Report on Use of Existing Infrastructure

From the Infrastructure Reuse and IRU Study Subcommittee of the Technology Committee of the Urbana-Champaign Big Broadband Project (UC2B)

Contents

Executive Summary

The following information provides an in depth review of the available capacity, the challenges with reuse of existing infrastructure, and this sub-committee's recommendations to the Technical and Policy Committees regarding "Existing Infrastructure"—components of network infrastructure that already exist in our community, that could reduce the amount of new construction that UC2B would need to complete by 2013. This document is presented as the foundation for the creation of a recommended standard that clearly identifies a multi-step process to analyze the specific benefits a property would provide UC2B if it were purchased or leased.

This sub-committee recommends:

1) <u>Standard method for receiving offers</u>

   That Policy guidelines define a standard method for receiving offers and proposals for review. (Within today's organizational structure the proposals should be received by the Policy Committee, who should direct a structured analysis be completed by the engineering firm and submitted to the Technical Committee for possible recommendation to the Policy Committee.)

2) <u>When should UC2B build, or buy, or lease infrastructure?</u>

   That UC2B develop ownership of its network to the extent possible with capital assets that it acquires or constructs (and reserve leasing for short-term needs).

3) <u>What contractual terms are acceptable for purchased and leased infrastructure</u>
   That value given for acquired assets be calculated based on project costs (including engineering fees, easement acquisitions, and construction costs) for similar assets constructed by UC2B. This provides a mechanism that is simple, fair to all parties, and relieves members of UC2B Committees from conflict of interest as both committee members and infrastructure providers.

4) <u>How should the transfer of assets proceed?</u>
   Incorporating an asset into the UC2B infrastructure must create an orderly transfer of ownership from the current owner (in this transaction, referred to as "the Grantor), to UC2B (referred to as "the Grantee") funded by the Grant. This subcommittee recommends the following steps to accomplish the transfer:
   1) Identify the assets under question
   2) Define the value based on project costs as known at the time construction bids are awarded
   3) Create and agree to a transfer process that will meet the Grantor's and the Grantee's needs
   4) Execute a structured agreement, and
   5) As required, execute IRU's or other agreements to return operational resources back to the Grantor.

This sub-committee has reviewed the existing infrastructure proposals as detailed below and believe the Policy Committee should move forward with their acquisition.

Use of Existing Infrastructure

Existing infrastructure summary

One of the roles of this subcommittee was to inventory existing infrastructure that had potential of being incorporated into UC2B's building of the network and to contact those carriers with known infrastructure to determine each carrier's willingness to discuss how UC2B can acquire (or acquire use of) these resources. UC2B would have to set criteria to judge whether or not a resource is usable, up to UC2B defined standards, and whether or not the infrastructure would bring value to UC2B.

AT&T, Comcast, Paetec, CenturyLink, Kentucky Datalink, NextG Networks, Sprint, Volo Broadband, the Illinois DOT, the Illinois Century Network, the City of Urbana, the Urbana Schools (USD116), the City of Champaign, and the Champaign County administration, were all contacted regarding infrastructure.

Of those, Paetec, Volo Broadband, the City of Urbana, the Urbana Schools, the City of Champaign, and the Champaign County administration responded with information about infrastructure that might be committed to the project. These include:

Existing Conduit Summary

Owner	Section	Diameter	Length (mi)	Qty	Fiber ct
Urbana	Original	2”	2.39	1	36
Urbana	USD116 Projects 1-3	1.5-2”	5.52	1	84-288
Champaign	Downtown Conduit	2-4”	0.66	1	36 or less
Champaign	John St. Conduit	2”	0.89 (4.45)	5	0
Paetec	Vacant Conduit	2”	3.49	>1	0
Volo	Cooper Conduit Core	1.5”	7.84	>1	0-360

“Urbana” indicates conduit that is owned jointly or in part by Urbana, USD116, and/or the County.

In some cases, these conduits include cable of sufficiently high count to be useful, in others there is either no cable installed or a cable with too few fibers. The standard conduit size for UC2B construction is 1.5”.

Most of the Urbana fiber lies on routes that are not proposed as “backbone” routes. Champaign, Paetec, and Volo conduit lies on or near proposed “backbone” routes.

