

The logo for UC2B is contained within a blue-bordered square. At the top of this square, the letters "UC2B" are written in a large, blue, sans-serif font. Below the text, the square is divided into a grid of smaller rectangular sections by orange lines. The grid consists of a top row, a middle row, and a bottom row. The middle row is further subdivided into three horizontal sections, and the bottom row is a single wide section.

UC2B

Urbana-Champaign Big Broadband

*Sustainable Broadband Adoption
On-Line Application Narratives*



**Broadband Technology Opportunities Program
Public Computer Centers Program – Sustainable Adoption Program**

Submitted Date: 8/20/2009 3:28:47 PM	Easygrants ID: 3263
Funding Opportunity: Public Computer Centers and Sustainable Broadband Adoption	Applicant Organization: Board of Trustees of the University of Illinois
Task: Submit Application - Non-Infrastructure Programs	Applicant Name: Kathy Young

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A. General Application Information

1. Applicant Information	
1-A. Name, Address, and Federal ID for Applicant	
i. Legal Name:	Board of Trustees of the University of Illinois
ii. Employer/Taxpayer Identification Number (EIN/TIN):	376000511
Street 1:	1901 S. First Street, Suite A
Street 2:	
City:	Champaign
County:	Champaign
State:	IL
Country	United States
Zip/Postal Code:	61820
1-B. Name and Contact Information of Person to be Contacted on Matters Involving this Application:	
Prefix:	
First Name:	Kathy
Middle Name:	
Last Name:	Young
Suffix:	
Telephone Number:	217-333-2187
Fax Number:	
Email:	geraldmcworter@gmail.com
Title:	Director of OSPRA
1-C. Other Required Identification Numbers	



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i. Organizational DUNS:	041544081
ii. CCR # (CAGE):	4b808
iii. Funding Opportunity Number:	2
iv. Catalog of Federal Domestic Assistance Number:	BTOP CFDA Number: 11.557 BTOP CFDA Title: Broadband Technology Opportunities Program

1-D. Organization Classification

Local, State, or Other Government Entity

1-E. Applicant Federal Debt Delinquency Explanation

Is the **Applicant** Delinquent On Any Federal Debt?
No

Federal debt delinquency Explanation:

1-F. Congressional Districts of:

Applicant: Illinois - 15

Program/Project

Illinois - 15

2. Project Title and Project Description

2-A. Project Title : Urbana-Champaign Big Broadband Above Ground SBA (UC2B Sustainable Broadband Adoption)

2-B. Project Description: UC2B is an intergovernmental consortium of the University of Illinois and the cities of Urbana and Champaign providing fiber-optic broadband connectivity to the community's anchor



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institutions, fiber-to-the-home connectivity in underserved neighborhoods, improved access/support to public computing centers, and a sustainable adoption and educational outreach program for vulnerable populations.

3. Project Type

Classify the particular project type for which you are seeking federal funding.

Project Type: Sustainable Broadband Adoption

Project ID: 2

4. Application ID for Multiple Submissions for Identified Service Areas

There are three linked submissions from the Urbana-Champaign Big Broadband Consortium. They inform and enable each other and provide an integrated solution for the Identified Service Area.

BTOP Infrastructure:

Urbana-Champaign Big Broadband - Below Ground (UC2B Middle Mile & Last Mile Infrastructure)

BTOP Public Computing Center:

Urbana-Champaign Big Broadband - Above Ground PCC (UC2B Public Computing Centers)

BTOP Sustainable Broadband Adoption:

Urbana-Champaign Big Broadband - Above Ground SA (UC2B Sustainable Broadband Adoption)

5. Estimated Funding (\$):

Estimated Funding (\$):	
Federal	2,957,827
Applicant	314,642
State	



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Local	471,963
Other	
Program Income	
Total	3,744,432

B. Eligibility Factors

6. Eligibility Factors.

The application must be completed fully, and all required supplemental documentation must be attached.
Applicants must commit to substantially completing their Project (as defined in the NOFA) within two years of the award date, and completing the Project within three years of the award date.
Applicants must credibly demonstrate that their Project advances at least one of the five statutory purposes for BTOP.
Applicants must demonstrate that but for Federal funding they would not have been able to complete their project during the grant period.
The budget for the project must be reasonable and all costs must be eligible.

6-d. Applicant is providing matching funds of at least 20 percent towards to the total eligible project costs or is requesting a waiver of the matching requirements.

Yes

Matching Fund Waiver Request Explanation



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C. Executive Summary

7. Executive Summary of Overall Proposal:

A. Problem statement with regard to improving broadband service adoption rates.

UC2B Below Ground will bring needed big broadband to critical institutions and to homes in underserved areas. The complementary need and solution addressed in this UC2B Sustainable Broadband Adoption proposal is to stimulate broadband demand by helping people in those areas and other vulnerable populations use a reliable and cutting-edge set of big-broadband-based tools and services. This includes hardware, software, people, and social arrangements. In July, UC2B carried out a door-to-door household survey which found census block groups of <40% broadband takeup, exactly aligned with the lowest income and highest social isolation (joblessness, lower education, lack of access to services, and so on).

B. Overall approach and how it is innovative.

Our overall approach is bottom up, locally rooted cultural and entrepreneurial innovation, facilitated by North Champaign-Urbana’s own social capital together with UC2B’s structures and resources. The set of big broadband based tools and services mentioned above is centered on:

1. a self-organized network of 46 public computer centers, with technology both comprehensive and cutting edge, and a uniformly educated and mobilized support staff of 31 core staff (including 17 cybernavigators—local people helping and teaching);
2. 50 student interns (high school, community college, university) rolling through a three-course sequence on big broadband, community institutional transformation, and big-broadband-based entrepreneurship, culminating in start-up awards to each year’s five best projects; and
3. a hub public computer center featuring three locally relevant technology foci and called the Mad Lab (for Music, Access, Digitization).



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This approach is innovative in that it aims to boost big broadband subscription and use by a more effective reliance on local people and information technology. This is based on the best community informatics research and experience, amassed by the UC2B Above Ground team over 15 years.

Unleashing local people’s energy for big broadband use includes:

- staff and patrons of existing public computer centers
- leaders of 12 sectors serving underserved areas or vulnerable populations
- home-grown computer assistants with a capacity for providing help
- area students from high school, community college and university, with others rolling through a three course sequence with summer internships and big-broadband-based entrepreneurial brainstorming and planning
- cultural producers ready to use advanced studio tools to create new music and other forms
- community archivists with family photos, organizational records, and other materials of unique value to digitize.

C. Areas to be served. Demographic information. Estimated number of broadband subscribers we will reach.

UC2B Sustainable Broadband Adoption will serve 1) the broadband-underserved areas of the two cities, Champaign and Urbana, Illinois, as defined by the NOFA for this round of funding and measured by UC2B in July 2009 (see map) and 2) vulnerable populations across the two cities, which encompass a population of 113,000, 15.6% African American, 4.5% Latino, and 27% living below the poverty level, according to the 2005-2007 American Community Survey. The project will reach an estimated 23,750 broadband subscribers in Champaign-Urbana alone, and more elsewhere.

D. Applicant qualifications.

UC2B’s Sustainable Broadband Adoption proposal builds on the last 15 years of work by community informatics scholars and professionals at the University of Illinois Graduate School of Library and Information Science, the top ranked in its field. As demonstrated by our record of publications and presentations, this has involved:



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1. establishing, operating, and/or studying 100 plus public computer centers
2. IT-enabling and or studying 500 plus community groups/institutions
3. convening/steering 15 plus conferences on technology and community.

This team has worked in Champaign-Urbana, East St. Louis, Oak Park, and Chicago, Illinois; Toledo, Ohio; Ann Arbor, Michigan; Manchester, England; and São Tomé (Africa). We operated the community network Prairienet (<http://prairienet.org>), the only TOP grant that NTIA awarded to a university's library and information science program. We created an archive of the physical and digital records of the Technology Opportunities Program (<http://hdl.handle.net/2142/5139>) and initiated the collective study of the 606 projects, all using technology to solve problems in underserved areas/among vulnerable populations. We are now the largest community informatics program in the country, graduating professionals and PhD-level researchers.

City and university managers steering the UC2B city-city-university consortium have personally collaborated on no less than four generations of successful campus-community computer networking: PLATO (begun 1960), the first public access point to a university's online library catalog (1984), Champaign County Network (ccnet, 1993), Prairienet (1994), and now UC2B.

The hallmark of UC2B is its sustainability. Of the 81 jobs created, the bulk of the payroll is in 31 positions which will be supported by UC2B for years 4 and 5 of the project. As for big broadband adoption, the three pronged transformational strategy is aimed at a cultural shift whereby life and work in underserved areas/vulnerable populations is converted from offline to a seamless combination of off- and online, like the area's higher-income population.

