

### **Proposed Policy for Private Expansion of UC2B for Business Services**

Several private entities have expressed interest in connecting new or existing lateral fiber infrastructure to UC2B backbone rings in order leverage those rings to provide fiber-based services to businesses.

As UC2B does not currently have a plan or funding for the expansion of fiber-to-the-premise to businesses located outside the grant-funded FTTP areas, the Policy Board should consider adopting policies that encourage private entities to invest their capital to extend the UC2B network by building additional lateral cables and serve more businesses.

This expansion should always be under certain conditions that promote an open-access network as well as minimize the operational overhead for UC2B and the local municipalities in managing additional infrastructure in their rights-of-way.

For the purposes of this discussion, a “lateral cable” will be defined as a fiber cable connecting to a UC2B backbone ring, or to an existing lateral cable and terminating in a manhole or handhole in the public right of way. By this definition “lateral cables” exist only in the city rights-of-way.

A “drop cable” is a cable that connects to a lateral cable in the city right-of-way in a manhole or hand hole and then goes primarily on private property or in a utility easement on private property to connect to a building. While a few feet of a drop cable may be in the city right-of-way it should be thought of as a cable that is located on private property.

There are locations where a UC2B ring cable, manhole and splice case are in the right-of-way in front of a location desiring UC2B service. In those instances, the drop cable would connect directly to the ring cable and there would be no lateral cable in that connection.

It is common for the general term “laterals” to be used to describe both “lateral cables” and “drop cables” – singularly or in combination. This narrative will attempt to make a clear distinction between the two where that distinction is relevant.

The suggested policy that follows would only apply to lateral and drop cables connecting from a UC2B ring cable (or from an existing lateral fiber cable) that are built to commercial locations. Only the specific lateral cable and drop cable

infrastructure being donated would be subject to the donation policy. (In some cases there could also be splice cases and handholes or manholes involved on the lateral cable in addition to the cables themselves.)

Any other fiber infrastructure that the donating entity may have would not be affected. Fiber that interconnects a provider's network to UC2B's network would not be affected. An ISP's main fiber connection to the UC2B network core would not be affected. That other fiber infrastructure would remain the sole property of the provider, who remains 100% responsible for its maintenance.

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There are a series of core principles that the suggested policy promotes:

A. All lateral fiber infrastructure in the cities' rights-of-way that connects to the UC2B network shall be operated as an open-access network by UC2B.

B. The City of Urbana and the City of Champaign through their Public Works Departments and the University of Illinois through its Utilities department have expressed a strong preference for having all lateral fiber infrastructure in their rights-of-way that connects to UC2B fiber to be owned, managed and maintained by UC2B.

The fewer organizations that each city and the University have to track and coordinate with concerning infrastructure in their rights-of way, the less burden it will be on the cities and University. While the cities cannot limit who can build fiber infrastructure in its rights-of-way, UC2B can set consistent conditions that must be met before connecting private lateral fiber cables to UC2B fiber cables.

C. UC2B should have total ownership and maintenance responsibility for all lateral fiber infrastructure in the local rights-of-way that connects to its fiber network.

D. Assuming ownership and maintenance responsibility for the lateral fiber infrastructure that is "donated", should not put a financial strain on UC2B, but rather support UC2B's sustainability. Donating entities will pay recurring maintenance charges for the donated fiber, and UC2B will keep a small portion of the one-time funds paid. No lateral fiber donation in Champaign, Urbana or Savoy will be rejected because of its potential maintenance costs.

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E. Any donated lateral fiber infrastructure must be located within the city limits of the City of Urbana, the City of Champaign the Village of Savoy, or on the property of the University of Illinois. UC2B has no interest in directly maintaining any donated infrastructure outside of these areas. The value of the donated fiber infrastructure will be determined by the donating party and UC2B on a case-by-case basis and jointly agreed to in the donation agreement.