Urbana conduit does not cross challenging obstacles, but Champaign and Volo conduits cross railroad tracks, with Paetec and Volo Broadband conduits crossing Boneyard Creek.

Existing infrastructure tradeoffs (background)

Reusing existing infrastructure could save time and/or money, but it could also bring unforeseen costs and challenges. Each section of existing infrastructure will have a different set of tradeoffs, and those tradeoffs will weigh differently depending on where in the network the infrastructure would be used.

Below is a non comprehensive list of engineering and technical questions that may arise when considering building vs. buying or leasing infrastructure. This information is presented as educational background information:

- Can the proposed infrastructure meet the engineered lifecycle without substantial make-ready or upgrade costs to UC2B?
- Does the proposed infrastructure agreement imply ownership (to qualify as a capital purchase)?
- Will the proposed infrastructure allow for a significantly shorter overall project implementation timeline? (where time is money)
- Will maintaining the proposed infrastructure present special monetary or legal challenges?
- Does the proposed infrastructure meet acceptable construction standards?

- Does the proposed infrastructure meet acceptable warranty documentation?
- Will the 'Grantor' for the proposed infrastructure negotiate in a timely manner?
- Are there existing physical or legal encumbrances that could hamper negotiations or future operations?
- Are there any identifiable legal issues that could cause an infrastructure agreement to be challenged through a future judicial ruling?
- Which solution does the Total Costs of Ownership (TCO) analysis promote? Does the analysis demonstrate a savings or other tangible benefits that would recommend an alternative to new construction?
- Is the assigned pricing acceptable by both parties?

Existing Infrastructure Policy Recommendations

The value UC2B will place on a specific piece of infrastructure is dependant both on answers to the above objective questions, and on coherent policies or standards for how to weigh the results. The questions, as listed above, would quantify many of the technical, legal and financial concerns related to reuse of existing infrastructure prior to a formal recommendation.

1) Standard method for receiving offers

Policy guidelines should define a standard method for receiving offers and proposals for review and obtaining a non-biased recommendation based on an objective structured analysis. (A structured analysis identifies areas of risk that may be overlooked using an evaluation method that focuses on one factor, be it financial, or technical.)

Within today's organizational structure the proposals should be received by the Policy Committee. The Policy Committee should direct a structured analysis be completed by the engineering firm, and submitted to the Technical Committee for possible recommendation to the Policy Committee.

2) When should UC2B build, or buy, or lease infrastructure?

This subcommittee believes that the Policy Committee should discuss these issues and develop policies along the lines of the following, or give guidance to the Technical Committee for further research to answer remaining questions they may have.

This subcommittee recommends that UC2B establish a policy of:

- Purchasing infrastructure that meets relevant business imperatives, such as: demonstrating acceptable construction practices, meeting or exceeds the engineered lifecycle requirements (e.g. capacity for anticipated growth), demonstrating acceptable documentation , does not impose legal encumbrances (e.g., non-transferable easements), and demonstrates good financial responsibility using a Total Cost of Ownership (TCO) model to demonstrate significant savings over the expected asset life span.
- Build new infrastructure when the proposed infrastructure does not meet the relevant business imperatives, as listed above.
- Reserve leasing for a means to meet temporary needs when neither of the above options are feasible, (e.g., a temporary facility for use while a new facility is being designed and built) or for other short term opportunities that may present themselves throughout the life of this network.

For comparing a purchase versus a build, a total cost of ownership (TCO) model provides a valid means for determining the economic value of this investment. The TCO analysis would quantify the financial impact over the anticipated life cycle. The TCO exercise for a purchase or a new build would include construction costs and/or the make-ready cost for the proposed purchase. The costs for both options would be provided by the engineering team, and designed to meet the same anticipated needs. With the TCO purchase model, maintenance costs should be assumed the same for a new build or a retrofit option, as both would be managed by UC2B. A TCO for comparing a short-term lease and new construction would differ, based on a monthly recurring charge associated with a lease, and possibly by including fees for maintenance, if maintenance is not included as part of the lease. The last item for review is time versus capital. This would be a situation where the cost for a purchase or lease would need to be measured against the benefits created by this recommendation. In this situation, the design engineers should complete a benefit analysis, as the basis for a documented recommendation to both committees.

