FairlawnGig™
A Municipal Broadband Utility

MUNICIPAL BROADBAND GROWS AND ATTRACTS BUSINESS WHILE IMPROVING QUALITY OF LIFE IN FAIRLAWN, OHIO

Summary

Company:
City of Fairlawn, Ohio

Industry:
Government

Business Challenges:
Frustrated by poor Internet service, the City of Fairlawn built a municipal broadband network on its own to foster economic development.

Technology Solution:
- *MX480 and MX240 Universal Routing Platforms*
- *EX2300 Ethernet Switch*
- *SRX340 and SRX320 Services Gateways*

Business Results:
- *Ranked 10th Fastest ISP in the U.S. by PC Magazine*
- *Provided every home and business with a fiber connection from a city-owned and operated network*
- *Reduced average Internet costs from $4.23 per Mbps to 7.5 cents per Mbps*
- *Experienced a 49 percent sign-up rate from residents and businesses*
- *Improved home resale values/ sales by nearly 9 percent in one year of existence*
- *Increased tax rate base*

Fairlawn, Ohio was being left behind in today's information-centric economy. Anemic broadband meant that residents of this five-square-mile town paid more for Internet but got less. Meanwhile, businesses wanting to relocate to Fairlawn couldn't due to poor Internet service.

Today, a municipal broadband network, built on Juniper Networks routing, switching, and security solutions, delivers blazing-fast fiber connectivity to homes and businesses. As a result, the city has seen a growth in businesses, tax revenues, and home values.

"We were at the bottom of the barrel," says Ernie Staten, deputy director of public service for the City of Fairlawn. "Ohio was 48th in the country in Internet speed, and Fairlawn was 126th in the state."

Three years later, FairlawnGig ranks as the 10th Fastest ISP in the U.S. and the fourth fastest in the North Central U.S., according to PC Magazine.

Beyond the Reach of Great Internet

Located adjacent to Akron, Ohio, Fairlawn is home to 7400 people. During the day, the city swells to 40,000 as people come for work and to shop. But the city was at the outer limit of the incumbent carriers' service areas.

"Residential Internet service was abysmal," says Staten. "We couldn't break through to get better customer service."

Fairlawn was inspired to build its own fiber network after Mayor William Roth embarked on a trade mission to Germany and China. From his travels, it became clear that inadequate broadband would be a significant roadblock to attracting new businesses and jobs to the area.

> *"FairlawnGig has helped with residential sustainability. We've attracted more residential developers and home sales increased 8.7 percent in the first year."*

- Ernie Staten, deputy director of public service, City of Fairlawn, Ohio

The result is FairlawnGig. The municipal network brings fast, reliable, and inexpensive connectivity to the economic development district of Akron, Fairlawn, and Bath. There's a gigabit fiber connection to every home and business.

"We experienced a phenomenal 49 percent take rate from residences and businesses, which inspired us to keep going," says Dustin Wright, chief technology officer for Fairlawn. The city was expecting only 35 percent to sign up for FairlawnGig. Today, just three short years after launch, FairlawnGig is cash flow positive each and every month.

The difference is stunning: Before FairlawnGig, the average cost for Internet was $4.23 per Mbps. FairlawnGig customers now pay a mere 7.5 cents per Mbps.

"The transition to Juniper was refreshing. I am a big fan."

- Dustin Wright, chief technology officer, City of Fairlawn, Ohio

Broadband Is a Utility

Fairlawn approached broadband differently than many cities. The foundation of FairlawnGig is the belief that business growth, innovation, and transformation would follow if the city built its own fiber network. There were no taxes or assessments levied. There are no equipment fees, no data caps, and no long-term contracts.

Instead, the city invested more than $10 million over a 10-year period. "We invested in broadband as if it were a road or water line," says Staten. "Broadband is infrastructure, and the city pays for infrastructure."

The city's investment has paid off handsomely. "Business-wise, we saw a huge influx of attorneys, engineering firms, and accounting firms," says Staten. "They are small firms with high-paying jobs. That meant our tax revenues went up."

The top-ranked Crystal Clinic orthopedic center broke ground on a new orthopedic hospital in 2019, with easy access to reliable connectivity that's necessary for healthcare today. "They were given free land in another city, but chose to stay because they didn't want to leave FairlawnGig," says Staten.

