bandwidth in a cohesive fashion.

For the unserved and underserved and all of the community this infrastructure is a keystone to ultimately achieving ubiquitous access to the new broadband standard –100 Mbps download and 50 Mbps upload.

By providing direct connectivity to these key anchor institutions, identified earlier, CVIN/CENIC will provide the 18 counties and their residents the ubiquitous “next generation” broadband connectivity and the educational, safety and health information technology it could support to:

- Enhance students’ access to leading edge learning resources and on-line programs that will help develop their knowledge, understanding and skills necessary to compete and enjoy living in a global community
- Provide faculty, teacher and staff access to technology tools and solutions that can improve the quality of teaching and achieve administrative economies of scale and cost savings



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- Improve citizens’ access to library resources in the county and regional library systems as well as on the web
- Improve the quality and cost-effectiveness of the current administrative systems shared among the county and main libraries in the region and open up other collaborative opportunities
- Improve current communication systems of public safety entities within the region by establishing a dedicated emergency network that interconnects the Public Safety Answering Points (PSAP) across the 18 counties that is seamless and interoperable
- Improve coordination of care among hospitals, clinics, skilled nursing facilities, home care agencies, pharmacies, physicians and other health professionals as well as provide consumers with their own health information to encourage greater participation in their health care decisions
- Provide access to this infrastructure by government agencies, at all levels, local businesses and residences at costs that are very competitive

Both CVIN’s Last Mile wireless build-out in Fresno, Kings, Kern and Tulare counties and the relationships with other Last Mile providers both seeking BTOP funds and currently doing business within the 18 counties, CVIN can provide the much needed service the 1,549,008 households in the Valley need to begin meeting the new FCC Broadband Plan’s first goal of having at least 100 million US homes with “affordable access to actual download speeds of at least 100 megabits per second and actual upload speeds of at least 50 megabits per second”.

The CVIN/CENIC proposal to provide over 1371 miles of robust fiber network infrastructure within 18 Central Valley counties is critical if we are to ensure the network infrastructure needed for tomorrow and beyond is put into place now so that our K-20 educational environments, libraries, healthcare and safety entities can flourish and be assured the stable technology infrastructure that next-generation connectivity will demand if Californians are to compete and succeed in a global market.

Recovery Act and Other Governmental Collaboration:

This project will support all recovery act objectives & leverage Federal & State funds for development. Some examples of programs that will be leveraged as a result of funding this application are:

FCC Telemedicine Program: The plan presented in this application will extend broadband connectivity to health facilities in the 18 county region which would otherwise not be linked to a



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new California Telehealth Network (CTN) being deployed as a result of a three-year, \$22 million grant by the FCC, the CETF & UnitedHealth/PacificCare. This will result in a more robust CTN as well as provide valuable training grounds for CSI Net programs aimed at health & health IT careers.

School Programming: California is one of six states to receive a planning grant from the Bill & Melinda Gates Foundation & the S.D. Bechtel Jr. Foundation to transform science, technology, engineering & mathematics (STEM) education in grades K-14. A diverse coalition of K20 education leaders, the business community, & others will soon launch the CA STEM Innovation Network (CSI Net) with the goal of 1) ensuring STEM literacy for all students, & 2) addressing the state's STEM workforce needs. To accomplish its goals, the network will make extensive use of network enabled technologies in order to surround students with high quality STEM learning opportunities 24X7, to reach students in all 58 counties, to ensure the scalability of program offerings & to support their sustainability over time. The CVIN/CENIC project to build out Middle Mile infrastructure in 18 counties will ensure that students in the eighteen county regions can access CSI Net's offerings. By doing so, the CVIN network will be extending the reach of several federally funded STEM education, workforce preparation, & research & development programs. Examples include the following:

STEM After School: California receives approximately \$130,000,000 each year from the U.S. Department of Education to support after school programs. These dollars are combined with additional state funding of \$550,000,000 & used to provide more than 4,000 programs between the hours of 3 & 6 p.m. daily that serve the highest need schools in the state

STEM Teachers, Leaders & Mentors: California's State University system (CSU) recently received \$15 million from NSF for direct support of the preparation of additional math & science teachers & \$35.5 million from the USDE that provides additional aligned support. The funding of this application will permit teachers in underserved areas of the 18 county area to participate in this project.

Additionally the California community colleges operate a wide range of economic & workforce development programs. The reach of these programs into the 18 counties will be greatly facilitated by there being improved broadband in these communities. A full list of these programs, totaling over \$46,933,456 in federal funds & reaching over 223 centers across the state can be found in Att. 18.18-H



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Fit with BTOP CCI Priorities:

CVIN/CENIC will build, operate & maintain 1371 miles of Middle Mile & Last Mile broadband infrastructure with a commitment to offer substantially upgraded & new services to community anchor institutions, government agencies, businesses & households within the 18 counties.

An overarching objective is to bolster growth in economically distressed areas within the 18 counties. With a mean unemployment of over 17.5% & poverty levels of 15% as of 2008, these residents, by directly connecting county offices of education, community colleges & county libraries, will have access to the technological tools necessary to compete in today's global marketplace.

The primary goal is to directly connect nearly all major anchor institutions to this infrastructure via direct fiber or by a circuit at 1GE to 10GE speeds. Initially, 63 anchor sites will be directly connected via fiber including: 14 community college districts & colleges, all 19 sites for County Offices of Education, the three (3) CSU universities, 20 County & Main libraries, and 7 public safety entities. The COE and library anchor sites will act as aggregation point connecting 1,871 schools serving nearly a 1.0 million students, faculty and staff and 200 branch libraries accessible by over 1.0 patrons daily

To address public safety needs, CVIN/CENIC is working with the Northern Planning Area of California (NPAC) & the Central Planning Area of California (CPAC) groups, under California's Statewide Interoperability Executive Committee (CalSIEC), to develop plans for regional Emergency Services Networks utilizing this infrastructure and the CENIC statewide backbone to interconnect the major Public Safety Answering Points (PSAPs) located throughout the region.

Initially, 7 major sites in the CPAC 7-county region will be directly connected by fiber. Planning continues to link major sites in the other 11 counties and to find last mile solutions for the other 60-70 PSAPs. Also, CENIC is in conversation with the State Office of Emergency Services about a statewide public safety network.

We have been limited in connecting major health facilities because the FCC Rural Health Pilot Program recently funded the formation of a California Telehealth Network (CTN) with a three-year grant of \$22 million to interconnect major healthcare facilities statewide. Consequently,



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facilities in the 18 counties are committed to use CTN for the next three years. With CTN’s consent CVIN/CENIC has begun pursuing the 2000 secondary health facilities in the region that CTN cannot accommodate.

This infrastructure will also serve all the needs of the 1,973 communities including 161,570 businesses, 1,549,008 residences & 18 county government agencies with cost-effective higher-speed broadband Internet capabilities not readily available today in this region of California. CVIN & other providers will be able to use this infrastructure to better serve their clientele.

The project last mile component reaches unserved or underserved areas covering 6,210 square miles in Fresno, Kern, Kings & Tulare counties that combined have 710,102 residents, 206,764 households & 20,502 businesses. This does not exceed 20 percent of the total eligible costs.

CVIN has partnered with CENIC, a 501 (c)(3) corporation servicing the networking needs of California’s education community including the California K-12 system, California Community Colleges, California State & University of California systems, Caltech, the University of Southern California, & Stanford University. CENIC is also a major player in both the national & international networking arenas.

CVIN has committed to contribute a non-federal cost match of 30 percent of the total eligible costs of the project.

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

- No

Is the applicant delinquent on any federal debt?

- No

If Yes, justification for delinquency:

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

- No

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



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➤ 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: Dolgonas, Jim
Phone: 7142203400
Email: jdolgonas@cenic.org
Address 1: 16700 Valley View Avenue Suite 400
Address 2:
Address 3:
City: La Mirada
State: California
Zip Code: 90638
Organization: Corporation for Education Network Initiatives in California (CENIC)
Organization Type: Non-profit Corporation
Small business: No
Socially and economically disadvantaged small business concern: No

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

The Central Valley Independent Network (CVIN) LLC and the Corporation for Education Network Initiatives in California (CENIC), in a public-private partnership, are involved in planning and implementing this project and responsible for its ongoing management and operations.

Formed in 1995, Central Valley Independent Network (CVIN) LLC has 8 rural independent telco-company members: Sebastian, Ponderosa, Sierra, Calaveras, Volcano, Ducor, Cal-Ore, and Siskiyou. They serve territories covering over 7,000 square miles of this region providing over 63,000 access lines and 1700 miles of fiber. They are experienced in providing broadband services, several in business over 100 years.