This subcommittee reserves leasing for extraordinary circumstances because: 1.) leasing is an expense item; 2.) NTIA grant funds cannot be used for expense items; and 3.) UC2B does not have an expense budget. Leases should remain an available option once UC2B is operational, but only to resolve short-term situations where new construction or purchases cannot be completed prior to the eminent time of need.

The Policy Committee should generally follow the recommendations of the engineering firm with respect to time vs. capital reviews. This process would apply only to situations where a project timeline could not be met by normal or accelerated construction schedules.

3) What contractual terms are acceptable for purchased and leased infrastructure?

The subject of contractual terms is a sensitive area that needs to be addressed between UC2B and each entity offering existing infrastructure based on the assets involved, while delivering equitable value to all parties and protecting the current owner's operating infrastructure.

This sub-committee recommends establishing value based on project costs (including engineering fees, easement acquisitions, and construction costs) for similar assets constructed by UC2B. This provides a mechanism that is simple, fair to all parties, and relieves members of UC2B Committees from conflict of interest as both committee members and infrastructure providers.

4) How should the transfer of assets proceed

Incorporating an asset into the UC2B infrastructure must create an orderly transfer of ownership from the current owner (in this transaction, referred to as "the Grantor), to UC2B (referred to as "the Grantee") funded by the Grant. This subcommittee recommends the following steps to accomplish the transfer: 1) Identify the assets, 2) Define the value based on project costs as known at the time construction bids are awarded, 3) Create and agree to a transfer process that will meet the Grantor and the Grantees needs, 4) Execute a structured agreement, and 5) As required, execute IRU's or other agreements to return operational resources back to the Grantor.

Existing Infrastructure Deal Proposals

USD116 is operating under a letter of support that their contribution will be in kind to UC2B. The letter indicates that USD116 expects UC2B to dramatically reduce their fiber implementation timeline, and provide additional integration with community partners and parents. They valued their contribution in 2009 at $298,075.

The City of Urbana and the City of Champaign through Council Resolutions and Intergovernmental Agreements have committed cash or services as their contribution. The values have changed from the initial grant applications because only one of the grants was approved. Current value of contributions for Urbana is $345,675 and for the City of Champaign is $498,070.

The City of Urbana, USD116 and Champaign County share ownership in the existing infrastructure in Urbana. Champaign County has no current agreement with UC2B but all three entities have been operating under the assumption that along with USD116 contribution they will receive compensation for infrastructure purchased. The City of Champaign similarly expects to contribute existing infrastructure and receive compensation. Compensation may be in the form of IRUs.

Paetec has provided verbal acknowledgement that they will negotiate for underutilized assets in the Campustown area, but initial “quoted pricing “ is of substantially higher prices than preliminary estimates of constructing new infrastructure. Paetec has stated that its terms would include complete access to conduit purchased, but would require UC2B to install its own handholes for splicing and conduit access. Paetec has also requested that there not be a monetary exchange, but an exchange for “future” undetermined services.

Volo Broadband has proposed for Volo to install cable in relevant conduit to UC2B's specifications, and then sell conduit + cable at the average per-foot price of similar infrastructure that is constructed on the project. Volo has offered and is willing to negotiate exchanges to mutual gain for UC2B and Volo.

Appendix A Further Reading

Pages 250-261 from the initial UC2B application section 5-1

Glossary of Terms

As-Built Drawings: The phrase "as-built" in construction is equivalent to "as-is." Drawings deemed "as-built" are thus drawings that show the EXISTING conditions as they are or "as-is" — these are the actual existing conditions as opposed to designs or proposed conditions, which are more common for the content of drawings.

Backbone Ring: a high-speed ring topology network that connects a number of smaller ring topology networks

Capital purchase: An acquisition in which the expected lifespan of the asset purchased exceeds one year (normally, substantially).

Construction costs: The cost to build an asset. This may include only the incremental cost of construction, or may include other related costs (engineering, etc).

Construction Standards: The construction standards are the construction guidelines created by members of UC2B (both cities and University) that compiles a common body of construction standards that contractors and designers must follow for the construction and restoration of communications facilities within the project Rights of Way (ROW).

Grantee: One to whom a grant is made, in this case, this applies to use with an IRU agreement granting ownership rights to conduit or fiber optic strands.

