

Florida's Fort Pierce Utilities Authority Revitalizes Community With Fiber-Based Broadband

The public utility is expanding its community network as part of a plan to close the digital divide, promote long-term business growth and make Fort Pierce a smart city.

By Sean Buckley / *Broadband Communities*

Known as Sunrise City, Fort Pierce, Florida, has a rich history. Located on the Treasure Coast, the city was named after the famed sinking of a Spanish treasure fleet in 1715 and is one of the oldest communities on the eastern coast of Florida, now home to 45,000 residents. The city's latest claim to fame is that it aims to connect all residents and businesses with high-speed broadband internet and to become a smart city.

Fort Pierce has an independent nature in how it serves city residents and businesses. Since 1972, Fort Pierce Utilities Authority (FPUA) has operated as a public utility that provides electric, water, wastewater and natural gas services to Fort Pierce and surrounding areas. A few decades later, it began offering telecom and data services too.

Like other community-run utilities, beginning in the early 2000s, FPUA began offering dedicated internet to large businesses and anchor institutions, such as schools and hospitals, through its FPUAnet Communications division. FPUAnet's 110 miles of optical fiber network provides FPUA and local business customers with dedicated fiber optic internet.

FPUAnet's single-mode fiber network provides FPUA utilities with remote equipment monitoring and management. Its fiber optic

internet customers have access to websites, email and messaging, telephone, videoconferencing and more.

Jason Mittler, FPUAnet manager, says the impetus for building broadband to consumers comes from Fort Pierce's desire to become a smart city. In 2018, the FPUA board approved an initiative to become a smart city by providing high-speed internet to all town parcels.

"As part of our strategic plan, FPUA began to build infrastructure and move Fort Pierce to become a connected city," he says. "Being a registered CLEC with 110 miles of fiber optic cable that was installed for [supervisory control and data acquisition], FPUAnet captured the large business and enterprise market in Fort Pierce."

Once it connected the city's businesses and municipal buildings, FPUAnet sought to provide broadband to Fort Pierce residents. "We wanted to move into connecting other devices to this network," Mittler says. "Since we were already providing services to municipal entities, we said we should offer broadband to every parcel inside Fort Pierce – both residential and commercial."

Fort Pierce's broadband initiative provided the opportunity for a community partnership to deploy broadband in Lincoln Park, one of the city's revitalization zones. FPUAnet partnered



The FPUAnet network will provide high-speed broadband to the Lincoln Park neighborhood, which is targeted for revitalization and historically has the lowest broadband adoption tracks in St. Lucie County.

with Allegheny Francis Ministries, the city of Fort Pierce, St. Lucie County, and FPUA to build a fiber network to serve the Lincoln Park neighborhood.

Lincoln Park is a culturally and historically rich community. It was home to Zora Neale Hurston, author of “Their Eyes Were Watching God,” and to the Florida Highwaymen artists, a group of 26 African American self-taught, self-mentoring landscape artists inducted into the Florida Artists Hall of Fame in 2004. “Lincoln Park is an older area of the community that’s being revitalized,” Mittler says. “A lot of money is being dedicated to redoing the streets and bringing small businesses back to the local community.”

MULTIPHASE PROJECT

FPUA has employed Fujitsu Network Communications to plan, design and deploy the broadband network expansion as part of a multiphase effort to promote long-term business growth in the Lincoln Park neighborhood and, eventually, the city as a whole.

Fujitsu’s role includes market analysis, financial/business modeling, engineering design, deployment and overall project management for the Lincoln Park project, slated to be

completed in phases. The initial service turn-up is expected in early 2022.

“This is one of many network deployments we’re going to do in the city,” Mittler says. “As part of the Lincoln Park project, we’re also going to offer public Wi-Fi and community centers.”

DRIVING COMMUNITY REVITALIZATION

A vital benefit of the Lincoln Park build is that it will put broadband into the hands of residents who have never before had access. “Lincoln Park has the lowest broadband adoption tracks in St. Lucie County,” Mittler says. Traditionally, the community has a high poverty rate. “We are bringing fiber optic service into the area with the greatest divide and the lowest digital equity to drive revitalization.”

Consumers are only one part of the equation. As it installs fiber in Lincoln Park, FPUA hopes to make the community an attractive spot for businesses to relocate. “By bringing fiber optic infrastructure into Avenue D and Orange Avenue, these areas can go back to being commercial districts,” Mittler says. “There can be significant investment in these communities to

try to bring people back in and get them connected.”

Lincoln Park is a vital part of the project, but FPUA will expand its reach and target small businesses in other areas of the city beginning in the first quarter of 2022. The utility is working with Fujitsu to plan ways to target business customers in the area. “We have a few pieces and parts that we’re putting together, and we’re doing testing on the network,” Mittler says, noting that construction will begin soon.

MAKING BROADBAND AFFORDABLE

Enhancing broadband affordability and accessibility in Lincoln Park is a key driver of the project. Because most of the project is funded by partners, FPUAnet will make installation free for new users. It will also provide a low-cost introductory rate.

“The biggest reason people aren’t able to connect is affordability, so the goal of this project is to bring high-speed, reliable, affordable internet to Lincoln Park,” Mittler says. “For people who can’t afford internet, public Wi-Fi will also be dispersed throughout the neighborhood that people can use to complete job applications and more.”



For Lincoln Park residents who can't afford broadband, public Wi-Fi will be available.

Mittler adds that providing Wi-Fi and affordable, high-speed internet will effectively bridge the digital divide. “We believe the two-step process – providing Wi-Fi and offering affordable high-speed internet – is going to be great,” he says. “When these two efforts are coupled with the new infrastructure bill, many residents will probably qualify for the broadband stipend, which will drive up the take rate.”