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Submitted Date: 3/26/2010 6:18:04 PM	Easygrants ID: 6451
Funding Opportunity: Broadband Technology Opportunities Program	Applicant Organization: CVIN, LLC
Task: Submit Application - BTOP	Applicant Name: Mr. David Douglas

The Corporation for Education Network Initiatives in California (CENIC), a 501c3 founded in 1997, has five members: UC System (10 campuses), CSU System (23 campuses), California Community Colleges (109 colleges), K-12 System 58 COEs-8000 schools), and the private universities (USC, Stanford, Caltech). CENIC provides these members advanced networking serving nearly 10 million users. CENIC currently owns and operates CalREN, a network consisting of over 2,900 miles of CENIC owned-and-operated fiber extending from the Mexican border to Corning and San Diego into Arizona, plus over 300 managed circuits leased from telecommunications carriers. Today, CENIC is a major player in both the national and international networking arenas and manages the largest and most robust statewide optical network for research and education in the nation.

The Parties have entered into a Memorandum of Understanding (MOU) leading to an Operating Agreement. CVIN will be the lead applicant for BTOP and have the overall responsibility to fulfill the obligations. CENIC, the only sub-applicant, will act as an equal partner during the planning and installation phases. CVIN will manage the installation phase.

The project provides for two separate Layer 3 networks to be installed. CENIC will be responsible for managing one with dedicated point-point connections between anchor education, library and certain public health sites and the CENIC backbone. CVIN will be responsible for managing and operating the second serving their last mile customers as well as between other wireless Internet service providers (“WISP” and/or Internet service providers (“ISP”) interconnection points by providing connectivity to major international ISP backhaul networks.

Anchor Institutions to be served exclusively by CENIC are the County Offices of Education, community colleges, CSU campuses, County and Main public libraries, hospitals and clinics associated with UC, and any California-based federal research laboratory facilities under the aegis of the NSF, DOE, DOD, NIH and NASA, located in these counties. Anchor Institutions to be served jointly are the lead county public safety sites in each of the 18 counties. CVIN has the exclusive right to serve local, county and state governmental agencies, medical facilities not associated with UC, and all other businesses and residences in the 18 county areas.

CVIN/CENIC have already and will continue to involve other stakeholders in the project as it progresses.



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Through CENIC and its current members, the anchor institutions associated with K-12 and community colleges will be involved in the details of getting their sites connected. Once operational, CENIC has in place procedures these sites already use. Likewise, CENIC will continue to work with the libraries through the San Joaquin Valley Library System and Mountain Valley Library System groups, as well as the State Librarian to ensure their proper connectivity and ongoing service support.

CVIN/CENIC has and will continue to engage the Northern Planning Area of California (NPAC) and the Central Planning Area of California (CPAC) groups, under California’s Statewide Interoperability Executive Committee (CalSIEC), in developing an Emergency Services Network that can utilize this infrastructure and the CENIC statewide backbone to interconnect the 18 plus anchor Public Safety Answering Points located throughout the region. CVIN/CENIC also will continue conversations with the State Office of Emergency Services about their role in establishing a statewide Emergency Services Network.

CENIC, on behalf of CVIN/CENIC, has had ongoing exchanges with the California Telehealth Network (CTN) representatives. Since over 30 anchor health facilities in this region are already committed to use CTN for the next three years, we are pursuing the remaining 2000 health facilities in the region CTN cannot accommodate. However, discussions will commence after the BTOP award to determine what might be possible when the three year pilot program for CTN ends.

Once the decision was made to pursue a BTOP grant CVIN/CENIC sent representatives to 14 of the 18 counties (purposely we did not go to the four counties where there is an overlapping proposal #7417). We intend to visit these counties early in April to inform them of the two projects and to seek their support.

At the time of this submission 13 Boards of Supervisors have approved a “letter of support” for this project. The 14th intends to at its first meeting in April. During our visits to the counties we met several community leaders. We made a commitment to return to each county after the submission. We plan to visit all 18 counties again in April for three purposes: a) informing them about the details of what we submitted, b) begin dialogue as to what and how this infrastructure can best serve county government, local businesses and residences, and c) determine how best to structure to ensure their continued involvement.



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Finally, we have created and will maintain a project specific website to keep everyone interested informed of the progress of this endeavor. <http://www.cvngbip.org/>

D. Congressional Districts

Applicant Headquarters

- California

Project Service States

California

Project Service Areas

California - 2

California - 3

California - 4

California - 11

California - 18

California - 19

California - 20

California - 21

California - 22

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

- No



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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: Amador MM
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: 605
Total Population in Proposed Service Area: 35,100
Total Number of Households in Service Area: 12,759
Total Number of Businesses in Service Area: 1,503
Total Number of Community Anchor Institutions and Public Safety Entities in Proposed Funded Service Area: 56
Unemployment Rate in the Service Area: 14
Median Income in the Service Area: 42,466
Estimated Percentage of Households with Access to Broadband: 70
Estimated Percentage of Households Subscribing to Broadband: 35



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Service Area Type: Middle Mile
Service Area Name: Calaveras MM
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: 1,036
Total Population in Proposed Service Area: 40,544
Total Number of Households in Service Area: 16,469
Total Number of Businesses in Service Area: 1,591
Total Number of Community Anchor Institutions and Public Safety Entities in Proposed Funded Service Area: 76
Unemployment Rate in the Service Area: 17
Median Income in the Service Area: 40,517
Estimated Percentage of Households with Access to Broadband: 67
Estimated Percentage of Households Subscribing to Broadband: 42

Service Area Type: Middle Mile
Service Area Name: Colusa MM
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: 1,156
Total Population in Proposed Service Area: 18,804
Total Number of Households in Service Area: 6,097
Total Number of Businesses in Service Area: 695
Total Number of Community Anchor Institutions and Public Safety Entities in Proposed Funded Service Area: 49
Unemployment Rate in the Service Area: 27
Median Income in the Service Area: 34,380
Estimated Percentage of Households with Access to Broadband: 63
Estimated Percentage of Households Subscribing to Broadband: 30



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Service Area Type: Middle Mile
Service Area Name: El Dorado MM
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: 1,788
Total Population in Proposed Service Area: 156,299
Total Number of Households in Service Area: 58,939
Total Number of Businesses in Service Area: 6,724
Total Number of Community Anchor Institutions and Public Safety Entities in Proposed Funded Service Area: 233
Unemployment Rate in the Service Area: 13
Median Income in the Service Area: 50,512
Estimated Percentage of Households with Access to Broadband: 78
Estimated Percentage of Households Subscribing to Broadband: 58

Service Area Type: Middle Mile
Service Area Name: Fresno MM
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: 6,018
Total Population in Proposed Service Area: 799,407
Total Number of Households in Service Area: 252,940
Total Number of Businesses in Service Area: 27,420
Total Number of Community Anchor Institutions and Public Safety Entities in Proposed Funded Service Area: 910
Unemployment Rate in the Service Area: 18
Median Income in the Service Area: 37,277
Estimated Percentage of Households with Access to Broadband: 70
Estimated Percentage of Households Subscribing to Broadband: 48



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Service Area Type: Middle Mile
Service Area Name: Kern MM
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: 8,161
Total Population in Proposed Service Area: 661,645
Total Number of Households in Service Area: 34,090
Total Number of Businesses in Service Area: 20,732
Total Number of Community Anchor Institutions and Public Safety Entities in Proposed Funded Service Area: 868
Unemployment Rate in the Service Area: 17
Median Income in the Service Area: 34,090
Estimated Percentage of Households with Access to Broadband: 69
Estimated Percentage of Households Subscribing to Broadband: 32

Service Area Type: Middle Mile
Service Area Name: Kings MM
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: 1,391
Total Population in Proposed Service Area: 129,461
Total Number of Households in Service Area: 34,418
Total Number of Businesses in Service Area: 2,785
Total Number of Community Anchor Institutions and Public Safety Entities in Proposed Funded Service Area: 147
Unemployment Rate in the Service Area: 18
Median Income in the Service Area: 19,868
Estimated Percentage of Households with Access to Broadband: 70
Estimated Percentage of Households Subscribing to Broadband: 45



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Service Area Type: Middle Mile
Service Area Name: Madera MM
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: 2,153
Total Population in Proposed Service Area: 123,109
Total Number of Households in Service Area: 36,155
Total Number of Businesses in Service Area: 3,663
Total Number of Community Anchor Institutions and Public Safety Entities in Proposed Funded Service Area: 155
Unemployment Rate in the Service Area: 17
Median Income in the Service Area: 35,857
Estimated Percentage of Households with Access to Broadband: 67
Estimated Percentage of Households Subscribing to Broadband: 29