Engineered Lifecycle: The expected operational lifespan during which repairs are presumed to be worth making; the basis for cost amortization.

Grantor: A legal term conveying, for the party, a grant of title or encumbrance, as it applies to an IRU granting title to conduit or fiber optic strands to or from UC2B.

Indefeasible Rights to Use (IRU): Indefeasible right of use (IRU) is a contractual agreement between the owners (Grantor) of a communications facility, such as conduit or a fiber optic network, and a client (Grantee). IRUs are often designed to convey ownership of a portion of an asset, with some restrictions on right to and methods of access.

Internet Service Provider (ISP): An ISP is a company that offers its customers access to the Internet. The ISP connects to its customers using a data transmission technology appropriate for delivering Internet Protocol packets or frames, such as dial-up, DSL, cable modem, wireless or dedicated high-speed interconnects.

Lateral: A telecommunications term defining a conduit path extension, extending from a backbone (ring), and linking to multiple entrance facilities along a street or ROW, providing customers access (i.e. FTTH) connectivity to the UC2B network.

Managed Transport Service: Managed - transport service identifies a bundled digital delivery facility (fiber optic) with electronic equipment managed by UC2B, to the site and/or customer. UC2B is accountable for the functionality and performance of the service, as well as delivery of other applications over this facility, which may be provided through multiple, Retail Service Providers (RSP), to this customer or site.

Make-ready costs: The costs of adding to or repairing a potential network component, in order for it to meet the specifications desired for incorporation into the network.

Optical Time Domain Reflectometer (OTDR): A device that measures distance to a reflection surface by measuring the time it takes for a light wave pulse to reflect from the surface. Reflection surfaces include the ends of cables and breaks in fiber. The reflectometer measures the ratio of incident and reflected light power, or backscatter. By using this device, you can precisely calculate (in feet) where is fiber optic link is broken.

Right of Way (ROW): Right of way is in most cases a strip of land bordering streets or roads that is controlled by: in this case, the Cities, University or State of Illinois Department of Transportation. It is within this strip of property where UC2B will locate underground conduit and access points for the distribution and maintenance of fiber optic facilities that will encompass the UC2B network.

Structured Agreement: An agreement that lays out the payments and other requirements for orderly transfer of an asset from one party to another

Total Costs of Ownership (TCO): the economic value of an asset over its Engineered Lifecycle. For a purchase or a new build, this would include construction costs, and long-term maintenance costs including easements and other ongoing costs to keep the asset in usable condition, discounted as appropriate given the present value of future expenses. For an acquisition, this would include the make-ready cost for the proposed purchase, the purchase price, lease terms, and maintenance costs as in the new build case.

Upgrade costs: The cost of improving a network component, after it has been incorporated into the network, to meet capacity needs that arise in the future.

Appendix A

LETTER OF INTENT

FOR PROVISIONING OF INDEFEASIBLE RIGHTS OF USE IN THE UC2B FIBER OPTIC NETWORK

The Urbana-Champaign Big Broadband Consortium [UC2B] and Champaign Unit 4 Schools ("Customer") intend to enter into a Definitive Agreement as outlined in this Letter of Intent. Customer intends to purchase an Indefeasible Right of Use (IRU) for dark fiber on the UC2B network.

I. DEFINITIVE AGREEMENT

The parties to this Letter of Intent will endeavor to finalize and execute a definitive agreement defining the transaction, which shall include the terms below, and such other provisions as may be mutually agreed upon.

II. TRANSACTION DESCRIPTION

The transaction shall include the purchase of an IRU for the provisioning of fibers within UC2B's network (see Exhibit A attached), including installation, testing, and maintenance for the term of the IRU and any other requirements mutually agreed upon. The twenty (20) proposed Customer locations to be connected to UC2B fiber are itemized on page two of Exhibit B.

III. PRICING

Customer agrees to pay a one-time charge of $622,556.51 which will include the installation and testing of four (4) fiber strands on the entire length of UC2B fiber ring #1, four (4) fiber strands on the entire length of UC2B fiber ring #2, four (4) fiber strands on the entire length of UC2B fiber ring #3, four (4) fiber strands on the entire length of UC2B fiber ring #4, and the construction of single lateral fiber builds from the closest splice point on a UC2B fiber ring to the Customer's facilities. Of that total one-time charge, $390,000.00 shall be for the construction of the single lateral fiber connections into twenty (20) locations and $232,556.51 shall be for the 20-year IRU. Additionally, Customer agrees to pay an annual fiber maintenance charge of $31,055.65 for the length of the IRU agreement.