E. Jobs saved or created. 81.

F. Overall cost. UC2B Above Ground will cost \$5,000,000. UC2B Sustainable Broadband Adoption will cost \$3,744,614.



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D. Project Purpose

Project Purpose: Recovery Act & BTOP Objectives

8. Project Purpose

A. Problem significance: overcoming broadband inequality in a public university technopole.

The significant problem UC2B addresses is persistent, deepening digital inequality in a particular type of North American community that is found in all 50 states around our public institutions of higher education. There are 1,700 such communities, where (as in Champaign-Urbana) some people are using, and even creating, the world's most powerful hardware and software. Others are using a mouse for the first time. The University of Illinois has been a world center for creative innovation in computing, from PLATO (1960), the first public computer system, to Blue Waters (2011), which will be the most powerful supercomputer in the world when it comes online for open scientific research.

But off campus, many residents of C-U (and other similar higher-education-hub communities) are facing a computer screen, keyboard and mouse for the first time, because all applications for the jobs, housing, and social services they need have migrated online. Other residents fall somewhere along a spectrum between the two. C-U has the same range of social dislocations and proportion of marginalized people as any other city in this period of economic crisis. Getting online is mandatory to apply for jobs, education, housing, and social services. While some are integrated into the big broadband-connected world (televisits with family in China or ongoing collaborations with German researchers, for example), as a community, we are far behind high-speed-internet societies in Asia and Europe.

B. Effective solution: building a unified network of existing/planned public computing centers, bringing them to a technology standard including big broadband, providing local IT support.

The most advanced public computing center in town is a lab exclusively for U of I computer science majors. Meanwhile at community computer centers, tight budgets limit them to teach and support users only in browsing and word processing, without even the games that teach



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newbies mouse skills or keyboarding.

UC2B Sustainable Broadband Adoption’s solution to broadband inequality has three parts:

1. teaching and helping users at 46 public computer centers
2. at the hub center with advanced computing capacities, helping local residents and institutions create big broadband content via digitizing community materials; music, video, and other cultural production; and “glocal” teleconferencing.
3. recruiting 50 people a year (university, community college, and high school students and interested community members) to a year long study-action program culminating in a UC2B Big Broadband Entrepreneurship competition for \$50,000 in startup funds (5 awards of \$10K each) for locally rooted big broadband based businesses or social entrepreneurs.

This dovetails with the UC2B Public Computer Centers proposal, which aims at:

4. organizing 45 existing/planned public computing centers (all serving underserved areas and vulnerable populations) into a unified network for sharing best practices and collaborating
5. bringing their technology to a standard, including big broadband
6. providing IT support to the 45 centers out of a 46th hub public computing center. Taken together, these activities will move local residents and institutions to big broadband ways of living and working and result in higher levels of big broadband access and use.

C. Replicable solution: The UC2B solution relies on a strategy available to 1700 communities nationwide which have public institutions of higher education. That solution is to link on-campus resources and technology approaches with community technology leaders in the city or town in order to level the local big broadband playing field. Part of making this solution replicable is embedded in the UC2B proposal, namely, sharing our successes with other cities and towns as we go. UC2B will produce a handbook that others can adapt to their campuses and communities.

D. Advancing job creation along with 4 of 5 BTOP statutory purposes.



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The UC2B Public Computing Center and Sustainable Broadband Adoption proposals create or save 81 jobs and advance 4 of 5 statutory purposes of BTOP:

1. Increasing broadband takeup in underserved areas (i.e. currently evidencing <40% broadband takeup). 12 of the 46 centers are in underserved areas as surveyed by UC2B in July 2009.

2. Conducting big broadband education, awareness, training, access, equipment, and support to anchor institutions and vulnerable populations. On top of the 12 centers located in underserved areas (which are the lowest income neighborhoods in Champaign-Urbana), 34 of 46 public computing sites serve vulnerable populations. The 17 cybernavigators will conduct their work in these 46 centers and with community anchor insitutions in 12 sectors: education, libraries, women, employment, homeless, disabled, health, public safety, churches, community centers, media/culture and senior housing.

3. Expanding big broadband for public safety agencies. One center is the Youth Detention Center serving 500 youth per year. Another serves ex-offenders at a homeless shelter.

4. Stimulating big broadband demand. By supporting local residents/institutions in big broadband innovation based on cultural production, digitization of their own materials, and entrepreneurship, their lives will move online and sustained big broadband demand will result.

E. Reinforcing other BTOP program objectives (Infrastructure and Sustainability).

The 46 public computing centers, 81 UC2B workers, and locally-oriented digitization, cultural production, and entrepreneurship will recruit and mobilize vulnerable populations, anchor and grassroots organizations, and residents of underserved areas to new ways of living and working with big broadband. This will generate demand for the infrastructure and provide the basis for sustainability mentioned above.

9. Recovery Act and Other Governmental Collaboration.

The UC2B infrastructure proposal increases the big broadband connectivity of three partners in the Illinois Rural Health Network, which has received a \$21 million grant from the Federal Communications Commission to improve the connectivity to rural medical facilities.



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Carle and Provena Hospitals in Urbana are both in the UC2B Last Mile proposed funded service area and both are teaching hospitals for University of Illinois medical students. Both hospitals and the University support rural health programs, and with UC2B fiber they will have low-cost, high-bandwidth connectivity to the emerging state network that the FCC grant is funding. The UC2B fiber will be an enabler for their telemedicine programs as well.

On the state level, Public Act 096-0038, which was signed into law on July 13, provides \$50 million in state funds for grants for broadband deployment projects in the state of Illinois. The combined UC2B projects have secured \$3.5 million from this program, subject to NTIA approval of the UC2B BTOP grant applications. The commitment email from the State of Illinois is attached to the UC2B BTOP applications and the \$3.5 million is shown in the summary of matching funds.

On a local level, the discussions leading up to the creation of the UC2B Consortium by the University and the cities of Urbana and Champaign have increased the awareness of the need for fiber conduits in the public works departments of both cities. While there is a new state law that mandates the placement of conduits for fiber optic networks on new state road projects, the local public works directors are now factoring conduit into their future road building and repairing plans. We believe these are the sort of efficiencies that the Recovery Act anticipates and encourages.

Three examples explain the diverse local government commitment to UC2B.

1. The Champaign-Urbana Mass Transit District operates an award-winning bus system. They want access to fiber connections in order to deliver wifi access and bus arrival times to off-campus bus shelters just as they already do at on-campus bus stops.
2. The Urbana-Champaign Sanitary District operates two main waste treatment plants and seven pumping stations. They want big broadband to synchronize the pumping stations better with the treatment plants. This application gives an entirely new meaning to the term “critical institution.”
3. METCAD handles the county’s 911 calls and dispatches first responders. It becomes a public safety concern whenever their interagency and first responders radio system fails. They want UC2B’s fiber to provide a backup system for their lifesaving radio towers.



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The letters in the supplemental information indicate all the solutions that our 137 critical partners (anchor institutions, public computer centers, and other partners) are ready to implement with big broadband.

10. Enhanced Services for Health Care Delivery, Education, and Children

UC2B seeks to improve the quality of life of the community it will serve, in terms of health care, education, and the well-being of its children. It will partners with experienced institutions in each of these areas to do so. This will include building web resources for 12 sectors, including an extensive listing of useful websites, listservs to link professional organizations with the broad populations in need of their services, and digital content coming from the collaborations between UC2B and local individuals and organizations.

Health Care: One of our most important activities will be to fill the need for reliable health information by building a web portal that will expand via a FAQ process from public meetings and a UC2B listserv. UC2B will install/support/teach at workstations in CU public health clinics and bring big broadband to numerous health-related anchor institutions.

Education: Along with bring big broadband to education-related anchor institutions, UC2B will install/support/teach at workstations in the local adult education center. The cybernavigators and summer interns will be a teaching corps for all the community. They will make it the “in thing” to be computer literate and enjoy social networking and content moved across big broadband. By working with the community and drawing on various standards for computer literacy, we hope to have a community-sanctioned set of standards ranging from beginner to expert so that our network of labs will be able to credential itself. This process will in turn impact all local educational institutions and processes.

Children: UC2B’s work with children will focus on their extensive use of three library centers and take into account families as well as children. For example, Champaign’s Main Library has a special area for computer use by children. Adults can sit near them but not use the computers. Patrons have clamored for and UC2B will provide laptop computers that parents can check out and use while with their children. At Douglass Branch Library in the core underserved area, a lower-income, mainly African American community, UC2B will double the number of workstations from 10 to 20 and add 5 laptops as well. The area’s Head Start classrooms for



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children 3 to 5 years old each have one or two older computers; UC2B will upgrade most with one new workstation, big broadband, and appropriate software.

The University of Illinois is a national center for implementing Squeak programming language for children. UC2B will engage these developers in outreach to children in all 46 public computer centers, in the homeless shelters and elsewhere. A pilot carried out in Douglass Library drew a packed house. This will be a dynamic aspect of outreach/service to children.

11. Small and Disadvantaged Business Involvement

UC2B’s small and disadvantaged business involvement takes three forms.

