

COLLABORATING TO CONNECT

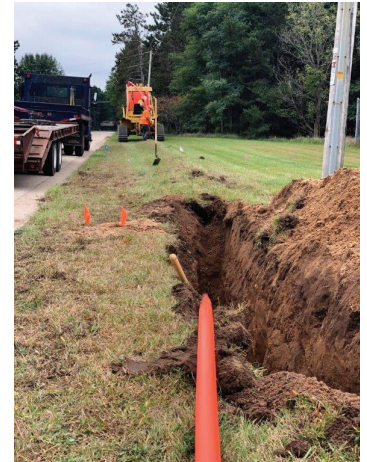
In today's digital age, staying connected has become vital. As a local government, employees rely on internet, data, and phone networks every day to provide services to the residents of Waukesha. However, these connectivity resources often come with a hefty price tag. In addition, City services are provided out of multiple locations across the City including, for example, fire stations, parks, and public works facilities. To combat rising costs and faced with the challenge of needing to connect locations across Waukesha, the City has been proactively establishing its own reliable fiber network system.

What is a Fiber Network?

21

City buildings are connected via Fiber

A Fiber network is a way of transmitting data and information. It can be used for phone service, internet, and data connections. The fiber can run underground, or the City has established a pole agreement with WE Energies to utilize power poles and run fiber above ground.



Fiber Installation

Why use Fiber?

The City has chosen to focus resources on establishing a fiber network because of the many benefits it provides:

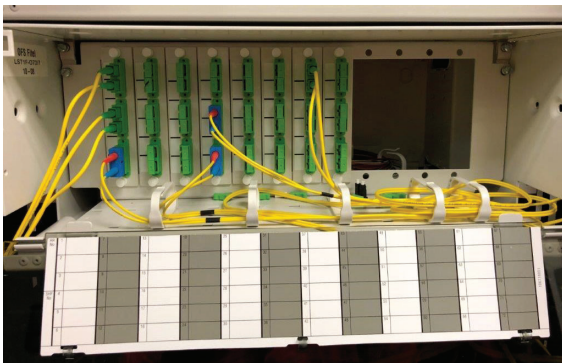
- 1. Centralization of IT Services-** The City has 21 locations that are connected with the fiber network. Without the fiber network, the City would have to use a standard internet service provider at each building as well as separate phone systems, servers, and firewalls. With a fiber network in place, the City can utilize centralized IT services located at City Hall.
- 2. Improved Service & Reliability-** As the City builds out the fiber network, redundancy is built into the system. Should a storm or other event occur, network switches allow for data to be redirected and utilize other portions of the fiber network. This allows for the City to maintain continuity of government operations, even if a portion of the network is unusable.
- 3. Cost Savings-** The City's fiber network, allows access to fast and inexpensive internet from WiscNet which is available to schools and local governments. The City currently pays \$12,000 a year for 10 Gigabit per second (Gbps) internet connection. A standard internet service provider would charge \$10,000 per month for 10(Gbps). That's a \$108,000 savings per year. The City would also need to spend an additional \$150,000 per year on interconnectivity equipment including phone systems, firewalls, and servers at each location if a centralized fiber network was not available.

Fiber saves the City

\$258,000

per year

Making it Happen



Fiber Network Cables

Establishing a fiber network has been a part of the City's capital planning since 1994. Every year, the City works to add to the fiber network through the City's Community Investment Program (CIP).

The City's Information Technology (IT) Department works internally with the Public Works Department and Water Utility to add fiber network as part of other City projects. For instance, any time a road projects takes place, the IT Department evaluates whether there is a benefit to putting fiber under the roadway or to putting conduit under the roadway for a potential fiber connection at a later date. Fiber or conduit will also be put in place in many locations as part of the Great Lakes Water Project as it is most cost effective to make fiber installations when an area is already under construction.

Partners in Connectivity

Partnerships generate

\$85,000

in revenue each year

Needing to establish connections between multiple buildings and keep cost downs is not unique to the City. The County, School District and other entities were also looking to establish a fiber network. As many City buildings are near schools or County locations, the City has partnered with these and other entities on fiber network installation.

Through establishing partnerships, the City has been able to build a reliable fiber network, much quicker than we would have on our own as each entity has put funds toward building the network. Without these partnerships, every entity would need to build their own network and lead to duplication of efforts.

As part of many of the City’s partnerships with local entities, once the fiber is built, the ownership is turned over to the City and the partner pays the City an annual maintenance fee. The annual maintenance fee is put into an escrow account and is used for maintenance on the network such as tree trimming, pole relocates, and outages. Through these partnerships, the City receives \$85,000 in revenue each year with maintenance expenditures ranging between \$25,000-\$40,000 each year.

As the fiber network grows, so have the additional partnerships. The City currently works with all of the following entities to share or lease fiber. This expanded network has allowed the City to create reliable back-up alternatives if a portion of the network goes down and has helped to reduce costs for the City in building and maintaining the system.

City owns

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miles of Fiber

- Waukesha County
 - School District of Waukesha
 - Carroll University
 - UW System
 - State/DOT
- Kettle Moraine School District
 - WCTC
 - City of New Berlin
 - New Berlin School District
 - Bridges Library System

The City will continue to move forward with our partners in expanding the fiber network. As seen on the map below, the goal remains for all City locations to be connected with a reliable, cost effective system.