Service Area Type: Middle Mile
Service Area Name: Mariposa MM
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: 1,461
Total Population in Proposed Service Area: 17,130
Total Number of Households in Service Area: 6,613
Total Number of Businesses in Service Area: 715
Total Number of Community Anchor Institutions and Public Safety Entities in Proposed Funded Service Area: 42
Unemployment Rate in the Service Area: 15
Median Income in the Service Area: 34,980
Estimated Percentage of Households with Access to Broadband: 62
Estimated Percentage of Households Subscribing to Broadband: 31



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Service Area Type: Middle Mile
Service Area Name: Merced MM
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: 1,970
Total Population in Proposed Service Area: 210,554
Total Number of Households in Service Area: 63,815
Total Number of Businesses in Service Area: 5,493
Total Number of Community Anchor Institutions and Public Safety Entities in Proposed Funded Service Area: 281
Unemployment Rate in the Service Area: 22
Median Income in the Service Area: 37,372
Estimated Percentage of Households with Access to Broadband: 61
Estimated Percentage of Households Subscribing to Broadband: 35

Service Area Type: Middle Mile
Service Area Name: Nevada MM
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: 975
Total Population in Proposed Service Area: 92,033
Total Number of Households in Service Area: 36,894
Total Number of Businesses in Service Area: 5,676
Total Number of Community Anchor Institutions and Public Safety Entities in Proposed Funded Service Area: 179
Unemployment Rate in the Service Area: 12
Median Income in the Service Area: 47,719
Estimated Percentage of Households with Access to Broadband: 75



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Estimated Percentage of Households Subscribing to Broadband: 45

Service Area Type: Middle Mile
Service Area Name: Placer MM
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: 1,502
Total Population in Proposed Service Area: 248,399
Total Number of Households in Service Area: 93,382
Total Number of Businesses in Service Area: 12,546
Total Number of Community Anchor Institutions and Public Safety Entities in Proposed Funded Service Area: 396
Unemployment Rate in the Service Area: 12
Median Income in the Service Area: 56,664
Estimated Percentage of Households with Access to Broadband: 85
Estimated Percentage of Households Subscribing to Broadband: 63

Service Area Type: Middle Mile
Service Area Name: San Joaquin MM
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: 1,425
Total Population in Proposed Service Area: 563,598
Total Number of Households in Service Area: 181,629
Total Number of Businesses in Service Area: 17,162
Total Number of Community Anchor Institutions and Public Safety Entities in Proposed Funded Service Area: 591
Unemployment Rate in the Service Area: 18
Median Income in the Service Area: 40,911



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Estimated Percentage of Households with Access to Broadband: 77
Estimated Percentage of Households Subscribing to Broadband: 52

Service Area Type: Middle Mile
Service Area Name: Stanislaus MM
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: 1,513
Total Population in Proposed Service Area: 446,997
Total Number of Households in Service Area: 145,146
Total Number of Businesses in Service Area: 15,271
Total Number of Community Anchor Institutions and Public Safety Entities in Proposed Funded Service Area: 552
Unemployment Rate in the Service Area: 19
Median Income in the Service Area: 41,060
Estimated Percentage of Households with Access to Broadband: 77
Estimated Percentage of Households Subscribing to Broadband: 49

Service Area Type: Middle Mile
Service Area Name: Sutter MM
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: 608
Total Population in Proposed Service Area: 78,930
Total Number of Households in Service Area: 27,033
Total Number of Businesses in Service Area: 3,035
Total Number of Community Anchor Institutions and Public Safety Entities in Proposed Funded Service Area: 123
Unemployment Rate in the Service Area: 21



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Median Income in the Service Area: 39,433
Estimated Percentage of Households with Access to Broadband: 76
Estimated Percentage of Households Subscribing to Broadband: 52

Service Area Type: Middle Mile
Service Area Name: Tulare MM
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: 4,839
Total Population in Proposed Service Area: 36,802
Total Number of Households in Service Area: 110,385
Total Number of Businesses in Service Area: 11,381
Total Number of Community Anchor Institutions and Public Safety Entities in Proposed Funded Service Area: 501
Unemployment Rate in the Service Area: 18
Median Income in the Service Area: 32,069
Estimated Percentage of Households with Access to Broadband: 67
Estimated Percentage of Households Subscribing to Broadband: 36

Service Area Type: Middle Mile
Service Area Name: Tuolumne MM
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: 2,279
Total Population in Proposed Service Area: 54,501
Total Number of Households in Service Area: 21,004
Total Number of Businesses in Service Area: 2,397
Total Number of Community Anchor Institutions and Public Safety Entities in Proposed Funded Service Area: 103



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Unemployment Rate in the Service Area: 15
Median Income in the Service Area: 38,444
Estimated Percentage of Households with Access to Broadband: 59
Estimated Percentage of Households Subscribing to Broadband: 27

Service Area Type: Middle Mile
Service Area Name: Yuba MM
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: 643
Total Population in Proposed Service Area: 60,219
Total Number of Households in Service Area: 20,535
Total Number of Businesses in Service Area: 1,401
Total Number of Community Anchor Institutions and Public Safety Entities in Proposed Funded Service Area: 87
Unemployment Rate in the Service Area: 20
Median Income in the Service Area: 31,298
Estimated Percentage of Households with Access to Broadband: 75
Estimated Percentage of Households Subscribing to Broadband: 42

Service Area Type: Last Mile
Service Area Name: South Valley LM
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.

No fixed or mobile broadband service provider advertises broadband transmission speeds of at least 3 mbps downstream in the proposed funded service area;

Total Square Miles in Service Area: 6,210
Total Population in Proposed Service Area: 744,361



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Total Number of Households in Service Area: 216,143
Total Number of Businesses in Service Area: 21,380
Total Number of Community Anchor Institutions and Public Safety Entities in Proposed Funded Service Area: 947
Unemployment Rate in the Service Area: 18
Median Income in the Service Area: 35,303
Estimated Percentage of Households with Access to Broadband: 65
Estimated Percentage of Households Subscribing to Broadband: 42

F. Community Anchor Summary

Community Anchor Summary	
Schools (k-12)	19
Libraries	20
Medical and Healthcare Providers	0
Public Safety Entities	7
Community Colleges	14
Public Housing	0
Other Institutions of Higher Education	3
Other Community Support Organization	0
Other Government Facilities	0
TOTAL COMMUNITY ANCHOR INSTITUTIONS	63
Historically Black colleges and Universities	0



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Tribal Colleges and Universities	0
Alaska Native Serving Institutions	0
Hispanic Serving Institutions	1
Native Hawaiian Serving Institutions	0
TOTAL MINORITY SERVING INSTITUTIONS	1

G. Project Benefits

Demographics

Jobs	
How many direct jobs-years will be created from this project?	283
How many indirect jobs will be created from this project?	180
How many jobs will be induced from this project?	261

Methodology used to estimate jobs:

The methodology used to determine job effect numbers for this project were calculated using the concepts outlined in the Executive Office of the President Council of Economic Advisors memo on “Estimates of Job Creation from the ARRA of 2009”

Per the Council of Economic Advisors, the estimates for the job-years created by direct government spending indicate that it takes approximately \$92,000 of spending to create one job-year. We then took our total budget of \$66,599,668 and divided that by the federal governments assumption of \$92,000 per job year to get 724 total job years created.

We further broke that down into direct jobs or the job-years created in the actual government-sponsored project, indirect jobs, which are the job-years created at suppliers who make the materials used in the project and induced jobs, which are the job-years created elsewhere in the economy as increases in income from the direct government spending lead to additional increases in spending by workers and firms by taking the assumptions made by the Council of



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Economic Advisors that found that 64% of the job-years created by government spending represent direct and indirect effects of the spending, and the remaining 36% represent induced effects which gave us direct/indirect jobs of 463 and induced jobs of 261.

Project Impact:

The Central Valley Next Generation Broadband Infrastructure Project’s overarching goal is to meet the current & long-term middle mile broadband needs of the 1,973 communities in the 18 counties to be served by this fiber-based infrastructure. A second goal is for CVIN to meet the needs & requirements for last mile connectivity of unserved & underserved areas in Fresno, Kern, Tulare & Kings counties. And, the third goal is for CVIN/CENIC to develop strategic contractual relationships with other last mile broadband providers to ensure access from every corner of every county to this middle mile infrastructure that will be connected to the CENIC statewide infrastructure & to the worldwide Internet.