1. An agreement in principle to contract with a socially/economically disadvantaged small business to clean/sanitize the machines at all 46 public computer centers. This is important in the era of H1N1 flu. UC2B is proud to have found a business to take this on.
2. Relating to infrastructure and aided by UC2B’s entrepreneurship-building aspects, UC2B and interested individuals from the local disadvantaged population have mapped out a two-step business development plan. This is necessary because small business concerns as defined by section 8a of the SMA 15 USC paragraph 637 are not evident in our area. Step one includes union electrician training for members of underrepresented and disadvantaged populations. (See letter from Champaign Telephone Company for their commitment to conducting this training program.) Step two is to carry out business formation and planning among those trained individuals. This is part of our plans for the sequence of classes in big broadband entrepreneurship and for big broadband business incubation at the Mad Lab. The result will be a newly operational big-broadband-based small business as defined by section 8a of the SMA 15 USC paragraph 637.
3. UC2B will emphasize big broadband entrepreneurship opportunities that advance underrepresented groups in Champaign-Urbana.

E. Project Benefits

E-1 – Expanding Broadband Public Computer Center Capacity

Public Computer Center Capacity, Including Areas and Populations Served



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12. Public Computer Centers Availability

The UC2B network of public computer centers across the two cities will offer near-open availability of big-broadband-connected hardware and software. This is because it is a network that includes general access centers as well as more limited access centers serving a specific vulnerable population. None of the public computer centers charge specifically for use of computers or broadband, although some are part of programs that require applications and fees such as rent (e.g., senior housing).

General comprehensive access: We will have direct participation from all three public library locations: the Champaign Public Library, Champaign’s Douglass Branch Library, and the Urbana Free Library. In addition there are two major community centers that are generally open to all members of the community: Boys and Girls Clubs and the Independent Media Center.

Limited public access: The majority of the public computing opportunities are limited access to specific groups. This access is suited to the vulnerable populations they serve. The Developmental Services Center serves only disabled people of all types. The two women’s centers are safe houses for women in distress and their children. Head Start is limited to enrolled children. The Youth Detention Center public computers are only for residents, the same for senior housing. Many of the sites also allow use by visiting family members. The homeless facilities are open to the public, but are primarily used by residents of these respective facilities.

A third dimension of availability is home computer/big broadband access that complements the social spaces of public computer centers. In the UC2B proposal development process, local forces were able to open a long-desired channel for recycling computers out of the university into the homes of low-income and other vulnerable populations. Local public computer centers already recycle computers with great success and this will boost this activity, very important for securing big broadband adoption.

13. Restrictions on Public Computer Center Use

The main use restrictions of the UC2B public computing network will be specific to the rules of each host institution. Within the UC2B network all public computer centers require the



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usual deportment in public spaces, but in every case privacy and freedom of use is also an important standard. In every case the viewing of pornography is discouraged, but no public computer center practices active surveillance unless someone in the area complains or there is danger that adult content will be exposed to children.

14. Public Computer Centers Accessibility

UC2B's open, accessible network philosophy includes accessibility for people with disabilities. We will work to make the full scope of information technology engagement available to all of our residents. Our team has expertise with every aspect of accessibility, from building computer technology center facilities that can be used by people with wheelchairs to providing helpdesk, software, and training services to enable people with vision, hearing, or motor impairments to use computers effectively. The university was one of the first wheelchair-accessible campuses in the nation decades ago, and today is a national leader in accessible web and software technology. That commitment extends to UC2B.

One of the 46 public computing centers is the Developmental Services Center. Its mission is to “enhance the lives of individuals with disabilities by providing services and supports which enable them to live, work, learn, and participate in their communities.” It was created in 1972 by the merger of four community organizations devoted to serving individuals with developmental disabilities and serves 1,400 individuals each year in Champaign and Ford counties. Its public computer center is just part of its larger program, and it has special equipment—hardware and software—for their clientele. They specialize in the area of accessibility and will be able to advise all of the other centers regarding this special needs population.

Most of the public computer centers have been involved at some stage in receiving public funding and have been required to meet standards for handicapped accessibility. In general we will have no center in the network that is not accessible to the disabled.

All of the senior centers have accessible facilities, as do the centers for homeless and women in distress. Every library and other public buildings are accessible for everyone as well.

While the buildings are accessible, over time we will have to make sure that other aspects of the public computing spaces can be fully useable as well. For people in wheelchairs we will



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have to make sure that they can easily move chairs so they can get access, and that the tables or desks do not prevent them from getting as close as they need to for computing. If there are residents and users of the labs who have other special needs we will have to work with their specific PCC in order to work out a reasonable solution.

15. PCC - Center Locations, PCC - Center Capacity, PCC - Size and Scope of Target Audience.

PCC - Center Locations & Center Capacity & Size and Scope of Target Audience.

16. PCC- SBA Population Demographics

Age Distribution
Age Distribution: 70 and above
Age Distribution: 60-69
Age Distribution: 50-59
Age Distribution: 40-49
Age Distribution: 30-39



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Age Distribution: 20-29
Age Distribution: 5-19
Age Distribution: 0-4

Ethnicity or ethnicities
Ethnicity: Hispanic
Ethnicity: Non-Hispanic White
Ethnicity: Non-Hispanic Black
Ethnicity: Non-Hispanic American Indian
Ethnicity: Non-Hispanic Asian
Ethnicity: Non-Hispanic Hawaiian or Pacific Islander
Ethnicity: Non-Hispanic Other
Ethnicity: Two or More Races

Gender
Gender: Female
Gender: Male

Median Household Income
Median Household Income: \$25,000 - \$34,999
Median Household Income: \$35,000 - \$49,999



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Educational Levels
Educational Levels: Nursery school - Preschool
Educational Levels: Elementary - Kindergarten - Grade 5
Educational Levels: Middle - Grade 6 to Grade 8
Educational Levels: Secondary - Grade 9 to Grade 12
Educational Levels: College
Educational Levels: Masters
Educational Levels: Doctorate/Post-Doctorate

Disabilities status
Disabilities status : Blindness, Deafness or a severe vision or hearing impairment
Disabilities status : A condition that substantially limits one or more basic physical activities such as walking, climbing stairs, reaching, lifting or carrying
Disabilities status : A physical, mental or emotional condition lasting 6 months or more

Unemployment Rate
Unemployment Rate: 9.40

Language
Language : English - Primary
Language : English - Second Language
Language : Non-English Speakers



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17. Public Computer Centers Outreach

UC2B’s outreach strategy is based on its critical social institution partners. Their constituencies have a strong demand for the use of broadband; while they have some, they don’t have enough. UC2B is answering this demand.

1. Outreach has already started. Negotiations with institutions, three public forums attended by 50+ people each (representing more than 100 organizations), open city council subcommittee meetings, media coverage, and a door-to-door survey have alerted many to the coming big broadband opportunity.
2. Hiring local people is outreach. This outreach will be through family, friendship, and institutional networks. UC2B Above Ground will pull these social networks into its centers. This will legitimate the new staff of UC2B and increase their standing in the community. It will enlist family and friends into an informal network of community support for UC2B.
3. UC2B will use TV, radio, and print aimed at the entire community and audiences such as Latinos, African Americans, students, and so on. UC2B will document best practices and examples of success in these outlets by press releases, interviews, photos, articles, and audio/video.
4. UC2B outreach will feature what people produce in the centers. Outreach will include moving local cultural awareness from traditional formats to digital formats that take advantage of big broadband connectivity and promoting/celebrating the digital artifacts of cultural production.
5. UC2B will encourage people to download other people’s content and even more importantly to upload their own content. UC2B training and support is not only intended to promote the usual sanctioned standards for computer literacy, but also literacy with which people can create digital artifacts of culture and consciousness that reflect the history/condition/future of the community, what it thinks of itself and society, and what it is going to do about making the future a fulfillment of their dreams. UC2B will encourage people to dream in cyberspace and make their dreams become reality.



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6. UC2B will convene an annual community conference including a report by the UC2B policy committee, a review of service with all providers present, the sharing of experiences among public computer centers, a computer fair and competition, a keynote address, sessions of papers, panels, and posters from scholars and students, and tours of public computer centers and university computer facilities—altogether a celebration of digital culture and big broadband.

7. Staff will attend every community organization meeting possible, pitching big broadband to local leaders from the PTA to the health coalition to the NAACP with brochures and comments about the utility of public computer centers and big broadband connections for their organization and its activities. This reflects UC2B’s model of community as having a network of leaders: they know each other, and they need to know about UC2B. Big Broadband Sunday will be key here.

Public Computer Center Capacity: Training and Educational Programs

18. Public Computer Centers Peripherals and Equipment

164 desktops will be distributed across the network of 46 public computer centers. These will be dual-boot (Mac and Windows) iMac 20” machines with locks and repair warranties. With extra memory to remain functional longer than usual configurations, unit cost \$1500.

54 laptops will be distributed to 29 staff and three libraries which have specific needs for mobile use by patrons. Staff will move around the two cities and need laptops for productivity and for demonstrating big broadband usefulness to others. With repair warranties. Unit cost \$1300.

One laptop will be used to regularly reimage the desktops and laptops. Pushing a new image across the big broadband network, which technically possible since it will be like one big LAN may not always be desirable. In some cases reimaging can be part of the regular visits to each center, which will be moment for sharing news, solving problems and building social capital. Unit cost \$3400 with free OS X server upgrades for three years, and will be loaded.