IV. PAYMENT

The one-time payment may be made in three (3) equal payments of $207,518.84 each. The first payment is due on January 10, 2010. The second Payment is due on October 10, of 2010, and the final payment is due on October 10, of 2011.

V. TERM

20 years from date of delivery.

VI. DELIVERY SCHEDULE

UC2B estimates the delivery of all the fibers identified in the IRU on or about October 15, 2011. Should any fiber rings be available before then, UC2B shall make Customer fiber strands available to Customer as soon as the ring and the lateral construction is completed and the fiber is tested.

VII. LEGAL EFFECT

This Letter of Intent is intended to be a statement of the mutual interest of the parties with respect to a possible transaction and is subject to execution and delivery of a mutually satisfactory definitive services agreement. Nothing herein shall constitute a binding commitment of either party except for the agreements in this section. The parties will become legally obligated with respect to the transaction only in accordance with the terms contained in the definitive services agreement relating thereto if, as and when such document has been executed and delivered by the parties.

VIII. EXPIRATION DATE

This Letter of Intent will be honored until the expiration date which shall be 12 months after execution.

Accepted this 10th day of August 2009.

Urbana-Champaign Big Broadband Consortium — Name (printed)

Accepted this 10th day of August 2009.

Customer Signature — Name (printed): David W. Tomlinson

Board of Education

Champaign Unit 4 Schools — Title: President

LETTER OF INTENT

FOR PROVISIONING OF INDEFEASIBLE RIGHTS OF USE IN THE UC2B FIBER OPTIC NETWORK

The Urbana-Champaign Big Broadband Consortium [UC2B] and Champaign Telephone Company ("Customer") intend to enter into a Definitive Agreement as outlined in this Letter of Intent. Customer intends to purchase an Indefeasible Right of Use (IRU) for dark fiber on the UC2B network.

I. DEFINITIVE AGREEMENT

The parties to this Letter of Intent will endeavor to finalize and execute a definitive agreement defining the transaction, which shall include the terms below, and such other provisions as may be mutually agreed upon.

II. TRANSACTION DESCRIPTION

The transaction shall include the purchase of an IRU for the provisioning of fibers within UC2B's network (see Exhibit A attached), including installation, testing, and maintenance for the term of the IRU and any other requirements mutually agreed upon. The proposed seven (7) Customer locations to be connected to UC2B fiber are itemized on page two of Exhibit B.

III. PRICING

Customer agrees to pay a one-time charge of $587,697.53 which will include the installation and testing of four (4) fiber strands on the entire length of UC2B fiber ring #1, four (4) fiber strands on the entire length of UC2B fiber ring #2, four (4) fiber strands on the entire length of UC2B fiber ring #3, four (4) fiber strands on the entire length of UC2B fiber ring #4, four (4) fiber strands on the entire length of UC2B fiber ring #5, four (4) fiber strands on the entire length of UC2B fiber ring #6, four (4) fiber strands on the entire length of UC2B fiber ring #7, and the construction of single lateral fiber builds from the closest splice point on a UC2B fiber ring to the Customer's facilities. Of that total one-time charge, $210,000.00 shall be for the construction of the single lateral fiber connections into seven (7) locations and $377,697.53 shall be for the 20-year IRU. Additionally, Customer agrees to pay an annual fiber maintenance charge of $41,969.75 for the length of the IRU agreement.

IV. PAYMENT

The one-time payment may be made in three (3) equal payments of $195,899.18 each. The first payment is due on January 10, 2010. The second Payment is due on October 10, of 2010, and the final payment is due on October 10 of 2011.

V. TERM

20 years from date of delivery.

VI. DELIVERY SCHEDULE

UC2B estimates the delivery of all the fibers identified in the IRU on or about October 15, 2011. Should any fiber rings be available before then, UC2B shall make Customer fiber strands available to Customer as soon as the ring and the lateral construction is completed and the fiber is tested.