DRIVING ECONOMIC DEVELOPMENT

As FPUA builds the network throughout Fort Pierce and Lincoln Park, it could potentially make the area more attractive to businesses and home developers. A few have been in talks about building new homes in Fort Pierce, which is attractive for two reasons: location and housing prices. The city is north of West Palm Beach, which is a large metro area. However, unlike other parts of the South Florida market, Fort Pierce's house prices are much more affordable.

“The housing market in the city of Fort Pierce is not as high,” Mittler says. “Broadband can attract individuals to do telework, so you need good service.”

PON FITS THE NEED

FPUA has settled on a PON architecture for its broadband deployment to leverage a mix of GPON and the emerging XGS-PON standard.

XGS-PON allows service providers to deliver up to 10 Gbps symmetrical

service, while GPON allows for 2.5/1.25 Gbps.

Mittler says that although FPUA will use GPON and XGS-PON, XGS-PON has several advantages. “As the ONTs and optics get cheaper and it's possible to have four times symmetrical bandwidth, it makes sense to go to XGS-PON,” Mittler says. “Although GPON enables 1x32 splits, it's possible to do a 1x28 or 1x64 split with XGS-PON.”

FPUAnet is hardly alone in seeing the advantages of XGS-PON. Dell'Oro Group reported that during the second quarter of 2021, total PON ONT unit shipments exceeded 35 million for the second time in three quarters.

Mittler says FPUA wants to provide consistency for customers, much as it does in its electric utility business, regardless of technology. “Our goal as a utility is to be here forever,” he says. “We want to provide service that's reliable and affordable. In the market, costs go up and down and people change providers, but our business model is when customers move to FPUAnet, they're lifetime customers.”

CUSTOMER-CENTRIC CULTURE

Similar to other electric utilities – a growing group that includes electric cooperatives – FPUA realizes that moving into broadband comes with a different set of expectations. Broadband customers expect that they can access the internet immediately at a reasonable price. Broadband customers also

expect consistency and problems to be solved immediately.

FPUA has opted for a proactive approach. To alleviate any potential issues before it launches broadband service, it has a customer support center and capabilities in place, including a fully staffed help desk, a network operations center and support functions.

“All of our current customers are dedicated customers and have IT teams,” Mittler says. “We are making sure we are taking our time and that we have all our ducks in a row.”

According to FPUA's mission statement, the company provides affordable, reliable, friendly service and enhances the quality of life in the community. FPUAnet plans to adopt a similar mission statement.

Fujitsu assisted FPUAnet's market analysis and found that other area providers' customer service was lacking. “We found that other companies had many customer complaints, long wait times, and bad customer service,” Mittler says. “FPUA has been serving the city of Fort Pierce for decades, and we plan on taking the same model of customer service we've always provided and moving it into the broadband industry.”

OVERCOMING THE UNKNOWN

Before FPUA lights up customers, the biggest challenge the utility faces is that broadband is not familiar territory. Javier Cisneros, P.E., director of utility support services for FPUA, says that although FPUA did not have any providers protesting its plans, it did have what he calls “the unknown.” “This is not a familiar path that has been taken,” Cisneros says. “It's a very uncomfortable position for [FPUA] leadership to be in, and it takes time for them to see the vision that this could create.”

He cites the success of Chattanooga's EPB as an example FPUA can follow. A study by Bento Lobo, Ph.D., head of the Department of Finance and Economics at the Rollins College of Business at the University of Tennessee at Chattanooga, revealed \$2.69 billion in community benefit during the first 10 years since EPB built its

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communitywide network. In addition to providing fiber-to-the-home services, EPB was able to establish an innovative grid power distribution system.

EPB's fiber network generated various benefits, including creating and retaining jobs, bridging the digital divide for education, reducing power outages, decreasing environmental damage, and contributing \$110 million in smart-city research.

"Fortunately, other cities, such as Chattanooga, did this 10 years ago," Cisneros says. "We realize not only that we can do it, but we can do it well and provide a benefit to the community." He admits "it's not a small dollar amount to get this up and running, but the returns are going to be great despite it being a scary area for FPUA's leadership team."

Mittler agrees and adds that preparation is key to ensuring the project will succeed. "Turning on an ISP is like turning on the lights: When I turn on the lights, I can never turn them off," he says. "Once I turn power on, there's not an opportunity to go back."

SMART-CITY, SMART-GRID ASPIRATIONS

Broadband is only one benefit FPUA will get from installing fiber. Similar to other electric utilities, such as Chattanooga's EPB, FPUA also will leverage the fiber network for its electric grid.

FPUA is in the process of implementing advanced metering infrastructure (AMI), which will enable it to be more proactive about potential faults and issues before customers know about them.

"By implementing AMI we try to push and pull data from all the meters

very quickly, and we can know where problems are before a customer calls," says Mittler.

Also, the FPUAnet fiber network can benefit the water and wastewater business lines that may conduct monitoring of wells by installing sensors or cameras or for smart parking kiosks. Though he could not reveal any specific plans, Mittler says FPUAnet is talking to other municipal departments about taking advantage of the fiber network when it is built out.

"FPUAnet is the infrastructure provider to allow these entities to be connected so that we can become a smart community," Mittler says. "We first have to be a smart utility before we can be a smart city."

Greg Manganello, senior vice president and head of wireless and service solutions at Fujitsu Network Communications, agrees that fiber is transformational. "A lot of our customers report amazing results for society," he says. "These results include business relocations and property values going up. There's a lot of goodness in deploying broadband." ❖

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