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Three desktops will provide the foundation for music/media and digitization work in the Mad Lab. Specially configured dual-boot Mac Pros, unit cost \$6165.

One server will provide listserv and web services from the Mad Lab. Rack- mounted Xserve running OS X server with RAID, multiple disks, unit cost \$7500.

Additional items include group printers, a copier, music/media devices, scanners, cameras, stands and racks, analog players, cables, and other networking equipment.

19. Public Computer Centers Workstation Software

The 164 desktops distributed across the network of 46 public computer centers will be dual boot (Windows and Mac OS), installed with Microsoft Office, antivirus, and a range of free applications. Emphasis here will be on educational and social games, Squeak and other programming tools, sound and video, creating/working with images, and basic but versatile video/audioconferencing. The 54 laptops distributed to 29 staff and three libraries will have the same and will be work tools and demonstration tools.

Three desktops for specialized work in the music/media space and the digitization space of the Mad Lab will be specially built with professional quality software such as Final Cut Suite, Logic Studio, Aperture, and others as well as a range of open source tools common to digitization projects such as Google Books, the Open Access Initiative, and Project Gutenberg.

The strong local Linux community is also interested in collaborating with UC2B to introduce people in the centers to Linux as a third operating system.

20. Public Computer Centers Training and Education Programs

UC2B’s training and education programs are based on its understanding of literacy of all types: computer literacy, information literacy, and literacy per se (reading and writing).

The collective experience in community informatics at the University of Illinois includes at least six different sets of curriculum materials. This provides a rich set of resources on which UC2B will build. We will also use the general standards adopted in Europe, the European Computer Driving License (<http://www.ecdl.org/publisher/index.jsp>). We will also use the five curricula recommended by the Community Technology Centers’ Network:



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(<http://ctcnet.org/what/resources/msup/adaptedcurricula.htm>).

For local buy-in and local content, a team of UC2B staff and staff from the existing public computer centers will assemble a basic curriculum for computer literacy.

Another basic feature of UC2B will be to build a web portal to include all of the sectors of our community that we are serving, so that everyone enters the same virtual community. As a network of labs we are embracing everyone in the community. We will start with where people are, and then we will work to bring everyone together. Graduate students will build comprehensive resource lists and aggregate an FAQ.

Our basic plan is to hire a group of 17 part-time cybernavigators to work across the entire UC2B network. The job will require experience in one of the sectors UC2B will serve as well as several years experience, a degree, or coursework in computer science and/or a helping profession. The interview will include taking a test to demonstrate proficiency in information technology. There are active computer science programs in area high schools and at Parkland Community College (<http://your.parkland.edu/academics/departments/csit>) to draw from. The priority is to hire from the target areas for the UC2B Below Ground. UC2B aims to create jobs for people who come from the areas of greatest focus in both the ARRA legislation and the BTOP NOFA.

Teams of cybernavigators will specialize in sectors of our community. For example, cybernavigators will service 10 senior centers and become experts in computer education for seniors. This involves the team as individuals spending one morning a week in each of the senior centers. As we will be using video conferencing in each place we anticipate a reservation schedule for half-hour sessions by which the seniors can have a video chat with family members. We expect this to be a popular application, so we will organize the early adopters to assist other seniors who might find it more convenient to videoconference at night or on weekends. There will also be an emphasis on sending holiday cards, uploading and downloading pictures, storing files on an external storage device, and even playing virtual bingo or other games they choose, by networking all of the senior centers in a citywide tournament!

For instance, we will work with the women’s shelters to recruit someone who knows their mission and clientele and brings a special sensitivity to their needs—the need to recover, to get



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reoriented, to get back on one's feet with a job and a home, to keep one's children optimistic and engaged for the future, and to have some fun to stabilize and give love to the children.

Some basic lessons we have learned from previous work:

1. It is best to teach basic computing skills in relation to content and not as isolated technical skills.
2. Games are very popular and can be very educational. In our ABC classes (Adult Basic Computing) we have often taught the use of the mouse by helping people learn how to play solitaire on the computer. Other people are keenly interested in playing and developing games.
3. People often learn best in groups of friends, in a safe space.
4. Learning is reinforced when people teach others something they have recently learned.
5. Memorization is the basis for creativity. Examples range from the artist Michelangelo and his countless anatomical drawings to saxophonist John Coltrane, who memorized and practiced every musical scale of both Western and Eastern cultures.

E-2- Project Benefits – Sustainable BroadBand Adoption

21. Innovative Approach to Sustainable Broadband Adoption

UC2B plans a qualitative leap into big broadband by taking the community of Urbana-Champaign as one integrated social system. It aims at 46 public computer centers while also involving a total of 137 critical social institutions that make up UC2B. In a town dominated by world-class, world-leading technology initiatives, the community-level digital divide can and will come to an end, based on a bold and comprehensive plan. That plan is UC2B.

Our innovation is:

1. UC2B will be a network of 46 public computer centers with local staff supported by 17 cybernavigators (teachers, helpers) and technical staff.



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2. UC2B will cover 12 areas of social life: education, libraries, women, employment, homeless, disabled, health, public safety, churches, community centers, media/culture and seniors.
3. UC2B will be sustainable, part of the local cyberinfrastructure.
4. UC2B will cover the spectrum from basic computing skills to high end multimedia production.

UC2B will harness the energy of the community to become uploaders, producers of digital content. Our first target is the cultural history of the vulnerable population which is also the voiceless in the digital age. The digital content of UC2B will gather and present the voices of the vulnerable populations, their stories in their words, images, and sounds.

Our media capacity will enable us to create our own educational video segments on our entire curriculum and post these online for the public here and throughout the country. UC2B will extend Champaign-Urbana’s national leadership in community informatics.

Exemplary activities will include:

1. Big Broadband Sunday: staff will visit 25 churches each quarter to speak with people about UC2B and bear witness to our good works.
2. Monthly digitization projects: the Mad Lab will partner with community organizations to digitize key documents of their experience (text, photos, sound and video, film, and of course digital files) and build websites containing all this information.
3. UC2B will rely on active community guidance via a) its community advisory board, b) an independent organization of public computer centers, and c) regular community-based focus groups.

UC2B approaches the cities of Champaign and Urbana as a social system and not an aggregation of public computing centers or households. People move through many places in the course of a week or month. It is useful to have some level of transparency and articulation so that flash drives, software, hardware, and so on are relatively standardized and planned for optimal use by everyone. UC2B deals with several axes of social inequality that make for



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vulnerability (e.g., low incomes, minimal education, public housing, homelessness, women in distress), so we must maintain standards because a high level of literacy is our goal for all members of the community. UC2B is building a comprehensive program; that is the baseline for our innovative approach.

22. Sustainable Broadband Adoption Household Subscribers.

How many total new home subscribers (household accounts) to broadband do you expect to generate through use of BTOP funds over the entire life of the program funded? **2,500**

23. Sustainable Broadband Adoption Institutional Subscribers.

How many total new business and/or institutional subscribers to broadband do you expect to generate through use of BTOP funds over the entire life of the program funded? **200**

24. Sustainable Broadband Adoption Users of Public Access Facilities.

How many total **users** of broadband in public computer centers or **users of broadband outside the home** (e.g., in a community college) do you expect to generate through use of BTOP funds over the entire life of the program funded? **22,000**

25. Sustainable Broadband Adoption Population Demographics.

Please refer to PCC – SBA Demographics section (Section E1- Question 17)

26. Sustainable Broadband Adoption People Trained/Educated.

If you intend to provide training or education, how many people **in total** will your program(s) reach? **8,000**

27. Sustainable Broadband Adoption - Scope of Training/Education Programs.

How many hours of training do you expect to provide *per person on average* for each participant in your training program(s), through completion of training for that individual? If you will offer multiple programs, provide estimates for each program. **13,000**

28. Sustainable Broadband Adoption Instructor Qualifications.

How many (FTE) instructors/facilitators will you employ for broadband and digital literacy training purposes, and what are their qualifications (training and experience)?

Senior staff resumes are attached. Other instructors include 17 cybernavigators, 5 Mad Lab workers, 50 summer interns. Draft job announcements/hiring procedures are below.

a. Cybernavigators.

"UC2B is hiring 17 half-time workers to help people use big broadband-connected computers at community locations across Champaign-Urbana and in 12 sectors including education, libraries, women, employment, homeless, disabled, health, public safety, churches, community centers, media/culture and seniors. Big broadband is new to C-U and you will be helping



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people do new things with it. You will work as part of a networked organization on a team that is constantly learning. You will be assigned to a set of public computing centers and one or more of the sectors listed above. You must be:

- * knowledgeable and willing to learn more about hardware/software/new uses of IT
- * excited about educating others about these
- * familiar with one of the sectors above
- * able to move around town every week

Several years experience and/or a degree/coursework in computers and/or the helping professions is highly desirable. A skills/knowledge test is part of the interview. Tell us why we should hire you. Write/send your resume to jobs@uc2b...”

b. Mad Lab workers.