The elements of a policy for “donated” lateral fiber infrastructure in commercial areas:

1. Before an entity can connect its lateral fiber infrastructure to a UC2B backbone ring or to an existing lateral cable, that entity must first:
  - A.) Execute an IRU or lease agreement with UC2B for the UC2B backbone fiber ring to which the “donated” lateral fiber infrastructure will connect. Each UC2B ring desired must be leased in its entirety.
  - B.) Execute a donation agreement that details the physical location of the lateral fiber infrastructure being donated and the original cost of installing the donated lateral fiber infrastructure on a per lateral cable basis (with each of its associated drop cables.)
  - C.) Execute a fiber maintenance agreement for the UC2B ring fiber that is being leased, and also for the lateral fiber infrastructure being donated.
2. The fiber maintenance contract for the ring and donated lateral fiber infrastructure shall be at the then-current UC2B fiber maintenance rates. UC2B will incur all expenses for J.U.L.I.E. locates and fiber infrastructure repairs and routine maintenance for the donated lateral fiber infrastructure. Costs for relocating fiber infrastructure in the event of road construction or some other planned event are typically shared by the “users” of the fiber infrastructure on a prorated basis.
3. Any lateral fiber infrastructure that is donated to UC2B must be documented in full, be in excellent operational condition, be built to UC2B standards, and be clear of any ownership encumbrances. Manholes or conduits that are shared with multiple entities are not good candidates for UC2B ownership and maintenance. A lateral fiber cable that already has multiple owners is not a good candidate for UC2B ownership and maintenance. A lateral fiber cable that has more than 10% of its strands fail OTDR testing is not a good candidate for UC2B ownership and maintenance. All donated lateral fiber cables must be accompanied by individual end-to-end OTDR reports for each strand, which will be verified by UC2B before acceptance.
4. An entity donating lateral fiber infrastructure to UC2B will have exclusive rights to use half of the donated lateral fiber cable strands and half of the associated donated drop cable strands via a \$1 dollar 20-year IRU. That IRU shall be renewable for multiple similar terms. The remaining strands of fiber in that infrastructure will be available for other entities to “buy into”.
5. To allow for management and maintenance of the fiber infrastructure, any entity leasing dark fiber from UC2B either through an IRU or a monthly lease will be contractually restricted to using that fiber for its own business

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purposes only. UC2B dark fiber cannot be sub-leased or sub-assigned. UC2B will have a direct business relationship with all users of its dark fiber. [The attorneys working on our IRU agreements will have more elegant and precise language to express this.](#)

6. The lateral fiber cable and the associated fiber drop cables attached to each lateral fiber cable will define each donated fiber segment. Entities wishing to lease dark fiber to a location served by a donated lateral cable and drop cable, must lease the entire fiber segment - the complete lateral fiber cable and all of the drop cables associated with that lateral cable.
7. The donated lateral fiber infrastructure must always provide at least 12 strands of fiber for the drop cable into a commercial building. If there are more than 3 potential tenants in a commercial building the fiber drop cable must have at least 4 strands of fiber per potential tenant up to a maximum of 48 strands. Lateral fiber cables must provide 4 strands for each potential commercial customer served by that lateral cable up to a maximum of 96 strands. Fiber cables that lack the desired number of strands are not good candidates for UC2B ownership and maintenance.
8. The first additional entity that elects to buy into “donated lateral infrastructure” will pay to UC2B a one-time fee equal to 55% of the original installation cost of that infrastructure segment as documented by the original entity at the time of donation and agreed to by UC2B in the donation agreement. UC2B shall then provide 50% of the original installation cost to the original entity that donated the lateral fiber infrastructure (retaining 5% for UC2B overhead.)
9. That first additional user (second total user) of the “donated lateral infrastructure” will be entitled to 2 fiber strands on each fiber drop cable served by the lateral cable. That first additional user (second total user) will also be entitled to 2 strands on the lateral fiber cable. This will allow that second user to connect multiple customers served by that lateral infrastructure by deploying a ringed network topology and bi-directional single-strand optics on the fiber strands.
10. That second user will enter into an IRU or lease agreement for UC2B ring fiber that connects to that lateral fiber cable (leasing complete UC2B rings at a time) at then-current rates, and will be provided with a \$1 dollar 20-year IRU for the lateral and drop cable fibers. Both leases shall be renewable for multiple similar terms.

