MEMORANDUM

DATE: January 15, 2020

TO: The Honorable Mayor Drew and Ryan Snow

FROM: Kathy Shaw, chief executive officer and Todd Marriott, chief technology officer

SUBJECT: LightHub Interlocal outline, Cost estimates of a fiber project and LightHub vs. UTOPIA/UIA comparison

In September of last year (2019), a fiber optic Interlocal was duly formed under **Utah Title 11-13-101** of the "Interlocal Cooperation Act." (LightHub Fiber) The purpose of the agency formation was to:

- permit local governmental entities to make the most efficient use of their powers by enabling them to cooperate with other localities on a basis of mutual advantage and thereby to provide services and facilities in a manner and under forms of governmental organization that will accord best with geographic, economic, population and other factors influencing the needs and development of local communities; and

- provide the benefit of economy of scale, economic development, and utilization of natural resources for the overall promotion of the general welfare of the state.

Unlike other Utah fiber optic interlocal agencies who pledge and maintain weighted voting memberships, share debt and operating expense joint and severally, i.e. UTOPIA/UIA, the governance of the Lighthub Fiber Agency was established in a manner whereby:

- Each City has the same voting rights regardless of size;
- Each City carries it own debt and thus receives it own upside (this is not shared);
- It allows for a City to join as a non-pledging member;
- Additionally, non-pledging membership provides a seat at the table without any financial requirement.

Interlocal members have the **option** to use the interlocal to:

- bond for projects through the interlocal. The benefit of bonding within the interlocal is that the debt is held on the books of the interlocal and not the City.
- A City or RDA may also **choose** to utilize the operational capacities held by the organization and/or provide their own respective core competency for operational services to other members within the structure.

Other benefits of LightHub membership include:

- Your City is in no way encumbered by the debt of any other member of the interlocal.
- No other member has a vote in the capital projects within your City.
- Collective purchasing (COOP) capabilities allowing for members to competitively contract, through the entity, for established vendor relationship pricing.
- Find a collectiveness of thought among other Utah cities helping with public/political influence at local, state and national levels.
- Save money through the collective utilization(s)- such as that of software licensing agreements.
- The Interlocal will attract ISP's.
- The interlocal agency provides an administrative barrier against potential fringe adverse political persons/groups by requiring opposing opinions to obtain a higher threshold of petition regarding the City's fiber projects.

Costs of a Fiber Project

You requested a comprehensive cost breakdown. The cost of a municipal fiber project can be simplified and broken down into three parts:

1. **Pre-bonding/planning stage**

    a. **Survey**

    Typically, cities will want to perform some type of citizen survey. The type of survey put forward can significantly vary the cost. Here are a few examples of what can be accomplished:

    i. **Mass Mailing/Online-** Generally, cities will send out a flier within their water bills and or mail the survey to every resident allowing the resident to fill out the survey and mail back to the City. Additionally, you may also post the survey online, including the City's website and or any applicable social media. However, since the response rates related to mail surveys is low, questionnaires are now commonly administered online, as in the form of web surveys.
    Advantages: Ideal for asking close-ended questions; effective for market or consumer research
    Disadvantages: Limits understanding of the respondent's answers, critics may suggest that the bulk of positive responses come from interested parties and is not indicative of true voter sentiment
    Cost- cost of printing plus postage (mitigated if sent within utility bills)

times number of household/businesses and return postage. The creation of the survey and collocation of data from it will be included in the cost of a feasibility study. Postage will be around $500.

ii. **Phone/Market survey**- generally accomplished by a professional survey company such as Dan Jones or the Cicero group. The survey will either be cross-sectional or direct reach. This type of survey is more comprehensive and provides a stronger gauge of voter sentiment.
Advantages- More representative of a total population
Disadvantages- Expensive, additionally most likely the surveyors are interviewing residents with little if any education regarding the issue. In the case of municipal fiber, the matter is complex and multi-layered requiring fairly extensive education. Therefore, it is equally unlikely that you will get a representative idea of what you should do.
Costs- recently we obtained a competitive bid for a Utah City with a population of around 3500 addresses. The cost was estimated at $20,000.