“UC2B is hiring 5 full time staff, undergraduates or other capable individuals, to assist in its Mad Lab, opening May 2010 in Douglass Park, Champaign. Two kinds of positions will be filled:

- 1) reporting to the IT director, installing/maintaining workstations and other digital devices in existing/planned public computer centers serving low income, disabled, senior, or otherwise vulnerable populations and liaising with tech and user support at those centers;
- 2) reporting to the Digital/Cultural Production director, installing, operating, teaching and supporting people in using tools for a) creating/distributing sound, video, and other digital media/programming, b) digitizing content including paper, books, audio/videotape of all sizes, 3-D objects, and c) teleconferencing locally or globally.

We seek individuals who can perform on a diverse team and continue to learn. Programming and digital production skills are a plus. A skills/knowledge test is part of the interview. Tell us why we should hire you. Write/send your resume to jobs@uc2b...”

c. Summer interns.

These individuals will be screened as they complete Big Broadband Spring/Intro. They will be



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interviewed by one or more cybernavigators, and if approved assigned in teams to carry out Institutional Transformation through Information Technology (IT-squared) with a partnering organization from one of the 12 sectors.

Cleaners will also train by their example of expert and meticulous workstation cleaning.

UC2B Above Ground will carry out vigorous internal education for staff. This will prevent an internal digital divide with UC2B Below Ground. All instructors listed above will attend weekly lectures of Big Broadband Spring/Intro.

29. Sustainable Broadband Adoption Equipment Purchased.

How many broadband-related equipment units (e.g. computers, wireless devices) do you intend to purchase overall? **223**

30. Sustainable Broadband Adoption Cost of Devices.

What is the total up-front cost of this equipment? **400,160**

31. Sustainable Broadband Adoption Loan Program Participants.

If you are providing an equipment purchase or loan program, for how many households, businesses and/or institutions do you expect to provide equipment or computers?

Number of Households:

Number of Businesses:

Number of Institutions:

32. Sustainable Broadband Adoption Loan Cost to Borrower.

If you are employing a loan program for purchases of service or equipment, what will be the total cost to the typical customer you assist over the life of the loan, including all interest and fees?

33. Sustainable Broadband Adoption Target Population, Awareness Campaign.

If you are conducting an awareness campaign, how many people do you expect your campaign will reach? **23,750**

34. Sustainable Broadband Adoption Awareness Campaign Methods

We will be using a comprehensive approach to raising consciousness about big broadband, what it is, how people are using it, and best practices for people in the various sectors we are actively working in via our public computing centers. The general thrust of big broadband use will be conveyed in situation-specific projects. As a word of mouth, demonstration, local outreach/marketing campaign, the general idea is, "Here is what your neighbors are doing, maybe it's something you might be interested in as well."

As directed in the NOFA, UC2B will be targeting underserved areas, vulnerable populations,



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and critical social institutions (anchor institutions and public computer centers).

1. The 12 sectors we will be working with each have a community of organizations, key players, and mechanisms of communication and networking. The 12 sectors are: education, libraries, women, employment, homeless, disabled, health, public safety, churches, community centers, media/culture and seniors. For each sector we will build a web portal with resources and FAQs that will be constructed by the staff of each relevant public computing center.
2. A major push during the first rollout of connectivity will be to have a Big Broadband Sunday during which volunteers will attend churches in our main areas served by the public computing centers, especially the target area for our FTTP project. They will have laptops and handout material to advertise the project, to discuss the importance of big broadband and how people are using it in the broader community. This is being arranged through the area wide Ministerial Alliance of Champaign County who have indicated the support for this project.
3. As an annual event we will be using the UC2B annual community conference as a major awareness moment and mobilization campaign. If each community computing center brings 10 people, and we mobilize our student base, as well as community members at large we will have an annual conference of at least 500 people. This is one in every 171 people in the two cities.

The program will include a report by the UC2B policy committee, annual review of service with all providers present, annual review of public computing centers, a computer fair and competition, a keynote address, sessions of formal papers, panels, and posters from scholars and students, and tours of public computing sites and university computer facilities, and a celebration of digital art and big broadband.

Part of our awareness campaign will involve the media.

1. There are several local newspapers that we will use as media outlets. A monthly column will be published by UC2B in order to publicize best practices in the public computing centers. This information will be culled from quarterly reports, and staff reports. This will be attempt to get a diversity of voices and experiences in front of the total community, both to celebrate success and to use best practices as stimulation for replication.
2. WILL, the local university affiliated education radio and TV station will be an active partner



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with UC2B. They have been documenting the big broadband activities and will continue to do so. They are the first public radio AM station in the US and has a great track record of public awareness for all kinds of information technology (<http://will.illinois.edu/>).

3. Each fall the course Big Broadband 101 (Intro) will be video taped and broadcast as a webinar. This will be a series enjoyed by the entire community and be a major contribution by the University of Illinois to awareness of big broadband, its history and how it will be used in the UC2B project.

Finally our project awareness campaign will be placed in the hands of the staff and participants.

1. A major awareness tool will be a community wide Wiki designed to recruit community members to upload information about their lives and the aspects of the community they deem important like biographies of key people, entries on institutions and organizations, events and historical chronology,

2. All of the staff will be encouraged to use the social networking sites set up by UC2B, including Face book, My space, and Twitter. We will teach people about these tools and encourage them to build participation using them.

3. Our biggest effort will be our community outreach workers who will attend every community meeting to discuss big broadband and the UC2B programs.

A handbook on our network of public computing labs will be developed and shared with every technology program in all the schools, libraries, and the network of labs. This will include a directory of labs, curriculum and hours, and a map.

In each sector there will be special events to capture the imagination of people. A good example of this is virtual senior Bingo afternoon during which seniors throughout the community will be encouraged to join in. We will work closely with the senior community on designing this activity.

In addition we will work with a local artist to design a poster for UC2B that will be posted though out the community and in all the public computing spaces.



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In all of this the UC2B logo, based on Frank Lloyd Wright iconography and suggesting UC2b's multiple fiber rings, will appear. We will be well branded on all of our material, including decals on all laptops. Some of us are already wearing shirts with the logo and attracting some attention.

35. Measuring Campaign Impact for Sustainable Broadband Adoption

UC2B will employ several methods to measure its impact and the subsequent increase in the number of people who adopt and use big broadband.

UC2B will use a new policy information tool called DEPR. DEPR (pronounced deeper) is the Data Engine for Policy and Research being implemented at the University of Illinois Graduate School of Library and Information Science. The DEPR team 1) works with programs to identify/harvest data that programs decide to collect in order to do their work, 2) combines that data with analytical tools (GIS, text mining, statistics, automatic report generation, visualizations), 3) provides that data+tools package back to program managers via a structured online interface, and 4) offers a researcher's analysis of that same data.

The UC2B research advisory board will ensure that this happens responsibly by establishing practices that protect the public in public computing centers just as libraries have established practices that protect patrons. What books you check out is private and protected by libraries, librarians, and laws. What websites you check out is not as protected, but UC2B thinks it should be. The public using UC2B will also be able to review/give input on the design and implementation of research. UC2B's evaluation research will follow rules the university already follows (IRB) and add new rules to fit new conditions.

Every public computer center will be a data source. Cybernavigators will turn in a log with their timesheets for trend data on activity in the 46 public computer centers and 12 sectors. These measures will be both quantitative and qualitative; cybernavigators embedded in their environments act as survey researchers and ethnographers.

UC2B will conduct 12 monthly focus groups each year covering each of the 12 sectors. This will help us understand people's attitudes towards big broadband in their lives and work activities.



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Network management tools will generate summary workstation usage data. This will protect users privacy while allowing UC2B to measure progress towards optimum capacity and adjust our efforts. It will save staff the time it takes to manually measure usage. As above, UC2B will not monitor what people do on workstations.

UC2B will be helping many people set up email (gmail, yahoo, others) and will collect each person's email address by helping them write an email to the UC2B outreach worker. He/she will then use these emails to keep in touch with people and find out whether/how they are using big broadband so that we can follow up and adjust our programming.

UC2B's help desk at the Mad Lab will routinely ask three questions of each caller and record information in simple pre-coded categories:

- What is your problem?
- What public computing center do you use?
- How/when did you hear about UC2B?

Website traffic analysis will give us an indication of the response to any public initiative or event. Longitudinal data will show long term impact.

36. Sustainable Broadband Adoption Total Cost Per New Subscriber.

What is the total cost of your project per new subscriber (household, individual, or institutional) or new end-user? **887.00**

F. Project Viability

Technical Viability

37. Technology Strategy

37 - A. Public Computer Center Technology Strategy

The overarching technology strategy for UC2B Above Ground is to be comprehensive (45 centers), specialized (the Mad Lab), sociotechnical (using the human power promoting and supporting people using big broadband), and creative. This means that underserved areas and vulnerable populations will have:



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1. technology that is stable and supported in their immediate environment;
2. the best specific tools for music/media, access (teleconferencing), and digitization available at a geographically and culturally central location;
3. information, education, tech support, and user support from a corps of trained and computer-savvy people who are rooted in the local culture of the 46 centers and the 12 sectors they represent (education, libraries, women, employment, homeless, disabled, health, public safety, churches, community centers, media/culture and seniors); and
4. ground in the past, present and future creativity of big broadband adopters, especially people in underserved areas and vulnerable populations themselves. This is expressed in the brand name, “You see to be.”