VII. LEGAL EFFECT

This Letter of Intent is intended to be a statement of the mutual interest of the parties with respect to a possible transaction and is subject to execution and delivery of a mutually satisfactory definitive services agreement. Nothing herein shall constitute a binding commitment of either party except for the agreements in this section. The parties will become legally obligated with respect to the transaction only in accordance with the terms contained in the definitive services agreement relating thereto if, as and when such document has been executed and delivered by the parties.

VIII. EXPIRATION DATE

This Letter of Intent will be honored until the expiration date which shall be 12 months after execution.

Accepted this _________ day of ____________ 2009.

_________________________ _________________________

Urbana-Champaign Big Broadband Consortium Name (printed)

Accepted this 12 day of August 2009.

Customer Signature — Michael Hosier
Name (printed)

_________________________ pres.

Champaign Telephone Company Title

LETTER OF INTENT

FOR PROVISIONING OF INDEFEASIBLE RIGHTS OF USE IN THE UC2B FIBER OPTIC NETWORK

The Urbana-Champaign Big Broadband Consortium [UC2B] and the Champaign-Urbana Mass Transit District ("Customer") intend to enter into a Definitive Agreement as outlined in this Letter of Intent. Customer intends to purchase an Indefeasible Right of Use (IRU) for dark fiber on the UC2B network.

I. DEFINITIVE AGREEMENT

The parties to this Letter of Intent will endeavor to finalize and execute a definitive agreement defining the transaction, which shall include the terms below, and such other provisions as may be mutually agreed upon.

II. TRANSACTION DESCRIPTION

The transaction shall include the purchase of an IRU for the provisioning of fibers within UC2B's network (see Exhibit A attached), including installation, testing, and maintenance for the term of the IRU and any other requirements mutually agreed upon. The proposed twelve (12) Customer locations to be connected to UC2B fiber are itemized on page two of Exhibit B.

III. PRICING

Customer agrees to pay a one-time charge of $339,102.53 which will include the installation and testing of four (4) fiber strands on the entire length of UC2B fiber ring #1, four (4) fiber strands on the entire length of UC2B fiber ring #2, four (4) fiber strands on the entire length of UC2B fiber ring #3, four (4) fiber strands on the entire length of UC2B fiber ring #6, and the construction of single lateral fiber builds from the closest splice point on a UC2B fiber ring to the Customer's facilities. Of that total one-time charge, $112,500 shall be for the construction of the single lateral fiber connections into twelve (12) locations and $226,602.53 shall be for the 20-year IRU. Additionally, Customer agrees to pay an annual fiber maintenance charge of $24,910.25 for the length of the IRU agreement.

IV. PAYMENT

The one-time charge may be made in three (3) equal payments of $113,034.18 each. The first payment is due on January 10, 2010. The second payment is due on October 10, of 2010, and the final payment is due on October 10 of 2011.

V. TERM

20 years from date of delivery.

VI. DELIVERY SCHEDULE

UC2B estimates the delivery of all the fibers identified in the IRU on or about October 15, 2011. Should any fiber rings be available before then, UC2B shall make Customer fiber strands available to Customer as soon as the ring and the lateral construction is completed and the fiber is tested.

VII. LEGAL EFFECT

This Letter of Intent is intended to be a statement of the mutual interest of the parties with respect to a possible transaction and is subject to execution and delivery of a mutually satisfactory definitive services agreement. Nothing herein shall constitute a binding commitment of either party except for the agreements in this section. The parties will become legally obligated with respect to the transaction only in accordance with the terms contained in the definitive services agreement relating thereto if, as and when such document has been executed and delivered by the parties.

VIII. EXPIRATION DATE

This Letter of Intent will be honored until the expiration date which shall be 12 months after execution.

Accepted this _________ day of ____________ 2009.

_________________________ _________________________

Urbana-Champaign Big Broadband Consortium Name (printed)

Accepted this 11th day of AUGUST 2009.