Perhaps the most significant impact of this project is that it provides a cohesive, integrated & robust network infrastructure that will interconnect these 18 counties together for the first time. Having a cohesive network infrastructure throughout the Central Valley in the future has some of the same characteristics of importance as roads & waterways currently have. Cohesiveness is important because there are so many pervasive collaborative organizations, activities & projects in the Central Valley that cut across county boundaries whether related to business & industry, especially agriculture, education, library services, all levels of government services, public safety, health delivery, or economic development. This cohesive network infrastructure can set the stage for integration or at least sharing of services & resources within & among these collaborative efforts. The robustness of this infrastructure ensures that its capacity can be expanded for marginal capital costs as the needs grow. And, it has a long life expectancy.

This infrastructure is to be used by 4.0 million citizens in these 18 counties whether as consumers or providers engaged in: educational institutions, libraries, health delivery, public & emergency services, local, county or state government agencies, or local businesses. Or, just as individual citizens that want Internet services in their homes.

As stated, this project has been designed & budgeted to initially connect 63 major anchor institutions to this infrastructure via direct fiber at 1GE to 10GE speeds: 14 community college districts & colleges, 19 County Offices of Education (COE) sites, the three (3) CSU universities, 20 County & Main libraries, 7 public safety sites. All of these anchor sites have committed to using this new infrastructure once it is installed.



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For the past decade the strategy employed by the K-12 System has been to have each County of Office of Education act as the aggregation point for all the school districts, therefore, we do not anticipate any additional major anchor sites. The 19 K-12 sites will serve 1871 schools & 988,864 students. These COEs have been connected to CENIC’s K12 High-Speed Network via lease circuits. Now they will be fiber connected the new infrastructure that will be linked into CENIC’s backbone, via an extension of the CENIC IP network.

The California Community Colleges, the County Libraries & the only 3 CSU campuses in this region will employ the same approach. Hence, we believe this project covers all the anticipated major anchor sites for education & libraries.

In the future an additional 11-15 of the 81 Public Safety Answering Points (PSAPs) in the region will become major anchor sites. The remaining PSAPs will be considered secondary sites to be connected to one of the major anchor sites via circuits. The long-range plan is to have a dedicated routed emergency services network statewide.

The decision to have major health facilities become anchor sites on our infrastructure will depend on the direction CTN takes after the three-year pilot period. CVIN/CENIC will be prepared to accommodate another 30-35 health sites as major anchor sites if our ongoing discussion with CTN leads to a decision to use our infrastructure.

Local businesses & residences will use local last mile providers that will be linked into the infrastructure at the nearest interconnection points. They will be linked to the worldwide Internet via a CVIN operated IP network.

Overall Benefits of the Project

- Provide access to Internet services at reasonable costs
- Have the network infrastructure in place to build, attract, & retain competitive businesses, entrepreneurs, & residents
- Improve quality of life for local residents via online access to job search engines, information on regional recreational & global entertainment outlets & social networking capabilities connecting family & friends in real-time
- Immediate economic stimulus to the area via the infusion of grant funds to build network infrastructure

Benefits to Educational Entities



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- Provide the connectivity necessary for all campuses & schools to pursue technology solutions that can achieve economies of scale & cost savings through aggregation & centralization freeing up dollars to be used for other vital needs
- Give students access to leading edge resources & programs giving them the necessary skills to compete in a global marketplace

Benefits to Community Health Facilities

- Potential to expand access to affordable care, increase the efficiency of care provision, reduce unnecessary healthcare costs, prevent medical errors, increase administrative efficiencies & decrease paperwork (data from Health & Human Services web page on Health Information Technology)
- Videoconferencing services have shown to reduce the cost of follow-up care in health care facilities by 42% with overall care cost reduced by 6% (from CETF report Green Benefits of BB)
- Empowering individuals to take more responsibility for their own health

Benefits to Public Safety Entities

- A dedicated regional emergency services network can serve as the keystone to improve integration of communication systems of the various police organizations, fire, rescue & emergency units within a county & across county lines
- Demonstrate the value of having a dedicated network for such specialized activities

Benefits to Local Businesses

- Studies have shown in comparing counties with rural economies that had broadband access relatively early (by 2000) with similarly situated counties that had little or no broadband access as of 2000, employment growth was higher & nonfarm private earnings greater in counties with a longer history of broadband availability
- Broadband allows rural areas to compete for low & high-end service jobs (the fastest growing sector & most conducive for broadband applications), from call centers to software development
- Businesses that adopt e-commerce & Internet practices can improve efficiency & expand market reach thus allowing their business to flourish both locally & regionally

Benefits to Area Households



Broadband Infrastructure Application
Submission to NTIA – Broadband Technology Opportunities Program

Submitted Date: 3/26/2010 6:18:04 PM	Easygrants ID: 6451
Funding Opportunity: Broadband Technology Opportunities Program	Applicant Organization: CVIN, LLC
Task: Submit Application - BTOP	Applicant Name: Mr. David Douglas

- Reducing transportation time & expenses to & from health care providers via telehealth programs & services
- Allowing employees the flexibility of working from home either as a flexible part of work days, as systematic telecommuting, or for operating at-home businesses
- Improve interaction among students, parents, teachers, & school administrators via online forums/communications improving ongoing parental involvement in children's education

Though there currently are four competing facilities based ISPs in the four last mile counties, these serve the major cities & towns & do not reach the target rural areas that CVIN/CENIC network is proposing to serve. Also, along a fraction of the southwestern route of the proposed service area, middle mile providers Level 3 (on a former Wiltel route & on another Level 3 route) are present, but as “underlying carriers” they generally do not offer services directly to anchor institutions or end-users, the access points to their facilities are very limited, & they are not present in the rural areas.

CVIN & other last mile providers will use this new Last Mile infrastructure to provide a wide range of services to businesses, government agencies & residences. If the four CCI LM projects that are complimentary to the CVIN/CENIC proposal are funded, each could provide connectivity between individual schools, health care facilities, businesses, & residences in these counties & all have given us letters of support expressing interest in using our infrastructure & would increase subscriber rates within the last mile piece by over 54,000 users. Bottom line, the CVIN/CENIC proposal to provide over 1371 miles of robust fiber network infrastructure within 18 Central Valley counties is critical if we are to ensure the network infrastructure needed for tomorrow & beyond is put into place now so that our K-20 educational environments, libraries, healthcare & safety entities can flourish & be assured the stable technology infrastructure that next-generation connectivity will demand if Californians are to compete & succeed in a global market.

Vulnerable Populations:

Vulnerable populations that reside within the 18 counties to be served by the proposed Middle Mile and Last Mile infrastructure cover a wide range of residents with specific focus on Latinos and the economically disadvantaged. An overview of the various economic indicators for the Central Valley region includes: (Please see Attachment 18.8-E for the full Economic Indicator report for the central Valley in 2009)



Broadband Infrastructure Application
Submission to NTIA – Broadband Technology Opportunities Program

Submitted Date: 3/26/2010 6:18:04 PM	Easygrants ID: 6451
Funding Opportunity: Broadband Technology Opportunities Program	Applicant Organization: CVIN, LLC
Task: Submit Application - BTOP	Applicant Name: Mr. David Douglas

- A per capita income in 2007 of \$29,790, 29 % below the state average of \$41,805. To put this in perspective, if the Central Valley was to be taken as an individual state, it would rank 48th in the nation in per capita income.
- A mean poverty level of 15% as of 2008 with some areas being as high as 22.1%
- In 2007 the Central Valley foreclosure rate was 57 % higher than the California state average. In 2008 the gap contracted with the Central Valley foreclosure rate only 10 % higher.
- The labor force in the Central Valley is growing faster than job growth with unemployment rates from 2002 to 2008 averaging 2.6% higher than the state average and a mean unemployment rate as of January 2010 for the 18 county area of 17.5%
- And finally, wages in the Central Valley in every industry were lower than the state average.

Several briefs produced by the Public Policy Institute of California (PPIC) have reported additional challenges this area face. A 2002 report on school age children showed that 20% of California’s public- school students attend schools in the Central Valley with many at-risk youth: One-quarter of children in grades K–5 are English Learner (EL) students who do not speak English or do not speak it well and one-half of all K–12 students participate in a subsidized lunch program.

Additionally, in June 2009 the PPIC also produced, California's Digital Divide that indicates a significant digital gap for Latino, less educated and immigrant residents. The study showed that the rate of technology use among Latinos remains low, 61% use computers, 53% use the Internet, and 39% have broadband. Of the CA population who makes less than \$40K per year, only 58% use the Internet as compared to the higher income bracket at 97% Internet usage.

By providing direct connectivity to key anchor institutions, in particular schools and libraries, CVIN’s proposal will provide the tools and resources and potential job growth a robust network infrastructure built throughout the region could provide underserved and unserved residents within the Central Valley.