iii. **Vote-** Often times it may seem easier to just put it to a vote. If you want a binding vote, you must go through a voter's initiative by gathering 20% of eligible voter's signatures
Advantages- less political risk, voters get a direct say in whether or not the project goes forward which also enables additional bonding vehicles for project financing.
Disadvantages- as previously stated, municipal fiber is a very complex and sophisticated issue. Often times conservative voters are misled with various false mantras such as, "you are competing with the private sector" or "other advanced technologies with make fiber obsolete." Additionally, once the project goes to the vote of the people, incumbent telecom and cable companies may spend an inordinate amount of resources to dissuade voters, providing false narratives/information and fear mongering. An example is in Fort Collins, Colorado, where Comcast spent over a million dollars to derail their municipal fiber project. Early Fort Collins survey results demonstrating an overwhelming support or the project with market surveys data showing over an 87% approval. The fiber project prevailed by obtaining 57% of the vote ultimately.
https://fortune.com/2017/12/10/municipal-broadband-fort-collins-colorado/

b. Feasibility Study

A feasibility study is an analysis that takes all of a project's relevant factors into account—including economic, technical, legal, and scheduling considerations—to ascertain the likelihood of completing the project successfully. It is a prerequisite to bonding. Bonding agencies and your financial advisor will depend on the thoroughness of the study to determine the parameters of the bond. It is critical the feasibility report be accomplished by a credible third party familiar with the municipal fiber industry, the process and needs of the bonding folks. There are very few third-party feasibility companies we could recommend. Oftentimes cities either retain the services of inadequate feasibility companies or one that charges way too much for what you will need. We can offer up industry experts we have had extensive experience with and that we trust.

Cost- You should anticipate $40,000 give or take for a proper feasibility study. Most of the study's cost can be recouped within the bond once it is issued.

c. **Financial Advisor**

Most cities already have a relationship with a financial advisor. In the case of municipal fiber, it may be advisable however, to retain the services of an experienced advisor who has relationships and experience specific to municipal fiber projects. Again, we can advise you as to reputable firms/advisors that we have had success with bonding over a half a billion dollars specific to fiber. If you are bonding within the LightHub Fiber interlocal, then your City can use the agency's trusted financial advisor.

Cost- Estimated between ½% and 1% of the cost of the bond. This is paid out at the time bond closing and from bond proceeds.

d. Bond Counsel

Similar to a financial advisor it is imperative to retain a reputable, experienced municipal fiber attorney/firm. We will help you identify the resource best suited to your needs.

Cost- Approximately $70,000-100,000 – this is also paid out at the time of bond closing and from bond proceeds.

e. **Fiber advisors**

There are many fiber consulting firms and individuals out there. However, Kathy and I represent a very small elite group of individuals, steeped in successful municipal fiber modeling and knowledgeable of the private sector resources. Furthermore, we are not tied or compromised by any outside vendor or technology and maintain no industry conflicts. We are experienced, unfettered, and uncompromised advisors. We are the management team responsible for bringing UTOPIA out of its death spiral, implementing UIA and its associated models and producing net revenue. By using us as advisors we can greatly curtail costs by bringing the right collective team together synchronizing efforts and shortening the process through proven experienced efficiencies. Additionally, we are the charter founder organizers of US IGNITE, our nation's municipal fiber organization/ambassador. https://www.us-ignite.org

Cost- because we are advising LightHub Fiber we would be willing to retrospectively charge for our services contingent on you successfully bonding. Our fees would then come from the bond itself. Typically to get you from point A to B is $60,000. While it may be the case that bonding under UIA such costs may or may not be negated, it is also true that you would then be advised by UIA/UTOPIA personnel invested in their interest and not yours. We advise you specific to your project as a trusted advisor as if we are part of your own staff.

f. **Public Relations**

Public relations efforts can be a black hole for costs. Recently, one of our clients spent over $45,000 in one month alone. Public Relations firms must be managed as to cost and expectations. Generally speaking, a PR firm/effort is only as good as the management of the effort. PR should be seen as tool in your hands directed from a combined focus. Sometimes clients look to PR to solve public sentiment issues and education. PR is simply a tool used strategically to enhance focused collective messaging.