One example of this fourth aspect is that in the process of preparing the UC2B grant proposals, university staff took a fresh look at the historic problem of not being able to donate university equipment to nonprofit or in-need users. This persistent problem was addressed in a flurry of correspondence between local tech workers and state government officials; we now have a legal way to share these machines. It is a taste of what will be possible in the environment of the drive for broadband that the BTOP/BIP funding has energized.

More specifically on the equipment, peripherals and software tools themselves, UC2B Above Ground will rely on the following guidelines:

1. Our strategy with equipment and peripherals includes enabling a comprehensive range of text and multimedia uses and operating systems, stable over more than several years. A computer starts to become obsolete once it is shipped from the manufacturer; this strategy is to combat that by investing in more computing power than typical packages offer.
2. Maintenance will rely on face-to-face reimaging as needed, supplemented by extended warranties and collaboration with local staff at the public computer centers. Anything else is not possible given the multiple LANs the centers run on, and face to face facilitates sharing news and ideas, solving problems, and building community.
3. File storage for individuals will be minimized because of the confusion and cost it can



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generate, but external hard drives of all sizes will be encouraged and flash drives provided at cost. This will save a great deal of time and money, not only by saving filespace but also by minimizing authentication requirements and file archiving tasks.

4. Printing will be limited and, again, flashdrives will be plentiful. Printing has to be guided by local policies at each public computing center, but at the Mad Lab printing will be only within numerical limits and only by physically handing a flash drive to a member of the support staff. In many instances, flash drives are actually an alternative to printing, and an opportunity for storage space but also big broadband outreach when branded with the UC2B logo.

5. UC2B community webspace traffic will be managed by combining UC2B and Mad Lab resources with widely accepted commercial resources. For instance, the UC2B Mad Lab web server will serve the community listservs, podcasts, audio quicktime streams, blogs, static pages, and images, while people who wish to post video will be directed to Google Video, Youtube, and other such services, especially linked with UC2B “channels” at these sites.

These technology strategies and policies, and the updates that will be needed, will be part of UC2B Above Ground staff training and evaluation. They will also be inserted into the curriculum and support offered to underserved areas and vulnerable populations through the entire network of public computer centers.

37 - B. Sustainable Broadband Adoption Technology Strategy

The overarching technology strategy for UC2B Above Ground is to be comprehensive (45 centers), specialized (the Mad Lab), sociotechnical (using the human power promoting and supporting people using big broadband), and creative. This means that underserved areas and vulnerable populations will have:

1. technology that is stable and supported in their immediate environment;
2. the best specific tools for music/media, access (teleconferencing), and digitization available at a geographically and culturally central location;
3. information, education, tech support, and user support from a corps of trained and computer-savvy people who are rooted in the local culture of the 46 centers and the 12 sectors they represent (education, libraries, women, employment, homeless, disabled, health, public safety, churches,



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community centers, media/culture and seniors); and

4. ground in the past, present and future creativity of big broadband adopters, especially people in underserved areas and vulnerable populations themselves. This is expressed in the UC2B brand, “You see to be.”

One example of this fourth aspect is that in the process of preparing the UC2B grant proposals, university staff took a fresh look at the historic problem of not being able to donate university equipment to nonprofit or in-need users. This persistent problem was addressed in a flurry of correspondence between local tech workers and state government officials; we now have a legal way to share these machines. It is a taste of what will be possible in the environment of the drive for broadband that the BTOP/BIP funding has energized.

More specifically on the equipment, peripherals and software tools themselves, UC2B Above Ground will rely on the following guidelines:

1. Our strategy with equipment and peripherals includes enabling a comprehensive range of text and multimedia uses and operating systems, stable over more than several years. A computer starts to become obsolete once it is shipped from the manufacturer; this strategy is to combat that by investing in more computing power than typical packages offer.
2. Maintenance will rely on face-to-face reimaging as needed, supplemented by extended warranties and collaboration with local staff at the public computer centers. Anything else is not possible given the multiple LANs the centers run on, and face to face facilitates sharing news and ideas, solving problems, and building community.
3. File storage for individuals will be minimized because of the confusion and cost it can generate, but external hard drives of all sizes will be encouraged and flash drives provided at cost. This will save a great deal of time and money, not only by saving filespace but also by minimizing authentication requirements and file archiving tasks.
4. Printing will be limited and, again, flashdrives will be plentiful. Printing has to be guided by local policies at each public computing center, but at the Mad Lab printing will be only within numerical limits and only by physically handing a flash drive to a member of the support staff. In many instances, flash drives are actually an alternative to printing, and an opportunity for storage



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Organizational Capability

38. Management Team Resumes.

Please refer to upload section at the end of document.

39. Organizational Readiness

The lead agency for the Urbana-Champaign Big Broadband (UC2B) Consortium will be the University of Illinois at Urbana-Champaign. The community informatics program at the University of Illinois Graduate School of Library and Information Science provides the academic framework for the UC2B Above Ground (PCC and SBA) work. These faculty founded Prairienet in 1994, built up and documented the Murchison Community Technology Center in Toledo over 1997-2007, and carried out other work detailed elsewhere in this application. This experience is complemented by a strong local tradition of autonomous community technology/media initiatives. Champaign-Urbana Community Wireless Network is a world-renowned coalition of wireless developers and volunteers providing low-cost, do-it-yourself, community-controlled alternatives to contemporary broadband models. The Urbana Champaign Independent Media Center, one of the 46 public computer centers, operates a community radio station, performance space, media production and training facility, art gallery, and artist spaces.

Readiness comes from the UC2B application being part of ongoing local activities. A weekly digital divide discussion series was held in fall 2008 and will continue in fall 2009. All



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speakers are part of the extended professional network responsible for UC2B’s application. This on-campus activity was united with a formal governmental process in the Broadband Access Committee, part of the two cities’ Telecommunications Commission. The public coalition formed out of this process is the Champaign Urbana Open Access Coalition (cuopenaccess.org). This website was launched and is maintained by a GSLIS graduate student. Our community has highly skilled folks already working on this important historical transformation; they have joined forces to make UC2B hit the ground running.

For the construction phase of UC2B and for at least the first 5 years of operation, networking staff from the university will operate the backbone network and the WDM-PON equipment that will deliver services to end users. The campus network covers more than 1468 acres, connecting 300 plus buildings with mostly 1 Gbps links to a 10 Gbps backbone. The campus network utilizes more than 145 routers and another 1,200 layer 2 switches and provides wired and wireless service to 60,000 plus students, faculty, and staff utilizing more that 70,000 network devices.

The UC2B Infrastructure proposal, which is comprised of two layer 2 devices, four layer 3 devices, and eventually some 2,700 Optical Network Terminals, would be installed, configured, and maintained by the University WAN Networking team. The WAN team would also coordinate with potential providers to provision services across the UC2B infrastructure to corresponding subscribers. Customer care would be provided by the community help desk operating out of the Mad Lab, or by any given ISP providing service to their customers.

40. Organizational Chart.

Please refer to upload section at the end of document.

Community Involvement

41. Key Partners

Our list of partners is attached as supplemental material along with letters. At least 137 critical social institutions are involved in UC2B to date.

The Urbana-Champaign Big Broadband (UC2B) Consortium is itself a collaboration of three



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public entities (the University of Illinois at Urbana-Champaign, the City of Urbana and the City of Champaign) that have approved the attached Intergovernmental Agreement to form the Consortium. That intergovernmental agreement allows for additional entities to join in the future, and we expect Champaign County and the Village of Savoy to do so. The Consortium will manage the ongoing operations of the UC2B network with one of the three founding organizations always functioning as the lead agency. For the purposes of the BTOP grants, the lead agency is the University. For the UC2B infrastructure proposal, we desire as many private and public partners as possible. Metcalfe’s law states that the value of a telecommunications network is proportional to the square of the number of connected users of the system. We believe that is correct, and UC2B will always have low barriers for those who wish to connect. There are far too many partners to fit in the one-half page allotted for this answer. Many of the organizations that have already agreed to work with the UC2B team are represented in the attached letters of support, including women’s programs, senior centers, healthcare facilities, arts and education sites.

UC2B has connected with so far with 30-plus public computer centers and more continue to surface.

42. Partnering with Disadvantaged Businesses

UC2B’s small and disadvantaged business involvement takes three forms.

1. An agreement in principle to contract with a socially/economically disadvantaged small business to clean/sanitize the machines at all 46 public computer centers. This is important in the era of H1N1 flu. UC2B is proud to have found a business to take this on.
2. Relating to infrastructure and aided by UC2B’s entrepreneurship-building aspects, UC2B and interested individuals from the local disadvantaged population have mapped out a two-step business development plan. This is necessary because small business concerns as defined by section 8a of the SMA 15 USC paragraph 637 are not evident in our area. Step one includes union electrician training for members of underrepresented and disadvantaged populations. (See letter from Champaign Telephone Company for their commitment to conducting this training program.) Step two is to carry out business formation and planning among those trained individuals. This is part of our plans for the sequence of classes in big broadband entrepreneurship and for big broadband business incubation at the Mad Lab. The result will be a newly operational big-broadband-based small business as defined by section 8a of the SMA



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15 USC paragraph 637.