Level of Need:

Competitive Landscape and Broadband Infrastructure

For the middle mile, AT&T is the only known provider across the 18-county region; however, it does not offer service in the rural areas. The high cost to reach these communities and the low density of customers has kept it from investing in the Central Valley.



Broadband Infrastructure Application
Submission to NTIA – Broadband Technology Opportunities Program

Submitted Date: 3/26/2010 6:18:04 PM	Easygrants ID: 6451
Funding Opportunity: Broadband Technology Opportunities Program	Applicant Organization: CVIN, LLC
Task: Submit Application - BTOP	Applicant Name: Mr. David Douglas

Along a fraction of the southwestern route of the proposed service area, middle mile providers Level 3 (on a former Wiltel route and on another Level 3 route) are present, but as “underlying carriers” they generally do not offer services directly to anchor institutions or end-users, the access points to their facilities are very limited, and they are not present in the rural areas.

The last mile targets unserved and underserved communities in four of the 18 middle-mile counties: Fresno, Kings, Kern and Tulare. According to the California Public Utilities Commission, there are four competing facilities based ISPs in the four last mile counties, but again, these serve the major cities and towns and do not reach the target rural areas. The ISPs are AT&T, Verizon, Charter and Sprint.

Existing Providers Failure to Meet

The rural areas of the 18 counties of the Central Valley have been designated as un-served or underserved by the California Emerging Technology Fund (CETF) through its research for the Governor’s California Broadband Task Force. The CETF study found that 1.4 million rural and remote residents do not have access to broadband, primarily in the Central Valley.

In its 2008 “Statewide Information Technology Survey,” the California Public Policy Institute found rural areas to have significantly lower levels of broadband access. For example, 285 communities in this region lacked broadband access. Additional findings:

- 50% of the proposed census block area is also classified as unserved or underserved by the Geographical Information Center, Chico State.
- 13 of the 18 counties in the Central Valley have less than 50% broadband penetration; the remaining five counties have less than 25% penetration rates. (2008 Digital Infrastructure and Video Competition Act Annual Report to the Legislature).
- The Central Valley continues to lag behind the rest of the state in broadband availability and adoption. A June 2009 Public Policy Institute of California study found that rural and urban gaps shrunk in all regions of the state between 2008 and 2009 except in the Central Valley. Computer use in the Central Valley was unchanged over the period and Internet use actually declined.
- For the last mile sites, CVIN will target the South Valley communities in Fresno (9%), Kings (12%), Kern (5%) and Tulare (29%) Counties that the CETF has deemed unserved or underserved, as they cannot receive 5 Mbps.



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

Submitted Date: 3/26/2010 6:18:04 PM	Easygrants ID: 6451
Funding Opportunity: Broadband Technology Opportunities Program	Applicant Organization: CVIN, LLC
Task: Submit Application - BTOP	Applicant Name: Mr. David Douglas

CENIC has experienced instances where providers have not been able serve its members.

- In 2001, CENIC was funded by the State of California to extend broadband connectivity to the 58 County Offices of Education (COE) and K-12 schools served by the COEs. Aggregation sites were selected by each county based on their unique distribution of school districts. Tulare County selected Earlimart Elementary School for one of those sites to serve the portion of the county west of CA 99. The serving ILEC, AT&T, has not offered high-speed services to that location; this project will address that decade old need.
- For some time, California Community College districts in these underserved areas have been establishing and operating “off-site centers” – remote extensions of the college that bring classes to students in smaller communities in their service areas. The infrastructure established by this project will enable low cost broadband connectivity between six of these centers and their supporting campuses as growth/demand calls for it.

Unserved / Underserved Populations

Seven of the counties along the core route of the middle mile are classified as 100% rural and represent approximately 10% of the total population in the service area and include Amador, Calaveras, Colusa, Kings, Mariposa, Nevada & Tuolumne with a combined population of 394,803.

The other 11 counties contain major cities and a total of 3.7 million people. An estimated 800,000 live in the rural areas served by the project. As it has been determined that less than 50% of the area is served, this middle mile and last mile project will bring broadband to approximately 600,000 of the 1.2 million rural residents in the target service area.

General Economic Conditions

CV-NG-BIP will cover a vast geographic region, encompassing:

- 18 counties
- 39,530 square miles
- 24% of the state’s geography
- 4 million residents (over 11 percent of the state’s population)
- More than 1,973 communities
- More than 80 Anchor institutions
- Agriculture is the primary industry



Broadband Infrastructure Application
Submission to NTIA – Broadband Technology Opportunities Program

Submitted Date: 3/26/2010 6:18:04 PM	Easygrants ID: 6451
Funding Opportunity: Broadband Technology Opportunities Program	Applicant Organization: CVIN, LLC
Task: Submit Application - BTOP	Applicant Name: Mr. David Douglas

The target service area is severely economically depressed. According to the Bureau of Labor Statistics:

- Unemployment in the Central Valley far exceeds the national and state averages at an estimated 17%. Nine of the 18 target counties appear in the list of the 20 U.S. counties with the highest unemployment. For example, Sutter and Merced counties have the second and third highest unemployment rates in the country at 20%. Yuba County’s unemployment is 18.8%, and Stanislaus County’s is 17.5%.
- Of the exclusively rural counties, unemployment in the target service area also tops the national charts. Colusa County has unemployment of 25.9%, for example.

As has been the trend nationally, broadband adoption in the Central Valley is closely associated with income, education, and ethnicity. The Public Policy Institute of California’s 2009 Report “California’s Digital Divide” found that:

- “Latinos remain substantially less likely than whites, black or Asians to use information technology.” The Latino population in the 18 Central Valley counties is more than 30%.
- “Those with incomes under \$40,000 remain far less likely than those with incomes over \$80,000 to use the Internet.” 15% of the population in the proposed service area lives below the poverty level, and 16 of 18 counties report median household income is 20% below the state average.
- “Among all adults, nearly all college graduates (93%) use the Internet compared to 54% of those without any college education, and 83% of college graduates have broadband, compared to only 37% of those with no college education.” Only 16% of the population in the proposed service area has a bachelor’s degree or higher level of education.

These data strongly support the need for Central Valley Next Generation Broadband Infrastructure Project to deploy broadband to dozens of anchor institutions, bolster economic growth and stimulate job development in a distressed area and lessen the digital divide across several geo-socio-economic sectors. The region is not appealing to market-based providers.

Added Value of Central Valley Next Generation Broadband Infrastructure Project

First, the major initial focus of this project is to provide direct fiber connectivity for 61 primary anchor institutions in the Central Valley that are currently underserved, including: 14 community college districts/colleges, 3 California State campuses, 19 County Office of Education network



Broadband Infrastructure Application
Submission to NTIA – Broadband Technology Opportunities Program

Submitted Date: 3/26/2010 6:18:04 PM	Easygrants ID: 6451
Funding Opportunity: Broadband Technology Opportunities Program	Applicant Organization: CVIN, LLC
Task: Submit Application - BTOP	Applicant Name: Mr. David Douglas

nodes in the 18 counties, 20 County/Main Libraries, 3 Public Safety Answering Points, and, 2 major health facilities.

The project will provide rural interconnection points extending access to CENIC’s statewide backbone services to the 56 education anchor institutions. This robust and expandable fiber network will give the anchor education sites substantially upgraded speeds and reliability, and will future-proof the site’s network connectivity as bandwidth demand grows over time.

Second, working the regional planning groups of California’s Statewide Interoperability Executive Committee, CVIN/CENIC plan and implement regional interoperability network infrastructures to better meet the needs for public safety delivery.

Third, CVIN/CENIC working with the California Telehealth Network will find ways this project can complement the California Telehealth Network pilot program.

Fourth, CVIN will utilize this new network infrastructure to connect business and residential customers to major commercial ISP infrastructure in Sacramento or Los Angeles. CVIN’s relationship with its partner CENIC will give it access to worldwide Tier 1 commercial providers and will enable CVIN to connect, using the common standard Internet Protocol (IP), to the metro and long haul transport, content and video delivery and data /voice services of these Tier 1 providers.

Additional value will be generated by facilitating affordable end-user broadband services to the region. ISPs – both wireline and wireless – will be able to use this infrastructure to provision connections to other anchor tenants such as local schools, libraries, and health care providers.

Although the project is targeted at the underserved rural areas, having facilities run through the cities and large towns represents a tremendous business opportunity over time. CVIN could become a competitive provider in the entire marketplace. In addition to the anchor institutions, the marketplace includes: 1.3 million Households, 139,740 Businesses, 2,671 Educational Institutions, 687 Public Safety Organizations & 259 Libraries.