Cost- Estimated cost is $10,000 or less in the pre-bonding stage if managed correctly.

g. **Underwriter's Counsel**

Represents the bond purchaser.

Cost- Generally, it is based upon the cost of the bond will be paid out of the proceeds of the bond.

2. **Build phase**

    a. **Capital costs**

    All capital costs including core construction, drop costs (the fiber connection from the curb to the home), interconnections, electronics and construction management are expenses tallied within the bonding parameters and therefore paid from the bond. Capital costs can vary depending on a number of factors:

        i. How you intend to operate post and during construction.
        ii. Total cost of your City's build will depend on a variety of factors such as:

            1. The deployment model used (described in more detail later in this brief)
            2. System adoption
            3. Fiber technology topologies
            4. Speed/efficiency of fiber deployment
            5. Other

    b. **Operational costs**

    This can be figured into the bond for a limited time, generally a year's worth, and then Ops costs need to be facilitated through ongoing customer revenues. Operational costs will be significantly less through an interlocal cooperative effort and significantly less than UTOPIA/UIA would charge due to technological efficiencies and management processes. Ongoing operational costs must figure in system refresh costs and those monies are held in the City's fiber reserve fund.

3. **Post build Operations:**

    a. Your financial advisor can provide better detail on financing elements such as capital reserve funds that allow a project time to get on its feet by using financing to supplement revenue deficits in the early years.

b. The better the fiber adoption the more increased economies of scale and less per customer costs experienced

Fiber Deployment Models

For many years municipal fiber deployments relied on a "*build it and they will come*" model. Many hard lessons learned later, fiber builds must look to fiber deployment sustainability incorporating a comprehensive approach, which includes dedicated marketing, public awareness, and competitive sales managed efforts. **Open Access** allows any private companies to utilize the fiber to provide private ISP's and other online telecommunication/video/other enhanced electronic services to private citizens residentially and to businesses. However, despite the prevailing notion that multiple ISP competition will create enough market synergy to satisfy the networks revenue demands, it is rarely so. "Best Lessons" learned have helped bolster specific efforts to the various fiber deployment models so that each effort can realize the measure of its creation. When properly administered in todays' marketplace, a successful deployment model should be able to produce net revenues. The different Fiber deployment models include:

Utility Model

- The Utility Model incorporates the idea that fiber is critical infrastructure. The fiber infrastructure is to be used by the City to create efficiencies with other City services such as SCADA, AMI, and other. Because the fiber is being used by the City, it becomes analogous to City infrastructure such as water detention, electrical, sewer, parks, rec centers, etc. Because every citizen will benefit from the combined efficiencies of the fiber network, the City is able to charge a ubiquitous utility fee typically equal to or slightly less than the CapX financial obligations of the bond. Ongoing maintenance and operations of the fiber network are funded from residents and businesses who utilize the network for additional telecommunications needs. Each address connection – resident or business- includes a base level internet connection. The utility model has the distinct advantage of providing a financial net-welfare advantage to almost every one of your residents. It does so in the following way:

    - First, competition will inherently drive down incumbent pricing. Citizens choosing to remain with comcast and or etc. rather than use the plethora of other companies vying for their business, will see such companies sharpen their pencil and decrease retail pricing accordingly

- Secondly, true consumers seeking real broadband services will be able to select from a host of competing services offering Gig type connectivity to the web. It is our experience that retail pricing for such services is typically less than UTOPIAs competing services and significantly less than inferior incumbent service offerings.

- Fourth, because there is an included base level connection to every address, fixed income folks may disconnect from more expensive services they already pay for and use the base connection to satisfy their connection needs. Oftentimes, fixed income households can save as much as $40 plus dollars a month.

- Businesses require this type of connectivity and will now have the option to choose from a myriad of competing carrier class offerings. The City's economic development will see a dramatic boost which in the end benefits everyone. This will also drive businesses to your City.

- Lastly, there will be those in your communities that are indigent and or have absolutely no need for even the most basic connection. Even though these residents will still benefit from the efficiencies the City produces through the fiber utilization, they can be provided the ability to opt-out or some cities may simply choose to subsidize the limited qualifying addresses.