3. UC2B will emphasize big broadband entrepreneurship opportunities that advance underrepresented groups in Champaign-Urbana.

Ability to Start Promptly & Timeline

43. Project Timeline and Challenges

A charted timeline is included in the supplemental documents uploaded with this application. The text below elaborates on that chart.

The basic strategy for startup is to hire core staff in January, open the Mad Lab in May, and use the Mad Lab as operations center for a summer rollout of technology to the other 45 labs in summer.

To avoid the time and procedures required for permanent university hires, senior staff will be hired in visiting positions. The core staff will be trained in January. Cybernavigators will get additional training with and by senior staff and staff from the 45 centers.

The first quarter, January-March 2010, is startup.

Hiring. A committee of five people will be established to oversee hiring of the 31 non-summer employees.

Training. After hiring, the 31 non-summer-intern staff will be trained together and will tour all 45 facilities and several university computer labs and the university library. Cybernavigators will follow that training with a second training period of researching and creating guidebooks to the sectors across C-U that they will serve. Training of and with the 45 centers will follow, so that the centers and the UC2B staff all teach and learn from each other and can begin the process of standardization of curriculum with any necessary differentiation. Training will then happen annually so that all new staff are brought up to speed.

Broadband courses/internships/entrepreneurship. Begin the three course sequence with



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Broadband Spring / Intro 101, offered in spring 2010 (January-May). This course will recruit 50 students from the University of Illinois, Parkland College, and area high schools. A basic survey, it will cover topics for the beginner and the advanced, a full review of broadband, what it is, what it enables, its history and its social implications.

Facilities: Opening Mad Lab, installing equipment across 45 centers. The Mad Lab will be installed and operational first as the staging ground for all other work. The 45 centers will only be installed (i.e., equipped with adequate technology to bring it up to UC2B standard) after all the various staff have trained together and gotten to know each other. Then estimating on average two centers a week, equipment and other items needed to standardize will be installed at the 45 centers. This will also involve the necessary renovation to expand the space of the Douglass Branch Library computer center.

Then in second quarter, April-June 2010, core activities begin and continue. Annual events punctuate each year. Revenue from UC2B big broadband customers begins in year two, so that the Above Ground project and its staff can continue past the BTOP funding.

After team building and review/revision of plans and division of labor, Summer 2010 is when full operations get underway.

As explained above, UC2B has a business model that will begin to provide a revenue stream as of the second year of the grant sufficient to maintain the project staff after the three years of NTIA funding has been exhausted.

During the second through 12th quarters, activities will fall roughly into three categories:

1. The three course sequence. The first course Big Broadband Spring / Intro 101 will be a comprehensive survey of basic issues concerning the background and plans for UC2B. These lectures will be videotaped and broadcast for the public. During the summer the second stage Big Broadband Summer / Internships 102 will focus on institutional transformation, including the installation of new workstations in the network of 46 public computer centers. And the final third stage Big Broadband Fall / Entrepreneurship 103 will involve the creative task of proposal development in competition for Big Broadband social entrepreneurship awards.

2. Support for the public computing network, technical support to centers, sectors and UC2B



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households, and training/education. UC2B staff will provide both technical service and teachers to support the program of the public computer center. The teachers will visit each center on a weekly basis and the technical team will visit monthly or as needed.

3. Cultural production of digital artifacts in the Mad Lab. We will be focusing on the cultural products that have an organic acceptance in the cultures of the communities we are serving. The making of music and video documentation will be emphasized, along with digitization and teleconferencing.

The following activities will take place on an annual basis:

1. UC2B annual conference. This will sum up and take stock of how UC2B is developing. All aspects of the project will be featured and all stakeholders will be asked to participate in discussions and decisionmaking.
2. UC2B handbook. This will cover all aspects of the project, including “how to” instructions for UC2B participants regarding use of the public computer centers as well as setting up and using big broadband at home.
3. Broadband summer internships (see above).

There are challenges:

An immediate challenge will be to get systematic data for monitoring results and creating quarterly reports. This is a critical challenge for every organizations serving underserved areas/vulnerable populations.

Another challenge is how we will service the computers in our network. This is a technical issue and also a social question, combining both technical and educational aspects of our staff. What is remarkable is that the technology is likely to allow the entire city to be one large LAN, making remote imaging and support possible.

As the economy struggles to get going, low income populations are going to cut back on expenditures. Even with UC2B’s low cost and fast speed, we will have to be creative and planful to maintain a steady rate of broadband adoption.



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Safety and security of equipment will be a risk in such a diverse network of centers. We will lock down every workstation and share solutions between centers before problems arise.

44. Non-Infrastructure Projects - Licenses and Regulatory Approvals

45. Legal Opinion.

Please refer to upload section at the end of document.

G. Project Budget & Sustainability

Project Profile: Budget and Budget Narrative

46. Budget Narrative

UC2B Above Ground comprises both Public Computer Center (PCC) work and Sustainable Broadband Adoption (SBA) work. The explanations below of each line in form 424A section 6 reflect the synergy between these two aspects.

But first, several aspects of the budget are important to note as necessary and appropriate.

1. Three-quarters of the \$5 million budget is dedicated to jobs and economic development. What this means is that \$3.77 million is paying salaries, benefits, and local business. What is more, these dollars are particularly aimed at local people, not university faculty/students, not out-of-towners:

- 41% of \$5 million will pay local hires
- 19% university hires
- 9% out-of-town hires
- 6% local contractors and entrepreneurs
-
- 75% for jobs and economic development

2. What is more, these jobs, contracts, and entrepreneurship are at all levels of skill and qualifications. So the saving/creating jobs goals of the broadband stimulus are met in this proposal.



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3. The high-tech but even more high-touch aspects of generating new users and new uses of broadband are also met here. When the technology conditions are right, as they will be with UC2B, people recruit people to broadband.

4. Smaller in dollars but just as significant, the indirect or overhead charges on the \$5 million project are \$600,000, or 11%. Again, this is not a moment where the university is dollaring up in the name of the town. This was achieved by moving activities off campus into the underserved area and out of the university into local institutions.

To provide detail on the budget lines:

Personnel, line 6a, includes only the staff to be hired by the university. Individuals without bachelor's degrees who are not working on bachelor's degrees cannot be employed by the university for more than 900 hours a year. Such individuals will be hired by a subcontractor (see Contractual below) but will report according to the organizational chart without regard to the hiring organization.

The Director will be a University of Illinois faculty member working .5 FTE on UC2B during the 10-month academic year and full time during the two-month summer. Salary is split equally between PCC and SBA.

- The Partnerships Director salary is split equally between PCC and SBA.
- The IT Director salary is 100% PCC.
- The Education Director salary is 100% SBA.
- The Digital/Cultural Production Director salary is 100% SBA.
- The Administrative Assistant salary is split equally between PCC and SBA.
- Two Lab Assistant salaries are 100% SBA.
- Two 5 FTE Graduate Student Assistant salaries are split equally between PCC and



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SBA.

- Three .5 FTE Undergraduate Hourly Worker salaries are 100% PCC.
- 50 Summer Interns are 100% SBA.

Fringe benefits, line 6b, are paid to these individuals at current university rates.

Travel, line 6c, is for trips by directors to conferences to share information and learn, split between PCC and SBA.

Equipment, line 6d, is for capitalized equipment, split between PCC and SBA.

Supplies, line 6e, is for expensed furniture and computer equipment, program supplies, and office supplies, split between PCC and SBA.

Contractual, line 6f, is for renovation of the Mad Lab and the Douglass Branch Library computer center (split between PCC and SBA); cleaning of workstations in the 46 centers (100% PCC), competitive entrepreneurship grants (100% SBA), and non-degreed staff. Non-degreed staff includes the 17 cybernavigator salaries (100% SBA) and one Outreach Worker salary (split equally between PCC and SBA).

Other, line 6h, is for occupancy of the Mad Lab (100% SBA), printing (split between PCC and SBA), tuition remission for the two graduate students (split between PCC and SBA), consultants from other successful projects who will be brought in to share and learn (100% PCC), and U of Illinois IT support to the Mad Lab and to 2.5 FTE individuals working on campus (split between PCC and SBA).

Indirect charges, line 6j, are calculated from rates that have been negotiated with the Office of Naval Research with an expiration date of 6/30/2011.

47. Non-Infrastructure Projects - Budget Reasonableness

One way to address budget reasonableness is by category of expenditure.



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1. Salaries are in keeping with pay scales and human resource policy at a public university. This is true even for those staff who are contractual because the university cannot hire nondegreed individuals for more than 900 hours a year. The lower hourly wages paid are \$14 an hour with benefits, \$15 without, livable wages for this area.