Another prominent need is to provide broadband capacity to cell towers, allowing additional broadband to be distributed wirelessly. There are approximately 300 cell towers in the Central Valley, 80 of which are owned by Golden State Cellular, an exclusively rural wireless provider.



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

Submitted Date: 3/26/2010 6:18:04 PM	Easygrants ID: 6451
Funding Opportunity: Broadband Technology Opportunities Program	Applicant Organization: CVIN, LLC
Task: Submit Application - BTOP	Applicant Name: Mr. David Douglas

Less than one-third of GSC’s towers have the capacity to extend broadband service. The CVIN/CENIC project will deliver broadband and backhaul to a projected additional 72 cell towers by Year 10 of the business plan, meeting the need for more access to wireless broadband..

Across the country, more than 30 small regional fiber networks, such as the one CVIN/CENIC is proposing, have formed to link rural communities and provide telecom services to area educational institutions, government agencies, schools and libraries, health care providers and businesses. California, in fact, has fallen behind in employing this well established business model.

Prime examples of successful application of these principles include the South Dakota Network (SDN) and Dakota Carrier Network (DCN). Started by small rural phone companies, SDN has expanded over the past decade to eight states with 21,000 miles of fiber and more than 100 employees. SDN recently received \$20 million in round-one funding from the Broadband Initiatives Program.

Similarly, DCN was created in 1996 by 15 local telephone companies serving 85% of the exchanges across North Dakota. Now, 250 communities are linked by more than 10,000 miles of fiber. DCN also holds the contract to supply the state government with GigE and ATM services.

Based on a study conducted by Cronin Communications, regional fiber networks generate their revenue in the following manner: 25% business, 8% government, 5% schools, 7% healthcare, 17% cell sites & 37% other carriers

This “value added” information is provided to demonstrate that although the project would not occur without BTOP funding, it is sustainable once capitalized.

H. Technology

Technology Type

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

Wireline - Fiber-optic Cable

Wireless - Terrestrial Fixed



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

Submitted Date: 3/26/2010 6:18:04 PM	Easygrants ID: 6451
Funding Opportunity: Broadband Technology Opportunities Program	Applicant Organization: CVIN, LLC
Task: Submit Application - BTOP	Applicant Name: Mr. David Douglas

Other:

Technology Questions

Methodology for Area Status:

Utilizing support-mapping services from California State University-Chico’s Geographical Information Center (GIC), CVIN defined the various Middle and Last Mile service areas using the following methodology.

For CVIN’s Middle Mile Service areas covering 18 counties in the Central Valley, CVIN provided the following parameters to the GIS team: that each Middle Mile service area be defined by census block group for each county. The below definitions were used by the GIC team to define unserved, underserved and served areas:

Served: All Census Blocks (CBs) having their geographic area completely within, and greater than 50% within existing service areas claiming a combined speed of greater than 1MB (Baker Tiers 2 – 6) are considered “served”.

Unserved: All CBs having their geographic area no greater than 10% within existing service areas claiming a combined speed of greater than 1MB (Baker Tiers 2 – 6), are considered “unserved”.

Underserved: All remaining CBs (CBs having their geographic area greater than 10% and no greater than 50% within existing service areas claiming a combined speed of greater than 1MB (Baker Tiers 2 – 6) are considered “underserved”.

For the Last Mile service area covering four of the 18 counties in CVIN’s proposal, CVIN provided coordinates for the wireless towers and asked the GIS team to do a 10 mile radius overlay from each point using ESRI’s ArcGIS 9.3.1 software suite. The GIS team, using the above definitions, further defined the last mile service piece into unserved and underserved areas. To ensure there was no tower radius overlap so that census block data would not be counted twice; system buffers were set to dissolve into a single polygon wherever there was an overlap.



Broadband Infrastructure Application
Submission to NTIA – Broadband Technology Opportunities Program

Submitted Date: 3/26/2010 6:18:04 PM	Easygrants ID: 6451
Funding Opportunity: Broadband Technology Opportunities Program	Applicant Organization: CVIN, LLC
Task: Submit Application - BTOP	Applicant Name: Mr. David Douglas

Description of Network Openness:

CVIN/CENIC's proposed middle mile fiber backbone project will meet and comply with the NOFA non-discrimination and network interconnection policies, as well as the requirements as defined in the FCC's Internet Policy Statement, FCC 05-151, adopted August 5, 2005.

CVIN and CENIC will work in good faith to encourage broadband deployment and the preservation and promotion of the open and interconnected nature of the public Internet. CVIN's predominantly middle mile project will be a high-capacity fiber network. CVIN will offer wholesale Internet connectivity and dark fiber lease rates to the broader 18 county areas. We do not intend on using any business practices or technical mechanism (other than standard best efforts Internet delivery design) to allocate capacity; differentiate among applications, providers, or sources; limit usage; and manage illegal or harmful content.

CVIN/CENIC will make Internet bandwidth and interconnection available, where technically feasible without exceeding current or reasonably anticipated capacity limitations, at reasonable rates and terms to be negotiated with requesting parties. This includes both the ability to connect to the public Internet and physical interconnection for the exchange of traffic.

System Design:

The CVIN/CENIC project will provide new fiber-based infrastructure of 1371 route miles involving: 720 miles of new construction; 128 miles of new fiber in CVIN member company conduits; 36 miles of CVIN member existing fiber; use of 302.4 miles of existing CENIC fiber; and, use of 184.55 miles of an existing lit CVIN member fiber ring. New optical equipment will be deployed on 1186.4 miles. This infrastructure will be linked to the existing CENIC statewide backbone, providing the users in the 18 counties access to robust capacity and services.

This proposed design entails installing 72 strands of single mode zero waterpeak fiber to a series of robust middle mile loops interconnecting the CVIN member organizations and CENIC's existing backbone in the Central Valley. Where new construction is used, two conduits with microducts will be employed to provide for capacity and technology upgrades. Interconnection points will be provided at 40-50 mile intervals along the routes allowing for services to be extended to anchor institutions (County Offices of Education, Community Colleges, California State Universities, Libraries, Hospitals and Public Safety entities) as well as future customers, ISPs, WISPs, etc. CENIC will contribute a pair of existing unlit fibers and associated colocation



Broadband Infrastructure Application
Submission to NTIA – Broadband Technology Opportunities Program

Submitted Date: 3/26/2010 6:18:04 PM	Easygrants ID: 6451
Funding Opportunity: Broadband Technology Opportunities Program	Applicant Organization: CVIN, LLC
Task: Submit Application - BTOP	Applicant Name: Mr. David Douglas

on a diverse 302 route mile path between Stockton and Bakersfield and CVIN member companies will make available both conduit and fiber to complement and provide a diverse and robust middle mile infrastructure.

The technology proposed for this application is state of the art, utilizing dense wave division multiplexing (DWDM) to expand the bandwidth capacity of the fiber network. The network topology is fully upgradable and expandable to adopt new technological improvements as they become available. Current deliverable network speeds are 1GE to 10GE, upgradable to 40GE service drops in the near future and 100GE service drops on the technical horizon. The proposed equipment is manufactured and marketed by a large, industry leading broadband equipment company with significant name recognition.

Fixed WiMAX wireless access is proposed for the last mile service areas in Fresno, Tulare, Kings and Kern counties, delivering 180Mbps of capacity from up to twelve tower locations to fully encompass the unserved/underserved areas. Towers will be served by fiber 1GE backhaul to the backbone middle-mile proposed in this project.

Fiber network equipment upgrades will be accomplished by card addition and replacement, with shelf addition anticipated to meet capacity requirements. Cabinets and huts are sized to accommodate multiple shelf additions. Fiber backbone connection assures that the wireless broadband facilities are future-upgradable to capture technical improvements in the industry and to leverage the current WiMAX/LTE technology competition.

Centralized network management facilities will be located in both the CENIC and CVIN Network Operations Centers and will be capable of jointly or individually managing facilities across the entire network should either facility become unavailable due to unanticipated disasters.

New facilities constructed in this proposal will be interconnected at speeds ranging from 1GE to 10GE, sized appropriately for the specific entity, to CENIC's CalREN network at seven locations between Bakersfield in the south and Colusa in the north. Up to fifty cabinet/hut locations are proposed to serve the anchor institutions, WiMAX towers and future customers.