11. That second user will enter into a fiber infrastructure maintenance agreement for the UC2B backbone ring being leased as well as for the lateral and drop cable fiber being leased at UC2B's then-current annual fiber maintenance rates. The original entity that donated the fiber will not receive any reduction in the rate of its fiber maintenance agreement should additional entities lease strands in the donated cables.

12. Should a second "additional" (third total) entity desire to use the donated lateral fiber infrastructure, they will pay to UC2B a one-time fee equal to 40% of the original installation cost of that infrastructure as documented by the original entity at the time of donation and agreed to by UC2B in the donation agreement.

UC2B shall then provide 15% of the original installation cost to the original entity that donated the fiber infrastructure and 15% of the original installation cost to the first additional entity that bought into that fiber infrastructure (retaining 10% for UC2B overhead.) At that point, the original entity that donated the fiber infrastructure to UC2B and the first entity that bought into the infrastructure will both be considered to have been "made whole" and will receive no additional compensation from any additional users of that fiber infrastructure. The second additional entity that invested will also not receive any compensation from any additional users of that lateral fiber infrastructure.

13. The third user of the "donated lateral infrastructure" will be entitled to 2 fiber strands on each fiber drop cable served by the lateral cable. That second additional user (third total user) will also be entitled to 2 strands on the lateral fiber. This will allow that third user to connect multiple customers served by that lateral infrastructure by deploying a ringed network topology and bi-directional single-strand optics on the fiber strands.

14. The third user will enter into an IRU or lease agreement for UC2B ring fiber at then-current rates, and will be provided with a \$1 dollar 20-year IRU agreement for the lateral fiber and the drop cable fiber. Those leases shall be renewable for multiple similar terms.

15. That third user will enter into a fiber infrastructure maintenance agreement for the UC2B backbone ring being leased as well as for the lateral and drop cable fiber being leased at UC2B's then-current annual maintenance rates. The original entity that donated the fiber, and the first entity that "bought into" the fiber will not receive any reduction in the rate of their fiber maintenance agreements as a result of this second entity "buying into" the donated lateral fiber infrastructure.

16. Once two additional entities have bought into a donated lateral fiber cable and its associated drop cables, UC2B shall be free to use the remaining fiber strands on the lateral cable and all of the associated drop cables to provide retail or wholesale services, which could include lambda-based services to accommodate additional entities that wish dedicated access to the locations served by the donated lateral fiber infrastructure. Unless it already has rights to use fiber strands on a lateral cable or drop cable. UC2B will never lease the last two strands of fiber on those cables, which will always leave UC2B in a position to offer lit services on an open-access basis, even if the fiber cables involved are “full”.
17. Should UC2B have funds and the need to do so, UC2B could be the first or second entity to “buy into” lateral and drop cables. Unless there have been two other entities buy into a lateral and it associated drop cable(s), UC2B can only use the additional strands on those donated cables for its own purposes by “buying into” them like any other provider.
18. All splicing at all times to the UC2B fiber backbone rings or to existing UC2B lateral cables will be performed by UC2B staff or contractors working for UC2B.
19. Before donating fiber infrastructure to UC2B, any splicing other than to the UC2B backbone ring or to an existing lateral cable will be performed by the entity donating the lateral fiber infrastructure. Once the lateral fiber infrastructure has been donated, UC2B staff or contractors working for UC2B will perform all splicing.
20. There are also groups of geographically-clustered businesses that are considering building their own lateral and drop cables in order to connect to UC2B. If they then donated that infrastructure to UC2B, it would be open to all entities to lease with no up-front costs.
21. This policy applies only to lateral fiber infrastructure serving commercial locations. It does not apply to any other fiber infrastructure that an entity may own and connect to UC2B’s fiber infrastructure. A policy covering dark fiber and residential locations can be created later if the need arises.