ANNUAL PERFORMANCE PROGRESS REPORT FOR BROADBAND INFRASTRUCTURE PROJECTS

General Information

1. Federal Agency and Organizational Element to Which Report is Submitted	2. Award Identification Number	3. DUNS Number
Department of Commerce, National Telecommunications and Information Administration	NT10BIX5570044	041544081

4. Recipient Organization

University of Illinois 506 Wright Street
364 Henry Admin. Bldg, Urbana, IL 61801-3620

5. Current Reporting Period End Date (MM/DD/YYYY)	6. Is this the last Annual Report of the Award Period?
12-31-2012	◯ Yes ◉ No

7. Certification: I certify to the best of my knowledge and belief that this report is correct and complete for performance of activities for the purposes set forth in the award documents.

7a. Typed or Printed Name and Title of Certifying Official	7c. Telephone (area code, number and extension)
Michael K Smeltzer	2172443835
	7d. Email Address
Director of Networkiing	smeltzer@uillinois.edu

7b. Signature of Certifying Official	7e. Date Report Submitted (MM/DD/YYYY):
Submitted Electronically	02-13-2013

OVERALL PROJECT PERFORMANCE INDICATORS

1. Please provide the following average cost figures for your project. Please review the instructions to determine how to calculate these figures. Write "0" in the second column and "N/A" in the third column if your project does not yet have this information. Depending on whether your project contains Middle Mile and/or Last Mile components, some metrics may not apply. Please provide a narrative description if the total is different from the target provided in your baseline plan (600 words or less).

Cost Indicator	Average Cost / Speed	Narrative (describe your reasons for any variance from the baseline plan or any other relevant information)
Average cost per new mile (Middle Mile)	$59,690	This is substantially less than the $135,808 in our baseline plan, but there are several months of contractors' invoices that have not hit NTIA's books yet. This average will go up as those are processed.
Average cost per household passed (Last Mile)	$1,744	This is slightly less than the $1,750 in our baseline plan. When the outstanding invoices are processed, this too will rise.
Average cost per subscriber (Last Mile)	$11,008	This is substantially more than the $4,062 in our baseline plan. As we connect more customers n the Fiber-to-the-Premise areas, this average will decrease. This reflects the high cost of getting the infrastructure up and down every street. At this point we are at less than one third of our customer projections, so this number will be high.
Maximum broadband speed advertised (Middle Mile)	10 Gbps	We offer up to 10 Gbps ports on layer-two services.
Maximum broadband speed advertised (Last Mile)	200 Mbps	Our fastest retail service is 200 Mbps.
Average broadband speed provided (Middle Mile)	N/A	We have no existing Middle-Mile customers. Even though we are connecting some Anchor Institutions to our Middle-Mile fiber, we are treating them like Last-Mile customers.
Average broadband speed provided (Last Mile)	22.5 Mbps	This is the weighted average of the bandwidths subscribed to by all of our Last-Mile customers. Our network delivers its advertised speeds.

2. Please provide each facility name and type, the county where the facility is located, and census tract information for any facilities funded by your project during this annual reporting period. Report only facilities for which construction has been completed.

Facility Identifier / Name	Facility Type	County	Census Tracts
N/A	N/A	N/A	N/A

Add Facility	Remove Facility

3. Please identify (1) the total number of interconnection, peering, and/or transit agreements entered into during this annual reporting period; (2) the total number of agreements of each type that you are currently negotiating; and (3) whether you have denied any request for interconnection and if so, why. If you have not entered into any agreements, please write "N/A."

Interconnection Agreements (600 words or less)

 We have not yet entered into any interconnection agreements, because we have not yet officially accepted our ring fiber from our contractors. We have not denied any requests, but we have not acted on any either. Once the fiber has been fully tested and accepted, we will move forward with the two informal interconnection requests that we have received.

Peering and Transit Agreements (600 words or less)

UC2B has one peering arrangement - with the University of Illinois, but it is not a formal agreement. As the University is one of the three members of the UC2B Intergovernmental Consortium, we have not gone through the process of creating a formal agreement. Our legal team's time is scarce and there have been more pressing contractual things for them to work on. We have no other peering arrangements pending.

CAPACITY, UTILIZATION, AND CAPABILITY INDICATORS

4. Community Anchor Institutions: In the chart below, please provide information on the types of community anchor institutions capable of receiving service (i.e., anchor institutions connected to your network plus those passed by your network) as a result of BTOP funds.