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



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

Submitted Date: 3/26/2010 6:18:04 PM	Easygrants ID: 6451
Funding Opportunity: Broadband Technology Opportunities Program	Applicant Organization: CVIN, LLC
Task: Submit Application - BTOP	Applicant Name: Mr. David Douglas

No

I. Project Budget

Project Budget		
	Federal Grant Request	Match
Last Mile	2,330,988	998,995
Middle Mile	44,288,779	18,980,905
Total	46,619,767	19,979,900

Project Budget Total: \$66,599,667

Match Percent: 30.0%

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	CVIN is positioned to provide 30% matching funds in the amount of \$19,970,30 should the grant be awarded. The match would be provided in cash through internal capital contributions from its Member companies. CVIN intends to expend matching funds proportional to grant funds as outlined in the NOFA, for construction of the project.
Unjust enrichment	Both the NorCal Broadband Access Consortium project (#7417) and our project intend to build a fiber infrastructure between Nevada City and Colusa. If both projects are funded the two parties have already agreed the implementation and funding should be the responsibility of CVIN/CENIC. Neither CVIN nor CENIC have applied for any other Federal funding



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

Submitted Date: 3/26/2010 6:18:04 PM		Easygrants ID: 6451	
Funding Opportunity: Broadband Technology Opportunities Program		Applicant Organization: CVIN, LLC	
Task: Submit Application - BTOP		Applicant Name: Mr. David Douglas	

	to support non-recurring costs associated with this middle mile application.
Disclosure of federal and/or state funding sources	<p>The California Advanced Services Fund (CASF) was authorized by the California Public Utilities Commission on December 20, 2007, in accordance with Public Utilities Code § 701 and provides grants to “telephone corporations” as defined under Public Utilities Code § 234. The total allocation for the CASF is \$100 million and will promote universal service in unserved and underserved areas in the state by awarding funding to qualifying certificated applicant carriers. The funding will be used for projects that will a) provide broadband services to areas currently without broadband access and b) build out facilities in underserved areas.</p> <p>CVIN, in conjunction with its Round 2 BTOP application, will be applying for a 10% matching funds grant and if awarded, will use said funds as part of its 30% overall match commitment but does not require the funds to meet its commitment of a 30% match.</p>
Budget reasonableness	<p>The cost estimate for this project are based upon the following criteria:</p> <ul style="list-style-type: none"> • All equipment pricing is based upon either recent manufacturer/vendor bids or discounted pricing agreements. Materials and equipment vendors such as Fiber Optic Supply, Inc., have been consulted to develop budgetary pricing. • Construction costs are based upon recent RUS/RDP 515 contract awards, California Independent Telco standard unit pricing and recent negotiated unit pricing. Letters have been sent to a list of Telco approved 515 contractors to indicate willingness to bid. In addition, CVIN member companies have indicated a willingness to bid segments of the project with their internal construction forces. • Electronics site development costs are based upon current Telco experience, including the design and installation of a significant number of sites within the past 24 months by CVIN member companies. In addition, CVIN member companies have indicated a willingness to bid the construction of electronics sites with their internal construction forces.



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

Submitted Date: 3/26/2010 6:18:04 PM		Easygrants ID: 6451	
Funding Opportunity: Broadband Technology Opportunities Program		Applicant Organization: CVIN, LLC	
Task: Submit Application - BTOP		Applicant Name: Mr. David Douglas	

	<ul style="list-style-type: none"> Engineering hours and hourly rates have been developed through negotiation and review with an ACE certified Consulting Engineer to meet RUS/RDP 515 contract engineering standards. <p>CVIN, it's member companies and CENIC have considerable experience in this type of engineering design and construction that will traverse the varied terrain exemplified by this project. The system planning design has been reviewed by the member companies and CENIC and it has been determined that it meets standard design criteria and pricing for the scope and location of the project.</p>
Demonstration of need	<p>CVIN was formed by 8 independently owned telephone companies, serving non-contiguous areas of the Central Valley of California to build a fiber optic network, connecting each of the companies for the purpose of transporting telecom traffic & providing a faster path to the Internet for their diverse customers. For the past four years, CVIN has studied the feasibility of expanding the network to gain direct access to "Level 3" providers & minimize the leasing of fiber from other carriers. However, the capitalization costs have been beyond the means of the member owners. A 2006 internal study found that such an expanded network could be sustained by acquiring businesses, government agencies & education institutions as customers, but again the conclusion was that the start-up costs were prohibitive.</p> <p>CENIC developed & evolved a network infrastructure to serve all of the California K-20 research & education institutions & today owns, manages & operates a 2900-mile fiber-based backbone augmented by over 300 leased circuits. A key strategy has been to connect all its member institutions to the backbone via fiber as funding has become available. Currently 13 research universities & 10 of 23 CSU campuses are connected via fiber. This strategy is designed to control annual costs & to provide a capacity growth path at marginal capital costs. This permits educational institutions in California to be able to afford increases in network capacity, as more educational materials are incorporated into teaching & as more video & other network-demanding materials are utilized. Installation of fiber to additional</p>



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

Submitted Date: 3/26/2010 6:18:04 PM		Easygrants ID: 6451	
Funding Opportunity: Broadband Technology Opportunities Program		Applicant Organization: CVIN, LLC	
Task: Submit Application - BTOP		Applicant Name: Mr. David Douglas	

	<p>education institutions has been at a standstill because of the severe financial conditions faced by education in the State. And, in fact funding to retain existing circuit-based capacity has been slashed. By partnering with CVIN, CENIC can now extend its fiber-based network infrastructure to 14 community college districts, 18 K-12 COE's, 3 CSU, & 20 libraries.</p> <p>Similar budget constraints face regional healthcare facilities & emergency service agencies when trying to expand broadband services to their various internal clients & the residents they serve. Several counties are short of well-trained physicians, especially in fields requiring specialized medical training & have relatively few community hospital beds making good care scarce while key emergency service agencies are often having to work within the framework of 21st century service demands utilizing out-dated technologies that limit their ability to interact across agencies let alone county lines.</p> <p>The Central Valley of California is in a financial crisis & without federal funding, this project could not occur. The Net Present Value, as reflected in the financial analysis, is -\$28 million; the Internal Rate of Return is -0.91% & the discount rate is 15%</p>
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Funds to States/Territories

States	Amount of Federal Grant Request
California	46,619,767

Funds to States/Territories Total: \$46,619,767

J. Historical Financials

Matching Funds



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

Submitted Date: 3/26/2010 6:18:04 PM		Easygrants ID: 6451	
Funding Opportunity: Broadband Technology Opportunities Program		Applicant Organization: CVIN, LLC	
Task: Submit Application - BTOP		Applicant Name: Mr. David Douglas	

	2007	2008	2009
Revenue	770,812	771,447	762,467
Expenditures	661,622	744,139	666,300
Net Assets	1,375,926	1,321,855	1,326,744
Change in Net Assets from Prior Year	54,024	-54,071	4,889
Bond Rating (if applicable)			

K. Project Readiness

BTOP Organizational Readiness

CVIN and CENIC both have extensive experience in the design, build-out, management and operation of large-scale networks within California. Knowledgeable and highly skilled persons from both staffs will manage, engineer, operate and support the successful implementation and ongoing support for this infrastructure.

CENIC’s staff is already in place. CVIN will leverage the resources of its member companies having already identified current employees that will become employees of CVIN in order to ensure required positions in management, sales, network monitoring, installation & repair are filled with individuals that have a proven track record in the industry. This will allow CVIN to become fully staffed very quickly with employees that have the skill sets necessary to execute the business plan & create a strong & sustainable organization.

During the implementation phase CVIN will provide the overall project management, engineering and technical staff for installation of the fiber and optical equipment. David Douglas will be the Project Manager. CENIC will have Dave Reese as co-Project Manager. CENIC will provide network engineers to assist CVIN during installation. Each will be responsible for installing the router equipment for its own IP Network. CVIN will install the fixed wireless systems.

For ongoing operations CVIN will provide the staff for Layer 1 support including installation and repair of the fiber, optical equipment and wireless systems. Each company will provide its



**Broadband Infrastructure Application
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Funding Opportunity: Broadband Technology Opportunities Program	Applicant Organization: CVIN, LLC
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own staff to manage the two IP Networks. Each will be responsible for marketing, customer services, and billing in service of its clientele.

CVIN will leverage the resources of its member companies to perform billing & collection services while employing Network Operations Center (NOC) technicians as well as Repair & Installation Technicians & a full time customer service representative to ensure we provide a level of service that is consistent with our corporate values.

CENIC already has in place the staff to perform the same duties for its users.

The network will be monitored by both CVIN & CENIC to ensure the network delivers reliable service consistent with the 99.999% availability provided our current customers.

In summary, CVIN & CENIC have proven track records of success in managing large-scale network infrastructures and services. They both have strong working relationships with their clients & other leading network providers regionally, nationally & internationally, & are committed to evolving their communication tools & services. This shared value system makes an excellent partnership to build out & manage the proposed infrastructure within the 18 counties.

