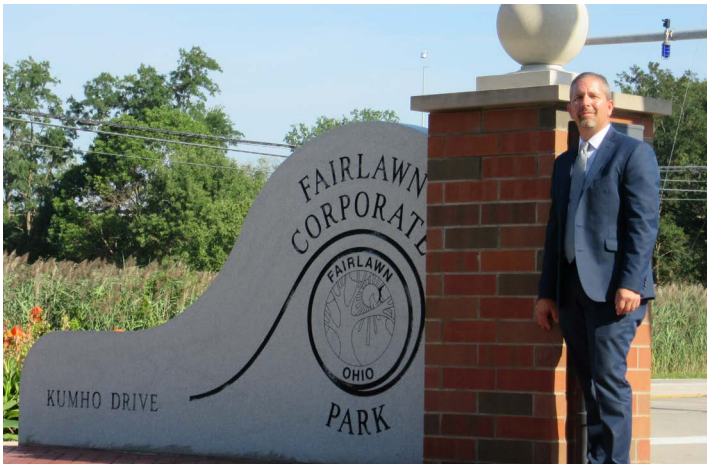
Case Study: City of Fairlawn, Ohio

"As a municipal government, we build parks, roads and sewers. This broadband utility is necessary infrastructure – like a road or a sewer – so the ROI, in my mind, is that you're keeping your residents happy, you're bringing in new businesses, you're keeping the businesses that already exist and you're helping them grow. At the end of the day, you're lifting your community and building a growing tax base. In fact, since launching the network, we've already seen an 8.7 percent rise in property values."

– Ernie Staten, Deputy Director of Public Service for the City of Fairlawn



The Customer

Customer: City of Fairlawn, Ohio
Industry: Municipal Government
Customer Base: FairlawnGig®, a municipal broadband utility, provides phone service and a gigabit fiber connection to 1,590 homes and 250 businesses within the City of Fairlawn and the Akron/ Bath/ Fairlawn Economic Development District. The utility also provides fixed wireless access for 30,000 daily visitors.

The Vision

A small community, tired of paying more than most Ohio cities for very low bandwidth, wired internet access, invested in its own last-mile, gigabit infrastructure – both fiber and wireless broadband – to elevate its entire community.

The Solution

The City of Fairlawn created its own "broadband utility" and invested $10.1 million to become a local service provider of high-speed fiber and carrier-grade Wi-Fi connectivity. In May 2015, Fujitsu was hired as the prime network integrator to oversee the FairlawnGig project and execute the city's vision from beginning to end.

The Customer: City of Fairlawn, Ohio

FairlawnGig is a municipal broadband utility operated by the City of Fairlawn with local sales, installation and support. The city's municipal network is the first of its kind in Ohio. Its fiber network is completely underground, spanning five square miles, and passing every residence and business. Households receive symmetrical data rates up to 1 Gigabit and businesses up to 10 Gigabits without degradation during peak usage hours. Considering the national U.S. average for internet download service is 11.2 Mbps, this is a significant competitive edge for Fairlawn. Its fixed wireless network provides both public Wi-Fi hot spots and commercial broadband services.

The Vision

As with other small to mid-sized cities, a lack of high-speed broadband was often a deal-breaker for prospective companies considering relocation to Fairlawn. In fact, the average internet download speed in Ohio was ranked 48th out of all 50 U.S. states in 2014 – and Fairlawn was ranked 85 out of 252 cities in Ohio.

Located in the rust belt, Fairlawn residents have seen the economy change during the past decade. As more traditional industries have disappeared from the area, there is a growing need for advanced education and broadband internet to help prepare residents for more high-tech jobs. Faced with the prospect of losing local businesses, Fairlawn Mayor Bill Roth and the City Council decided that broadband was a high priority for their community to remain competitive – not only in the region, but throughout the country and worldwide.

Fairlawn's municipal government concluded that broadband internet access is a matter of essential infrastructure for the 21st century. However, the incumbent communications carriers were not interested in making investments to update legacy technology that enables faster broadband service, leaving the city to act on its own in April 2016.