WM L VOLK

Customer Signature Name (printed)

MANAGING DIRECTOR

____

Champaign-Urbana Mass Transit District Title

URBANA &
CHAMPAIGN
SANITARY
DISTRICT
P.O. BOX 669 • 1100 E. UNIVERSITY AVE. • URBANA, IL 61803-0669 • (217) 367-34(

LETTER OF INTENT

FOR INSTALLING FIBER CONECTIONS TO THE UC2B FIBER OPTIC NETWORK

The Urbana-Champaign Big Broadband Consortium [UC2B] and the Urbana & Champaign Sanitary District ("Customer") intend to enter into a Definitive Agreement as outlined in this Letter of Intent. Customer intends to purchase fiber connections to the UC2B network and to then purchase layer two transport services over that network.

I. DEFINITIVE AGREEMENT

The parties to this Letter of Intent will endeavor to finalize and execute a definitive agreement defining the transaction, which shall include the terms below, and such other provisions as may be mutually agreed upon.

II. TRANSACTION DESCRIPTION

The transaction shall include the fiber infrastructure between Customer locations and UC2B's network (see Exhibit A attached), including installation, testing, recurring maintenance, and any other requirements mutually agreed upon. The proposed nine (9) Customer locations to be connected to UC2B fiber are itemized on page two of Exhibit B.

III. PRICING

Customer agrees to pay a one-time charge of $120,000.00, which will include the installation and testing of fiber strands between the Customer locations and the nearest splice points on the UC2B network. Of that total one-time charge, the entire $120,000.00 shall be for the construction of the single lateral fiber connections into nine (9) locations. Additionally, Customer agrees to pay an annual fiber maintenance charge of $2,400 for the length of the agreement.

IV. PAYMENT

The one-time charge may be paid in three (3) equal payments of $40,000 each. The first payment is due on January 10, 2010. The second Payment is due on October 10, of 2010, and the final payment is due on October 10 of 2011.

V. TERM

To be determined by Customer and UC2B.

VI. DELIVERY SCHEDULE

UC2B estimates the delivery of all the fibers identified in the Agreement on or about October 15, 2011. Should any fiber rings be available before then, UC2B shall make layer two services available to Customer as soon as the rings and the lateral construction are completed and the fiber is tested.

VII. LEGAL EFFECT

This Letter of Intent is intended to be a statement of the mutual interest of the parties with respect to a possible transaction and is subject to execution and delivery of a mutually satisfactory definitive services agreement. Nothing herein shall constitute a binding commitment of either party except for the agreements in this section. The parties will become legally obligated with respect to the transaction only in accordance with the terms contained in the definitive services agreement relating thereto if, as and when such document has been executed and delivered by the parties.

VIII. EXPIRATION DATE

This Letter of Intent will be honored until the expiration date which shall be 12 months after execution.

Accepted this ________ day of ___________ 2009.

______________________________ ______________________________
Urbana-Champaign Big Broadband Consortium Name (printed)

Accepted this 10th day of August 2009.

Michael R. Little

Urbana-Champaign Sanitary District (Customer)

Michael R. Little
Name (printed)

by Kimberly A. Lytle

Executive Director
Title

LETTER OF INTENT

FOR INSTALLING FIBER CONECTIONS TO THE UC2B FIBER OPTIC NETWORK

The Urbana-Champaign Big Broadband Consortium [UC2B] and Lincoln Trail Libraries System ("Customer") intend to enter into a Definitive Agreement as outlined in this Letter of Intent. Customer intends to purchase fiber connections to the UC2B network and to then purchase Internet services and/or layer-two transport services over that network.

I. DEFINITIVE AGREEMENT

The parties to this Letter of Intent will endeavor to finalize and execute a definitive agreement defining the transaction, which shall include the terms below, and such other provisions as may be mutually agreed upon.

II. TRANSACTION DESCRIPTION

The transaction shall include the use of fiber infrastructure between Customer location and UC2B's network Ring #1 (see Exhibit A attached), including installation, testing, recurring maintenance and any other requirements mutually agreed upon. The proposed one (1) Customer location to be connected to UC2B fiber is itemized on page two of Exhibit B.

III. PRICING

Customer agrees to pay a one-time charge of $30,000.00, which will include the installation and testing of fiber strands between the Customer locations and the nearest splice point on the UC2B network. Of that total one-time charge, the entire $30,000.00 shall be for the construction of the single lateral fiber connections into one (1) location. Additionally, Customer agrees to pay an annual fiber maintenance charge of $600.00 for the length of the agreement.