Type of Community Anchor Institution	Total Number Within Service Area	Type of Community Anchor Institution	Total Number Within Service Area
Schools (K-12)	38	**Public Housing**	12
Libraries	4	**Other Institutions of Higher Education**	1
Medical and Healthcare Providers	34	**Other Community Support Organizations**	80
Public Safety Entities	31	**Other Government Facilities**	93
Community Colleges	1	**Total Community Anchor Institutions**	294

5. Please indicate the average increase in broadband speed provided to the community anchor institution customers as a result of your project, including a description of how this increase was calculated (600 words or less).

While we do not have exact data, we know that most of our CAIs have converted to UC2B from either a T-1, DSL or cable-modem connection. The fastest of those can offer speeds as fast as the slowest UC2B fiber tier on downloads, but those technologies are far slower on uploads. UC2B's download speeds at our slowest bandwidth could range from "equivalent" to 13 times faster. UC2B's upload speeds at our slowest bandwidth would be 20-40 times faster than either T-1, DSL or cable modems.

6. What retail services are being provided by this project? Please describe below. (600 words or less). As an attachment to this report, please provide pricing plans (in $ per month) associated with each retail service. Retail services description:

UC2B customers can self-self to subscribe to Consumer or Commercial tiers of services. The Commercial tiers provide more IPv4 public IP addresses and have greater bandwidth tiers. All UC2B customers have unlimited bandwidth to the UC2B Intranet, but have tiers of connectivity to the Internet. The customer CPE can deliver close to 900 Mbps to the Intranet. Consumer Internet connectivity is sold in 20, 30 and 40 Mbps tiers. 82.5% of our Consumer customers have elected a 20 Mbps symmetric connection. 10.3% have elected a 30 Mbps symmetric connection. 7.2% have elected a 40 Mbps symmetric connection. We have three subscribers who have chosen our Commercial services, two have 20 Mbps and one has 100 Mbps. UC2B's retail pricing plans are attached.

7a. What network management policies (e.g., bandwidth limitations, traffic prioritization) are in place for the services provided by your project? 7b. Have you ever limited or blocked consumers from accessing any lawful content, service, service provider, or application, or prevented any consumers from attaching any legal device to the network? If so, please explain why (300 words or less)?
The only rate limiting done by UC2B is to enforce the tiers of Internet connectivity that a customer has subscribed to. We have never blocked any customer's access to any content or service, not do we ever intend to. We have had to remove customers from the network for failing to comply in a timely fashion with lawful requests to remove copyrighted content from their computers and cease sharing it.

8. If applicable, please provide the total number and the percentage of subscribers who have dropped the broadband service provided through this project (total number of households and/or businesses and the "churn rate") and the subscribers' reasons for discontinuing their service (600 words or less).
We have lost 24 installed retail customers thus far out of a total customer base of 811 . That would give us a churn rate thus far of just less than 3%. Typically they have either been unsatisfied with their installation experience or the limited technical support UC2B has been able to provide them for customer owned equipment. We will be rebidding our Fiber-to-the-Premise (FTTP) construction to address the unacceptable installation experiences. Our monthly service rates are quite low, and allow us to be able to make sure the network is working, but do not allow us to be able to make sure that every device owned by a customer will always work on a UC2B connection. We understand that is a need, but it is not one that we can currently fill.

9. Please provide the following information regarding the number of fiber strand-miles:

Total Number of Strand-miles	Total Number of Active Fiber Strand-miles Used by Recipient	Total Number of Leased Fiber Strand-miles	Total Number of Dark Fiber Strand-miles	Total Number of Strand-miles Being Built		
				Active	**Leased**	**Dark**
24,963	8,611	897	15,455	0	0	0

10. If you wholesale dark fiber, please list your wholesale customers and the number of fiber miles you currently are leasing to those customers:
We have two IRU agreements with Big Broadband Services. They total 897 strand miles. We are in negotiations for more IRUs, but those IRUs were not complete at the end of 2012.

11. Please provide the following information regarding the facility collocation capacity:

Total Facility (total square feet for all facilities)	Number of Square Feet Used by Recipient	Number of Square Feet Leased	Number of Square Feet Available
850	754	48	48

12. If you do not own collocation space, please describe how and where other network providers and/or customers interconnect with your network (600 words or less).