The City of Fairlawn established FairlawnGig as a forward-thinking, economic development strategy founded on the belief that business growth, innovation and community transformation will follow with every connection.

The Solution

The city turned to Fujitsu to help design and build a broadband network that the city would own and operate. Working in close partnership with Deputy Director of Public Service Ernie Staten, Fujitsu helped co-create a plan to realize the city's vision. Building this network required a considerable amount of political will, but the Mayor and City Council were determined to offer access to all city residents, viewing broadband as necessary as a road or sewer system. In order to avoid new taxes or assessments, a non-tax revenue bond was issued to pay for the project, and the city formed a blue-ribbon committee to serve from start to finish, including two years of planning.

One of the biggest challenges the city faced was building a back office from the ground up in order to create billing, sales and marketing departments, as it did not operate its own utilities.

Pursuing a 'big bang theory' of deployment, starting in June 2016, fiber was installed within reach of every home and business in the service area, which was divided into twelve distribution areas. A Gigabit Passive Optical Network (GPON) was deployed to deliver internet services to the residential and business customers. A primary advantage of this technology is that there is no active equipment in the network – only at the data center and at each customer location. This reduces network complexity and lowers operating cost. Service was turned up sequentially in one area after another, as soon as the fiber and equipment installation were complete.

In January 2017, the city launched FairlawnGig, a municipal broadband network serving the entire city and economic development district, reaching the entire community by June of that year. The reliable fiber infrastructure enables both fixed broadband and fixed wireless service, offering speeds up to 20 times faster than anything previously available.

Network provisioning, operation and maintenance is accomplished from Fujitsu's full-service network operations center (NOC), saving the city of Fairlawn the trouble and expense of hiring a large IT department. The city operates as the service provider, handling all new subscriptions, front line customer support and billing.

The Outcome

The FairlawnGig broadband network delivers blazing fast internet access for both residential customers and businesses, such as local architecture firm David A. Levy & Associates. The firm's Business Development Director, Neal Levy, notes, "FairlawnGig has greatly increased our productivity and our team's overall satisfaction with our IT infrastructure. While we move vast amounts of data to and from remote servers, FairlawnGig's always-on, high-bandwidth connection is so fast that our staff experience the same level of performance as they'd have with on-site servers."

Since launching FairlawnGig, the small town of Fairlawn has experienced significant economic development and an 8.7 percent rise in property values. The city has already attracted new engineering, medical and accounting firms, as well as several big businesses relocating their headquarters. Plus some companies that were thinking about leaving have chosen to stay, such as the Crystal Clinic Orthopaedic Center which is not only staying but building a new facility in Fairlawn.

The service is so popular that 45 percent of city residents and businesses have signed up in less than two years, surpassing an original target of reaching 35 percent within three years. In June 2018, the city announced it will extend the service to include communities within the Greater Akron region.

Moreover, the utility is turning a slight profit – something that was expected to take five years. Now with broadband infrastructure in place, Fairlawn has laid the foundation for a smart city, and officials are looking to take the next step by using the broadband network for enhanced security in the schools and delivering improved city services.

Why Fujitsu?

Fujitsu collaborated with the city of Fairlawn to plan, deploy, operate and maintain a world-class broadband network from scratch, bringing the city's digital transformation vision to life. Fujitsu's consultative, network integrator approach allows the city to have one point of contact, while leveraging the benefits of a third-party ecosystem designed for optimum efficiency. Working together, a solution was co-created that delivers real economic development for the entire community.

Solution Summary

Fujitsu
- Advisor and overall project lead
- Engineering design contract
- Network design, build and integration
- Network operations and maintenance

Calix
- Cloud and software platforms and systems
- Smart premise devices for residential and business customers

Canwell Group
- Design and implement data center infrastructure and power

Corning
- Fiber optic cable
- Preconnectorized outside plant distribution system

Juniper Networks
- Fully redundant core routing for FTTx backbone
- WAN edge

TrueNet Communications
- Outside plant engineering design and construction

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