The Utility Model with OPT-OUT provision

- This model incorporates the same philosophy as the Utility model but does allow a brief period of time for disconcerted or other citizens who adamantly oppose the critical fiber infrastructure, to opt out of the build and subsequent monthly fee. The overall build per resident/business does increase depending on the number of addresses opting out. The City, must therefore, set a percentage threshold to whether it continues forward or not contingent to the cost of the remaining build per resident. Financial requirements are established at the beginning of the build for citizens who do opt-out at the beginning of the build, but then later decide to participate.

The OPT-IN model, (or is at times referred to as the Brigham City or Ammon Model)

- The model still incorporates a universal City-wide fiber access build but only deploys to addresses that opt into the program. The City also establishes a percentage threshold requirement of the number of participating addresses in order to commence the fiber network deployment, usually around 35%. The opt in model requires serious concentrated marketing and educational efforts. Such efforts and associated costs are not insignificant and can only be recouped in the event the effort is successful in going forward and the City bonds.

Access Level Build Model

- The access level build model intends to construct essential fiber infrastructure/services to City sites and strategic business locations. Residents/businesses can have access to the build through independent build efforts generally requiring upfront construction costs. The access level build model is much more difficult to realize sustainable revenues and oftentimes must be subsidized by a City's budget. The access level build model can be a preliminary way to early stage the project in anticipation of future other fiber deployment model adoption.

The Easy button

In our discussions Friday, we discussed how cities choosing to go with UIA/UTOPIA's model seem to think that it is an "easy button" process. We want to dispel that notion. Any City joining UIA and subsequently going forward with a fiber build, will have the exact same requirements as we outlined earlier in this brief. Some cities may wish to simply hire out most of the work, but ultimately the costs and/or decision points are nearly identical regardless of how a City chooses to move forward. In the case of UIA/UTOPIA, they will simply incorporate many of the costs we outlined into their management fee structure and then compensate those efforts through the closing of the bond. So, to whatever level a City wants to be involved it is nearly the same going either way.

The fiber build financial risks are the same, the bonding process and associated interest rates will be identical, the ability to bond under the interlocal is the same, and the cost to build the network and so forth are nearly exactly the same.

The primary difference between using LighHub Fiber as your interlocal of choice vs. UIA comes from the ability, under LightHub Fiber, to realize net revenues, control your involvement and infrastructure, keep your City's revenues within your own coffers, likely operate your system- either independently or under the umbrella of LightHub's operating system with better

efficiencies, thus lower cost and ultimately be in charge of what your network is and does over the long-term.

Please note the following page for a comparison chart of the two interlocal efforts.

The information contained in this brief should help provide some of the additional clarifying information that you requested. Building a fiber project requires serious political leadership and is not for the faint of heart. Don't be overwhelmed, a tenacious, steady and well-informed effort will help prepare your City to be able to realize essential and critical benefits cities require going forward. Thank you.

		LightHub	UIA/UTOPIA
Membership			
	>Infrastructure	Only you vote on your Capital projects	Weighted Vote per member population
	>Operations	One-to-one vote	Weighted Vote per member population
	>Tenure	Year Membership/ 60 day out	No end in sight- Forever thing
Bonding			
	>Capital Projects	City may bond within Interlocal	City may bond within Interlocal
	>Risk	City responsible for project costs	City responsible for project costs
Operations			
	>System operations	City may select Interlocal to operate	City MUST select Interlocal (UIA) to operate
		LightHub more efficient Ops $	UIA presents a static $ Model
		Your City maintains control	Control is in the perview of UIA
Financials			
	>Revenue	Collected and held within your city	Revenue collected and held within UIA
Net Revenues			
	>Net Excess Revenues	All net revenues held within your city	Net Revenues go to pay UTOPIA's bad debt
Cost			
	>Capital Build Costs	Both Interlocals have the same access to	Both Interlocals have the same access to the
		the same build costs	same build costs
	>Operational Costs	Will be LOWER due to modern tech	Manual Ops issue/static cost structure
	>Bonding Costs	Same	Same
Open Access			
	>Service Provider(s)	Same	Same
Fiber Connectivity		Same	Same
Risk		Same	Same
Reward		All Net Revenues go to your City to	Your City never realizes any net revenue
		pay down debt earlier or fund other	
		projects	