IV. PAYMENT

The one-time charge may be paid in three (3) equal payments of $10,000 each. The first payment is due on January 10, 2010. The second Payment is due on October 10, of 2010, and the final payment is due on October 10 of 2011.

V. TERM

To be determined by Customer and UC2B.

VI. DELIVERY SCHEDULE

UC2B estimates the delivery of all the fibers identified in the Agreement on or about October 15, 2010. Should the fiber ring be available before then, UC2B shall make layer two services available to Customer as soon as the ring and the lateral construction are completed and the fiber is tested.

VII. LEGAL EFFECT

This Letter of Intent is intended to be a statement of the mutual interest of the parties with respect to a possible transaction and is subject to execution and delivery of a mutually satisfactory definitive services agreement. Nothing herein shall constitute a binding commitment of either party except for the agreements in this section. The parties will become legally obligated with respect to the transaction only in accordance with the terms contained in the definitive services agreement relating thereto if, as and when such document has been executed and delivered by the parties.

VIII. EXPIRATION DATE

This Letter of Intent will be honored until the expiration date which shall be 12 months after execution.

Accepted this ____________ day of __________________ 2009.

________________________ ________________________

Urbana-Champaign Big Broadband Consortium Name (printed)

Accepted this ___12th__ day of ___August___ 2009.

Jan Ison

Customer Signature Name (printed)

Executive Director

Lincoln Trail Libraries System Title

Urbana School
District 116

Jean F. Burkholder
Administrative Service Center
www.usd116.org

Preston L. Williams, Jr. Ed.D
Superintendent of Schools
217-384-3600
Fax 217-337-4973

205 North Race Street
P.O. Box 3039
Urbana • Illinois • 61803-3039

LETTER OF SUPPORT

FOR THE UC2B FIBER OPTIC NETWORK

The Urbana School District #116 (the District) has prepared this letter of support for the Urbana-Champaign Big Broadband Consortium [UC2B]. The District has been involved with a fiber optic collaborative project with the City of Urbana since April 2008. As part of the City Fiber Project, the District has purchased dark fiber as part of a fiber optic network connecting five school buildings by June 2009, with plans to reach two additional schools and two school administrative facilities by June 2010, and two additional school buildings by 2011.

Fiber connectivity is a critical aspect of the District's Technology Integration Plan. Prior to the City Fiber Project, the schools and classrooms have been served with a 1MB T-1 line that was insufficient to keep up with administrative requirements (e.g. online attendance and grade books). By increasing our connectivity exponentially, students, teachers, and administrators will transform technology integration with curriculum, instruction, assessment, and administrative decision-making. Teachers and students will be able to collaborate with peers and classrooms via video conferencing. The high school will have the opportunity to offer dual credit college level courses taught by college faculty in distance learning situations. The schools will be able to capitalize on their updated computer labs and media centers by publishing audio and video productions to the web. Increased bandwidth will also allow the implementation of a variety of new technology tools, like interactive whiteboards and individual student response systems. In the past year, the District has upgraded computer labs and media centers at all school buildings. Instructional use of technology has grown substantially in the past three years, but the historically low bandwidth has hindered the use of audio, video, and Web 2.0 technologies. The increased bandwidth is allowing automation, integration, and access to a variety of data systems, including the online library catalog, student emails provided by the district, and family access to student attendance and grade records. District administration will be able to take advantage of voice-over-internet phone systems, remote problem solving meetings, and access to student achievement data warehouses.

Urbana School District #116

The district has committed to paying the City of Urbana $94,175.00 to complete the first phase of District's portion of the City Fiber Project. The District is currently working with the City on the second phase, which will cost the District an additional $58,900. The District has spent an additional $145,000 on handholds, network upgrades, and connectivity issues directly associated with upgrading to the fiber optic network. The District views the amount that they have committed to the City Fiber Project as an in-kind contribution to the UC2B project.

The advantage of the UC2B project for the District is that it would dramatically reduce the current fiber implementation timeline, and it would also provide additional integration with community partners, other governmental agencies, as well as parents who are served by the increased access to broadband.

This Letter of Support is intended to be a statement of support and mutual interest of the parties with respect to a possible collaboration. Nothing herein shall constitute a binding commitment of either party.

Sincerely,

Donald Owen
Assistant Superintendent for Curriculum and Instruction