UC2B is leasing space from the University in two of its Nodes for its core network equipment and for a minimal amount of collocation space for the routers of our Dark Fiber customers. In order to have as redundant a system as possible, our Dark Fiber customers will need to locate a small router that can terminate the fiber coming from the 7 rings in each of the two core nodes. We have allocated a quarter of a 7-foot-tall, 23"-inch-wide rack for each IRU customer's router. Beyond that, UC2B is not offering any collocation space.

Service providers will be able to connect to UC2B in three of the University's telecommunications nodes, where many of them already have facilities today. AT&T and Champaign Telephone Company have presences in all three nodes. Windstream, US Signal and Metro Communications have presences in two of the nodes. The Illinois Century Network, Comcast, Pavlov Media and Volo Broadband have a presence in one of the nodes.

We are also providing diverse fiber transport on any of our seven rings for service providers without facilities in the UIUC Nodes. If an ISP can get fiber to any one of the 400+ manholes on our seven backbone rings that contain splice cases, they can connect redundantly to the UC2B network core and distribute their services.

A local provider is planning to build a data center / carrier hotel in the spring that will have dual connections to four of the seven main UC2B rings, which by definition gets them access to all seven. Our seven fiber rings were designed to be able to redundantly connect any location on one ring to any location on any ring. Our cotangent seven ring design reduces the need for co-location in our facilities and decentralizes service provider hardware.

13. To the extent that you have made any subcontracts or sub grants, please provide the number of subcontracts or sub grants that have been made to socially and economically disadvantaged small business (SDB) concerns as defined by section 8(a) of the Small Business Act, 15 U.S.C. 647, as modified by NTIA's adoption of an alternative small business size standard for use in BTOP. Please also provide the names of these SDB entities (150 words or less).

UC2B has made two sub-awards, and both were made to local municipalities - the Cities of Urbana and Champaign. Urbana hired a prime contractor for the phase one fiber construction (all fiber in rights-of-way) in its city limits, and their prime contractor engaged the services of four small disadvantaged Minority and Female Business Enterprises (MAFBE) as subcontractors. They are: Electrical Resource Management (MBE), Southern Belle Electric and HVAC (MBE), Tepper Electric Supply Co. (FBE) and Groundhog Utility Construction, Inc. (FBE). Champaign's prime contractor for the phase one fiber construction hired two FBE subcontractors. They are: Prairie Restorations, Inc. and Gordon Electric Supply, Inc.

Through their sub-award, City of Champaign handled the contracting for all the phase two construction (fiber from the curbs to the buildings) and hired PowerUp an MBE firm as the prime contractor. PowerUp also engaged Southern Belle Electric and HVAC (MBE) as a sub-contractor.

14. Please describe any best practices/lessons learned that can be shared with other similar BTOP projects (900 words or less).

This will not apply to all projects, but sub-awarding the right-of-way construction with will happen in Champaign to the City of Champaign and sub-awarding the construction that will happen in Urbana to the City of Urbana has proved to be an excellent decision. Because the contractors report directly to the Public Works departments of each city, there is great communication between each contractor and its employing city, and issues are resolved quickly. Whether a contractor agrees or disagrees with a decision made by a city does not really matter, because at the end of the day the city is paying the contractor, and therefore the cities are getting what they want in their rights-of-ways, installed the way they want it installed.

Municipalities that do not provide municipal-owned utilities do not necessarily have in-house expertise with underground utility construction. While they see it from a permitting and inspection perspective all the time, they can lack expertise in planning and implementation. One of our early hires was a retired fiber construction manager with more than 20 years of experience supervising fiber and copper utility construction. His expertise in the planning and daily implementation has been worth every dollar we pay him. He has been a vital link between the fiber construction crews and the cities' Public Works departments.

15. Using the Excel spreadsheet template titled "Annual PPR CCI Addendum", please provide an updated list of Community Anchor Institutions (CAIs) that you have connected and plan to connect to your network.

16. Using the Excel spreadsheet template titled "Annual PPR CCI Addendum", please provide a list of community pairs that are receiving new or improved broadband service as a result of BTOP grant funds.

17. Please provide up-to-date network route maps in a single file, in a Google Earth compatible format (e.g., KMZ file).