Traverse City Light & Power FTTP Broadband Project Q & A

Q: ***Who bears the financial risk of this project?***

A: TCL&P is the ultimate financial backstop for the project. This project will not be supported by "taxpayers," but will be supported by "ratepayers" that subscribe for the service the same as electric, water, and sewer services.

Q: ***There are Municipal Broadband projects that have failed and become a burden to taxpayers. What is TCL&P plan to ensure success?***

A: This project will not be supported by "taxpayers," but will be supported by "ratepayers" that subscribe for the service the same as electric, water, and sewer services.

Historically, the lack of proper planning on all aspects of the network accounted for the majority of unsuccessful networks. Today, there are a number of successful municipal broadband projects across the country. TCL&P has taken time to allow for proper planning and will follow an iterative process with set checkpoints, follow a proven business model, and be engaged with Fujitsu to ensure success in execution of the broadband business. Every successful project has continuous planning and oversight on all aspects to ensure the right decisions can be made.

Q: ***Why is the City and TCL&P taking on a broadband project?***

A: The City leadership, local businesses and community members have recognized that access to affordable and high-speed broadband is an essential service for our community. There are many proven economic benefits to municipal broadband networks, such as improved economic development, job training, medical accessibility, and increased property values. TCL&P is best positioned to build upon its existing fiber cable network infrastructure to enable present and future connectivity needs.

Q: ***Isn't the private sector better equipped to provide telecom services?***

A: The private sector telecom providers, or incumbent service providers, invest in broadband infrastructure only where there is the highest commercial Return on Investment (ROI). This leaves some neighborhoods unserved or underserved, or "Cherry Picked". The private sector simply cannot assure their shareholders that building ubiquitous FTTP will be the most profitable venture in cities without significant density. City Utilities, such as TCL&P, can use long-term, low interest financing, existing infrastructure, and existing talent to reduce the cost of deploying a network. Along with the strong brand name and service of TCL&P, both revenue and costs can be increased and decreased, respectively. This allows for optimally constructed networks, with high quality of service, and significant take rates to sustain a broadband service.

Q: ***With advances in wireless technologies such as 5G why don't we just use wireless?***

A: While 5G wireless is a promising technology there are limitations and constraints to wireless as a Gigabit- speed service medium. Wireless carriers have to decide that this particular community will provide a commercial Return on Investment for their new 5G equipment. Exiting carriers will deploy 5G in Tier 1 cities and will be many years before they reach rural communities like ours. 5G is also a relatively untested wireless technology where quality of service can be greatly impacted by vegetation and weather. Many more 5G cell sites will have to be placed throughout the City and each site will need fiber optic cable connections within 200-300 feet of a premise due to signal degradation. Therefore, 5G wireless implementation depends on placing new fiber optic cables deep into the neighborhoods.

Wireless technologies bring an important capability to every community. Wireless is no substitute for Utility-owned fiber optic cable infrastructure with its virtually unlimited bandwidth for a wide range of services for years to come.

Q: ***How will Customer Service be improved if the City Utility is the service provider?***

A: TCL&P has a great customer service track record since 1912. As a broadband service provider, with the support of Fujitsu, TCL&P will implement the same level of customer care and service that its customers are used to receiving. TCL&P will have access to FTTP network expertise through Fujitsu's broad capabilities and deep experience who can care for critical service functions such as network construction, operations, and customer contact.

Q: ***If TCL&P builds Fiber-to-the-Premise then doesn't this mean extra cables going into each house and business? How is that economical?***

A: Presently the incumbent telecom carriers in Traverse City connect homes and businesses over twisted pair copper wires or hybrid fiber / copper coaxial cables. These obsolete copper cables are physically limited to deliver lower data speeds and distances than fiber optics. In order to upgrade copper plant, carriers are required to replace cable. They won't make this investment without a ROI, because they receive very little, if any incremental revenue. Very little Fiber-to-the-Premises (FTTP) is present in Traverse City. TCL&P would be building fiber optic cables into every neighborhood as utility-owned infrastructure that will support the City's connectivity needs well into the future. New fiber cable drops are only connected to homes or business that subscribe to the service.

Q: ***How much is this going to cost?***

A: The next step effort that will be done is to gather information to project out the expected revenues and costs associated with the broadband network build and operations. TCL&P is in a prime position to offer FTTP because of the existing fiber and electrical assets available. There are many things to consider for the network, so until the data gathering has been done, it is not possible to give an accurate cost of the network and operations.

Q: ***How are we going to pay for this?***

A: This project will not be supported by "taxpayers," but will be supported by "ratepayers" that subscribe for the service the same as electric, water, and sewer services.

The next steps effort to gather information and provide a financial projection of the network

will allow for visibility into what profitability the service will have. Knowing that financial viability will allow for TCL&P to make decisions on what financial instrument to use to best fund the project.

Q: ***Why should citizens who do not want Gigabit-speed internet have to "pay" or take on debt risk for the benefit of others?***

A: This project will not be supported by "taxpayers," but will be supported by "ratepayers" that subscribe for the service the same as electric, water, and sewer services.

It has been demonstrated that communities with competitive FTTP networks drive economic development across the board. Small businesses benefit and pass along lower costs and/or better services. Students can keep abreast with enhancements and efficiencies in on-line education. The City can more rapidly and efficiently manage its infrastructure for transportation and public safety enhancements to the community. A city-owned FTTP network will drive incumbent service providers to lower their pricing and improve their customer service. So, there are many benefits to all citizens of and visitors to Traverse City.