2. Management: Each managerial staff is working with an appropriate scope of tasks and span of control, managing 50 summer interns; 17 half-time cybernavigators; or 2 or 3 lab workers/undergraduates. Seventeen cybernavigators will cover 45 centers (not the Mad Lab) for a minimum of 5 hours a week at each center, plus travel time, preparation, and administrative work. Forty-six public computer centers is an extensive network, but the amount of tech support staff (2.5 FTE, that is, three undergraduates and an IT director) is within typical range, especially considering that they are working alongside other tech support structures already at the centers.

2. All equipment is costed and will be negotiated and purchased at very favorable educational pricing available to a large institution of higher education. The amount of equipment is designed to provide (1) big broadband connections that people will value because the access tools are exactly as needed for comprehensive and cutting-edge uses; and (2) staff productivity tools, particularly as most of the staff will be moving around the two cities as part of promoting and supporting big broadband use. Additional recent but recycled machines will be provided gratis and repurposed as home big broadband workstations.

3. Renovation costs are modest in keeping with community usage and other expenses are focused primarily on communications—whether it be travel to learn and share or printing and production to put out information and education about broadband usage.

A second way to address budget reasonableness is to look at the whole project’s “bang for the buck.” This is very hard to quantify when the project involves doing something new. The two cities and the university have weighed in with their \$2.4 million match to UC2B overall; the State of Illinois has contributed its \$3.5 million match to the Below Ground and bondable portions of UC2B. Over three years, UC2B Above Ground (PCC and SBA together) will spend \$5 million (\$3,950,000 from BTOP) to make the following transformations:

- * inform 23,750 people about the new opportunity of UC2B broadband
- * recruit 2500 new home big broadband users



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- * transform the lives of 22,000 people through learning about and using big broadband in public computer centers
- * help move 137 critical institutions and 12 sectors serving vulnerable people to broadband ways of working
- * launch 30 big broadband entrepreneurs

A very, very simplified quantification of all these numbers would cost each transformation at less than \$100.

48. Demonstration of Financial Need

The financial projections attached to the UC2B Below Ground proposal (Middle Mile & Last Mile Infrastructure) show that the UC2B Consortium has an excellent chance of being sustainable. The sales projections are neither overly aggressive nor overly conservative, but there is not much room for additional expense.

Those projections would be completely under water if the Consortium had to cover debt service on the roughly \$24 million that UC2B is seeking in ARRA assistance for this project. There is no possible way that this project would be funded commercially with that level of debt on its books from day one.

While the university from time to time does things that are in the public interest, even though they may not benefit the institution’s bottom line, we have attached a letter (#1000 in our supplemental documents) from the Urbana campus’s Chief Budget Officer, Mike Andrechak, which confirms that were it not for federal assistance, the UC2B project could not be funded by the university.

The UC2B Above Ground work targets a population without resources to pay for private-sector or personal training and support with big broadband computing. This population can only obtain social spaces for learning and using big broadband tools by means of a broad collaboration such as UC2B.

The three UC2B proposals are perfect examples of projects that “but for” ARRA funding would not be implemented.



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49. Historical Financial Statements.

Please refer to upload section at the end of document.

Project Profile: Long Term Sustainability

50. Sustainability.

51 - A. Public Computer Center Sustainability

UC2B’s approach to sustainability is to transform local social life and change public opinion. We have three goals: computer literacy across underserved areas and vulnerable populations (basic and advanced); institutional transformation across community anchor and grassroots organizations in 12 sectors serving underserved areas and vulnerable populations; and community informatics—an ongoing IT support infrastructure within the community. The UC2B mission is the building of cyberpower as the critical mechanism for democracy in the 21st century. UC2B approaches this holistically to impact individuals, social organizations, and popular consciousness.

The UC2B solution is bottom up and sustainable. It builds on numerous locally operated public computer centers and community anchor institutions and grassroots organizations. Resources can and will flow back into the project in five ways:

- a. agreed-upon fees from commercial big broadband sales;
- b. cash commitments by the two cities and the university;
- c. a share in any grant funding that may arise relating to use of the public computer centers for research, and a commitment to seek such funding;
- d. a portion of any revenue from cultural or entrepreneurial innovations and a competitive mechanism for encouraging such innovation; and
- e. a big broadband-transformed local culture and economy that will maintain its big broadband connections and uses.

UC2B Above Ground focuses on recruiting, training, and organizing cyberorganizers. A cyberorganizer is a community-level activist who represents the mission and activities of the



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organization in cyberspace, and uses this activity to build the membership, influence, and resources of the organization. UC2B will succeed if this position becomes a normal function for people in organizations to perform as an elected officer, just like secretary, treasurer, or chair.

UC2B will foster the creation of an independent organization of public computer centers to become the self-governing mechanism for cyberpower among vulnerable populations. In this way the big broadband-using community across the two cities will have checks and balances between major lead institutions (the university and the two cities), major community anchor institutions, and organized representatives of vulnerable populations.

The Ministerial Alliance has received a proposal to implement Big Broadband Sunday. In every tradition there has been a strong connection between reading and freedom, literacy and liberation. Big broadband tools are too powerful and important to be left solely to the market forces to deploy and Metcalfe’s Law (more users increases the value of a network) mandates that as many people as possible should get connected. UC2B can take this discussion deep into every cultural and religious tradition. Big broadband needs and warrants approval by the anchor institutions of the people that bring new creativity and social practices into the soul of the people.

51 - B. Sustainable Broadband Adoption Sustainability

UC2B’s approach to sustainability is to transform local social life and change public opinion. We have three goals: computer literacy across underserved areas and vulnerable populations (basic and advanced); institutional transformation across community anchor and grassroots organizations in 12 sectors serving underserved areas and vulnerable populations; and community informatics—an ongoing IT support infrastructure within the community. The UC2B mission is the building of cyberpower as the critical mechanism for democracy in the 21st century. UC2B approaches this holistically to impact individuals, social organizations, and popular consciousness.

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- b. cash commitments by the two cities and the university;
- c. a share in any grant funding that may arise relating to use of the public computer centers for research, and a commitment to seek such funding;
- d. a portion of any revenue from cultural or entrepreneurial innovations and a competitive mechanism for encouraging such innovation; and
- e. a big broadband-transformed local culture and economy that will maintain its big broadband connections and uses.

UC2B Above Ground focuses on recruiting, training, and organizing cyberorganizers. A cyberorganizer is a community-level activist who represents the mission and activities of the organization in cyberspace, and uses this activity to build the membership, influence, and resources of the organization. UC2B will succeed if this position becomes a normal function for people in organizations to perform as an elected officer, just like secretary, treasurer, or chair.

UC2B will foster the creation of an independent organization of public computer centers to become the self-governing mechanism for cyberpower among vulnerable populations. In this way the big broadband-using community across the two cities will have checks and balances between major lead institutions (the university and the two cities), major community anchor institutions, and organized representatives of vulnerable populations.

The Ministerial Alliance has received a proposal to implement Big Broadband Sunday. In every tradition there has been a strong connection between reading and freedom, literacy and liberation. Big broadband tools are too powerful and important to be left solely to the market forces to deploy and Metcalfe’s Law (more users increases the value of a network) mandates that as many people as possible should get connected. UC2B can take this discussion deep into every cultural and religious tradition. Big broadband needs and warrants approval by the anchor institutions of the people that bring new creativity and social practices into the soul of the people.



**Broadband Technology Opportunities Program
Public Computer Centers Program – Sustainable Adoption Program**

Submitted Date: 8/20/2009 3:28:47 PM	Easygrants ID: 3263
Funding Opportunity: Public Computer Centers and Sustainable Broadband Adoption	Applicant Organization: Board of Trustees of the University of Illinois
Task: Submit Application - Non-Infrastructure Programs	Applicant Name: Kathy Young

Project Profile: Outside Leverage

51. Matching Funds.

Please refer to upload section at the end of document.

52. Unjust Enrichment

We are not receiving nor have we requested any federal support for nonrecurring costs associated with any of the three UC2B proposals.

53. Disclosure of Federal and/or State Funding Sources

\$50 million of the 2009 Illinois Capital Bill has been reserved for grants to help with stimulus-funded broadband project match dollars. The three-part UC2B proposal (Infrastructure, Public Computer Center, and Sustainable Broadband Adoption, or as we call them, Above and Below Ground) has received \$3.5 million in state funds, applied to bondable expenditures by the project, which are all in the infrastructure proposal.

54. Buy American.

Is the applicant seeking an individual waiver of the Buy American provision?

No

Buy American Waiver Request Explanation

H. DOC Environmental Checklist

55. SECTION 1 – Please refer to upload section at the end of document.

I. Compliance and Certification

56. Certification and signature.



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J. Uploads

In order to improve system performance and help ensure that all applicants are able to complete their applications by the deadline, we have changed the way your application PDF is created. This PDF contains all of the information you entered throughout the Easygrants data entry screens. PDF copies of all documents that have been uploaded can be viewed and printed separately from the **Main page of the application after you submit**. These will continue to be available to you in read-only format after your application has been submitted.