Construction and Vendor Contracts

CVIN will utilize outside contractors to install the majority of the 1371-mile fiber infrastructure including placement of the underground conduit, installation of the microduct and fiber, and splicing of the fiber. CVIN will also accept bids to contract with Member companies' internal workforces to provide fiber installation services in the Member's local areas.

CVIN will contract with Member companies' internal workforces to provide cabinet/hut site improvements, placement of cabinets/huts, installation of back-up power systems, and installation of middle mile fiber network equipment. CVIN will utilize outside contractors to install the last mile wireless nodes including any necessary tower construction. Vendor technical support will be utilized during the installation and testing phases as necessary.

RUS/RDP, qualified OSP contractors, have been contacted to determine their intention to bid. In addition, CVIN member companies have indicated an interest to bid portions of the new fiber route construction as well as a willingness to contract the installation of equipment.



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CVIN will comply with all applicable state and federal regulations when working with contractors or vendors required to complete this project.

Customer Base

CVIN was formed in 1995 to build a fiber optic network, connecting several independent telco companies for the purpose of transporting telecom traffic and providing a faster path to the Internet for their diverse customers. To date, CVIN has been unable to build the proposed infrastructure it was originally created for due to lack of capital funding and therefore does not currently have a customer base that it provides services to.

Licenses, Regulatory Approvals and Agreements

State Authorizations: Fiber and cabinet/hut/manhole/handhole facilities that are placed in state highway rights-of-way will be constructed under permit from CalTrans as required. Public Utility Easements (PUE) will be utilized wherever possible.

County: Fiber and cabinet/hut/manhole/handhole facilities that are placed in county rights-of-way will be constructed under permit from each county as required. Public Utility Easements (PUE) will be utilized wherever possible.

City: Fiber and cabinet/hut/manhole/handhole facilities that are placed in city rights-of-way will be constructed under permit from each city as required. Public Utility Easements (PUE) will be utilized wherever possible.

FCC Authorizations: Wireless spectrum options include unlicensed, lightly licensed (3.65 GHz), and available 700 MHz and LDMS spectrum licenses.

Construction permits: The contractor awarded the bid wherever required will acquire Construction permits.

Fire & Safety: All local and state building and safety codes will be complied with.

Tower Leases: CVIN will secure leases from existing tower owners to place last mile wireless nodes where possible. Other tower locations will be placed on anchor institution towers or property if possible.



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Land Leases: CENIC will secure authorization to place cabinets/huts on any educational or library lands as necessary.

Equipment Leases – None

Building Leases – None

SPIN Number

Neither CVIN nor CENIC have a SPIN Number

L. Environmental Questionnaire

Project Description

The project involves building, operating and maintaining underground fiber infrastructure that will traverse 1371 miles of rural Central Valley area and metropolitan rings in Bakersfield, Fresno and Stockton. All fiber construction is proposed in existing previously disturbed county and state highway rights-of-way. Each of the anchor institutions in this project will be directly connected via fiber to this new middle mile infrastructure at access points where above ground cabinets will be placed. The last mile wireless broadband piece of the project is located in the south valley from Bakersfield to Fresno. 13 wireless nodes are proposed which will utilize leased space on existing towers where possible.

Property Changes

All fiber construction is proposed in existing previously disturbed county and state highway rights-of-way.

Buildings

All access points will utilize above ground cabinets with site/concrete slab dimensions no greater than 10’X14’ and a cabin footprint up to 84” X 32” (cabinet height will not exceed 84). Fuel cells will be utilized as backup power for transmission equipment.



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Wetlands

Due to construction in existing, previously disturbed County and state highway rights-of-way, it is not anticipated that there will be any direct or indirect affect of any wetlands.

Critical Habitats

Due to construction in existing previously disturbed county and state highway rights-of-way, it is not anticipated that there will be any direct or indirect affect of any threatened, endangered or candidate species or within or near any critical habitats.

Floodplain

The CVIN/CENIC project is not within a 100 or 500-year floodplain.

Protected Land

Due to construction in existing previously disturbed county and state highway rights-of-way, it is not anticipated that there will be any direct or indirect affect of any historic properties nor is there any proposed construction on tribal lands. However, we have sent a letter to SHPO (18.18-F SHPO Letter) outlining our project and the communities it will traverse. As of the filing of this application we have not received a response back from the agency.

Coastal Area

The CVIN/CENIC project is not within the boundaries of a coastal zone management area.

Brownfield

One brownfield cleanup site in the project area is identified in Downtown Bakersfield. This cleanup site targets hazardous substances, underground petroleum tanks, and asbestos releases associated with old motels, automotive related and industrial properties in the downtown Bakersfield area. Our project construction is limited to existing previously disturbed rights-of-way therefore no affect of the brownfield site is anticipated.



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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	Service Offerings & Competitor Data Attachment for CVNGBIP.xlsx	Douglas, David	03/26/2010
Network Diagram	Network Diagrams for CVNGBIP.pdf	Douglas, David	03/26/2010
Build Out Timeline	CCI Build-Out Timeline for CVNGBIP.pdf	Douglas, David	03/26/2010
List of Community Anchors and Points of Interest	CCI Anchor Detail and POI Attachment.xls	Douglas, David	03/25/2010
Management Team Resumes and Organization Chart	CVIN-Partner Organization Chart.pdf	Douglas, David	03/25/2010
Management Team Resumes and Organization Chart	CVIN-CENIC Team Resumes.pdf	Douglas, David	03/26/2010
Government and Key Partnerships	AI Letters of Intent.pdf	Douglas, David	03/26/2010



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Government and Key Partnerships	CVIN-CENIC MOU.PDF	Douglas, David	03/25/2010
Government and Key Partnerships	Other BTOP App Letters.pdf	Douglas, David	03/25/2010
Historical Financial Statements	CVIN-CENIC Historical Financials.pdf	Douglas, David	03/26/2010
Budget Narrative	CCI Budget Narrative for CVNGBIP.pdf	Douglas, David	03/26/2010
Detailed Budget	CCI Detailed Budget for CVNGBIP.xlsx	Douglas, David	03/26/2010
Pro-forma Forecast	CCI Pro Forma Financial Projections for CVNGBIP.xlsx	Douglas, David	03/26/2010
Subscriber Estimates	CCISubscriberEstimates for CVNGBIP.xlsx	Douglas, David	03/26/2010
Dashboard Metrics	CCI Key Metrics Dashboard for CVNGBIP.pdf	Douglas, David	03/26/2010
Dashboard Metrics	CCI Key Metrics Dashboard for CVNGBIP.pdf	Douglas, David	03/26/2010



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Service Area Data	CCI Service Areas for CVNGBIP.xls	Douglas, David	03/26/2010
Network Maps	CCI Network Maps for CVNGBIP.pdf	Douglas, David	03/26/2010
BTOP Certifications	BTOP Certification 18.16.pdf	Douglas, David	03/16/2010
SF-424 C and D	CCI SF 424 C for CVNGBIP.pdf	Douglas, David	03/26/2010
SF-424 C and D	CCI SF 424 D for CVNGBIP.pdf	Douglas, David	03/26/2010
Supplemental Information	Contractors Letters of Interest.pdf	Douglas, David	03/25/2010
Supplemental Information	Businesses Support Letters.pdf	Douglas, David	03/25/2010
Supplemental Information	County Board of Supervisors Support Letters.pdf	Douglas, David	03/25/2010
Supplemental Information	Educational Support Letters.pdf	Douglas, David	03/25/2010
Supplemental Information	Emergency & Safety Entities.pdf	Douglas, David	03/25/2010



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Supplemental Information	Healthcare Services Support Letters.pdf	Douglas, David	03/25/2010
Supplemental Information	Library Support Letters.pdf	Douglas, David	03/25/2010
Supplemental Information	Other Support Letters.pdf	Douglas, David	03/25/2010
Supplemental Information	Central Valley Economic Indicators 2009.pdf	Douglas, David	03/25/2010
Supplemental Information	Community College List of Federally Funded Programs.pdf	Douglas, David	03/25/2010
Supplemental Information	CVIN Matching Resolution.pdf	Douglas, David	03/25/2010
Supplemental Information	CVIN SHPO Letter.pdf	Douglas, David	03/25/2010
Supplemental Information	Legislative Support Letters.pdf	Douglas, David	03/26/2010
Supplemental Information	CETF LOS.pdf	Douglas, David	03/26/2010
Supplemental Information	Key to Attachments.pdf	Douglas, David	03/26/2010



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