Q: ***What is the City and TCL&P going to do to meet the connectivity needs of low-income families?***

A: If voice services will be a service offering, a program that is consistent with state PUC would be likely implemented. The partnership can decide this early in the process and ensure results get into business model.

Q: ***How is the City and TCL&P going to ensure that local vendors and contractors are used for this project?***

A: TCL&P has directed Fujitsu to utilize local talent where possible. A network build and operations require, and benefits from, local experience and talent. Things such as construction, sales, and marketing are clear opportunities to staff using local resources.

Q: ***Other ISPs will soon have DOCSIS 3.1 in some cities they serve. Isn't this 1 Gigabit service just as good as FTTP 1 Gigabit service?***

A: No, other ISP services are hybrid fiber coax which means that the last mile connection into the home is still going to be copper coaxial cables, which has a speed limit compared to fiber optics. Fiber optics cable is truly future proof as it is the fastest medium possible for transmitting data. The DOCSIS 3.1 cable standard provides close to 1 Gigabit download speeds but only a fraction of that on upload speeds as the connection speeds are not symmetrical (equal) for downloads and uploads. Also, it is a shared cable with anyone utilizing that portion of the network which also limits speeds. Fiber optic cable allows for symmetrical download and upload speed, which is required for any small business to grow and connect to the global economy.

For comparison of an all fiber network versus a copper coaxial network, TCL&P is looking at the potential of offering a 10 Gigabit symmetrical service at initial deployment. This far exceeds the current capabilities of the recently launched DOCSIS 3.1 cable standard.

Q: ***What is Open Access? Will this be an Open Access Network?***

A: Open Access networks are those which can accommodate other internet service providers onto the city network to access their customers. Open Access allows for multiple ISPs to promote their service using the same infrastructure, essentially acting as an "Over The Top" or virtual broadband provider that does not own the physical infrastructure.

The TCL&P network will be designed to accommodate other services providers in an Open Access manner, but TCL&P will be the single operator at this time to ensure critical construction and operations are established. The Board will revisit this step down the road as needed.

Q: ***How will TCL&P prioritize neighborhoods to serve with FTTP?***

A: The staff and leadership will provide guidance on overall priorities and FTTP demand aggregation will be used to drive build schedules into specific neighborhoods.

Q: ***How disruptive will the construction be in my neighborhood? What should we expect?***

A: The majority of construction will follow the aerial existing power cable poles; there will be some underground, of which will follow all local permit guidelines. Regardless TCL&P will ensure that community safety will be the highest priority. To the extent traffic control is needed, TCL&P will post lane closures, work during light traffic periods, both of which will be noticed through media outlets, posted on website, and flyers delivered to the home.

Q: ***How does City provided FTTP increase housing values?***

A: Availability of affordably priced and abundant Broadband service can increase home values by an average of 3.1 percent. (source: Broadband USA, NTIA). A Fujitsu customer reported having an increase of 8% due to their FTTP network.

Q: ***Will Small Businesses benefit from FTTP? What is the expected economic return?***

A: It has been shown in recent studies, and case studies from other fiber networks, that small businesses gain additional capability to sell products and services through having greater connectivity. Competitively priced services along with other service options allow business to have flexibility in their technology needs and have an overall lower cost of doing business.

Q: ***There are wireless internet services providers in our area. Can't we just use this service?***

A: Wireless Internet Service Providers fill an important role for getting internet access to hard-to-reach areas. This wireless technology is limited in bandwidth and is subject to degradation as more people use it. FTTP and Wireless technologies are dependent upon each other and often co-exist in service delivery. The two technologies are complementary to each other, but fiber is the key to a robust internet service.

Q: ***How will the TCL&P Broadband service deal with Net Neutrality?***

A: The TCL&P Broadband network will at all times follow state and federal rules.

Q: ***How will TCL&P Broadband provide competitive Video service?***

A: The video service market is rapidly changing as video content is increasingly provided over the internet or Over the Top (OTT). With TCL&P Gigabit speed internet access, customers will have access to a host of current and emerging OTT video services including NETFLIX, HULU, AMAZON, PLEX, Layer3, SLING, and many more. Some of these new OTT providers have similar Channel bundles just like the cable companies. TCL&P and Fujitsu will evaluate the cost and revenue benefit of offering TV services, as the "Cord Cutting" trend is accelerating and may reduce the overall benefit of this service.

Q: ***Where has this worked before? In Michigan?***

A: Holland BPW (a municipal utility), Sebewing, and Midwest Connections Electric Co-Op, are all providing Fiber to the Home or Fiber to the Prem services. Other communities in Michigan and around the U.S. are doing the same.

Q: ***How will TCL&P keep up with the latest technology?***

A: A technology refresh will be built into the project business plan that will enable new equipment and or software every five to seven years depending on technology. Fujitsu is continuously researching and utilizing new technologies and processes to ensure the availability of these capabilities can be implemented with our customers.

Q: ***How much will residential gigabit speed internet cost?***

A: This will be determined based on objectives and the priorities set by Light & Power. It is too early to provide a price point or service catalog. It is also best to be selective when releasing price points and service levels to ensure the project can remain competitive.

Q: ***Will I have to buy a new router for my home?***

A: No. All fiber termination equipment will be provided by TCL&P. This will include the Optical Network Termination (ONT) and a router with wireless capability. There may be enhanced services available to subscribers that improve the in-home experience.