The city has seen a resurgence in home renovation and home purchases as well. "FairlawnGig has helped with residential sustainability," says Staten. "We've attracted more residential developers and home sales increased 8.7 percent in the first year."

Transforming City Government

"FairlawnGig has done amazing things for the city government," says Staten. Fast, reliable, citywide connectivity has improved city services, public safety, and schools. The city moved voice, productivity, and other key applications to the cloud. "We saved $110,000 a year in Internet, phone, and backup services because we now have options," Staten says.

Fairlawn is also exploring smart city possibilities. "FairlawnGig will soon run computer-aided dispatch for every city and township within Summit County," says Wright. A citywide network means that smart traffic signals adjust to the flow of traffic during emergencies. Video from police bodycams is now uploaded over the city's Wi-Fi, eliminating the need for officers to return to their stations.

Children are safer in the schools, too, with hundreds of security cameras helping to protect school sites. Students have new opportunities to participate in distance learning, and the district is now connected to the University of Akron for more advanced learning and collaboration.

To help local businesses reap the benefits of cloud services, FairlawnGig is directly connected to Amazon Web Services. "We're trying to be a highway for small and midsize businesses to get them the best connections to the cloud as possible," says Staten. A connection to the Ohio Supercomputer Center facilitates scientific research in the area.

A Solid Foundation

The city is a self-sufficient Internet service provider, managing the entire customer experience and fully staffing the network.

"Juniper products are reliable and simple, backed by a great company," says Staten.

The Juniper Networks® MX480 Universal Routing Platform provides core routing for the 55-mile passive optical network. The network uses the Juniper Networks MX240 Universal Routing Platform for data center routing and the Juniper Networks EX2300 Ethernet Switch for aggregation. The modular MX480 router delivers up to 9 Tbps of system capacity, while the compact MX240 delivers up to 3 Tbps of system capacity.

The compact, high-density EX2300 switch connects businesses to FairlawnGig. The city also uses the SRX340 and SRX320 Services Gateways to provide next-generation security, networking, and SD-WAN at customer locations.

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- Ernie Staten, deputy director of public service, City of Fairlawn, Ohio

Juniper Networks Junos® operating system, which powers Juniper networking and security solutions, is built for reliability, security, and flexibility. Junos OS automates network operations and advances operational efficiency, freeing up the network engineering and operations team to work on high-value projects.

"The simplicity of Juniper can't be overstated," says Wright. "The user interface on Juniper switching, routing, and security layers is 100-percent consistent. We can cross-train people and we don't have to silo IT workers. We can create gold configurations that translate to all layers of the network."

"I've been doing networking for 20 years," says Wright. "I hadn't worked with Juniper before, especially the MX Series routers and the service provider capabilities. I transitioned from having no Junos OS experience to feeling confident enough to run the network for police and fire computer-aided dispatch for the county."

"The transition to Juniper was refreshing," Wright adds. "I am a big fan."

Automation Enables Scale

The city is continuing to expand FairlawnGig, bringing high-speed connectivity to more businesses and residences, as well as beyond city limits to other communities such as Akron. To continue to scale network services and extend its reach, the engineering team leverages network automation by using Ansible playbooks to automate the configuration of Juniper devices.

"We wouldn't be able to meet our customer timelines without automation tools," says Wright. "To do configuration manually is to risk mistakes. With automation, we have an extra layer of abstraction for validation before we push changes live."

Broadband Is a Good Investment

"The bottom line is FairlawnGig increased the tax base and has saved the city money," says Staten.

Looking ahead, the city plans to continue expanding both in terms of partnerships and geography, including bringing gigabit connectivity to Akron. As FairlawnGig serves more people with more advanced services, the city can be confident that its Juniper network will continue to deliver uncompromised reliability and simplify network operations.

For More Information

To find out more about Juniper Networks products and solutions, please visit www.juniper.net.

About Juniper Networks

Juniper Networks brings simplicity to networking with products, solutions and services that connect the world. Through engineering innovation, we remove the constraints and complexities of networking in the cloud era to solve the toughest challenges our customers and partners face daily. At Juniper Networks, we believe that the network is a resource for sharing knowledge and human advancement that changes the world. We are committed to imagining groundbreaking ways to deliver automated, scalable and secure networks to move at the speed of business.

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