

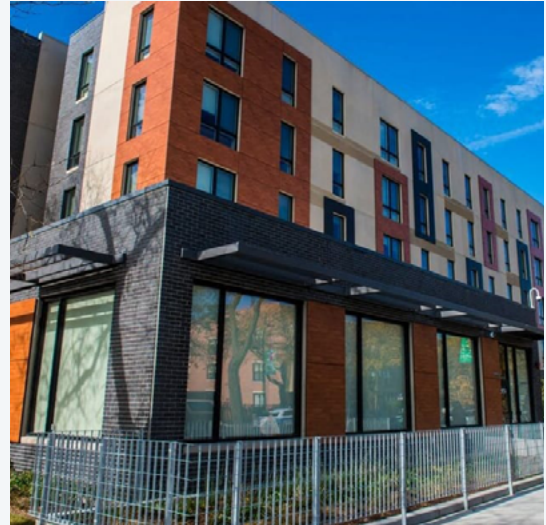


CASE STUDY

# Bridging the Digital Divide in Chicago With QUILT and Airvine

## Introduction

High Speed Internet access is a crucial aspect of quality of life today. Without it individuals find themselves at a disadvantage, as companies and families expect everyone to have access, for activities such as sending large files or streaming videos in 4K. Unfortunately, seniors and low-income families often suffer the most from this lack of access. This was the case for the residents of Chicago's Burnham apartment complex until recently.



## Challenge

Despite being a relatively new building, constructed in 2015, the network cabling at the Burnham apartment complex was outdated and unable to support modern applications. Upgrading the Wi-Fi was essential, but without an upgraded Ethernet backbone to connect the Access Points (APs) to the switch room and the Internet, any improvement would be limited. Many residents have mobility issues, meaning traditional construction methods to install conduit and run cables that blocked corridors or hallways were not viable.

## Solution

Quilt, a local integrator of residential broadband systems and a specialist in providing high-speed service to underserved areas, reached out to Airvine to explore if our WaveTunnel wireless Ethernet solution could address the problem. The answer was a resounding "Yes."

Quilt installed three WaveTunnel nodes per floor across four floors to creating a 1.5 Gigabit backbone per corridor. This backbone connects between 5 and 6 Wi-Fi APs per floor. Each WaveTunnel node can directly connect and power up to four devices. The WaveTunnel network was installed simultaneously with the AP, saving time and effort during the upgrade. The entire upgrade, which significantly enhanced the internet experience for 65 apartments, took only two days with two people.

By eliminating the need for additional switches on each floor and reducing the cabling requirement, the installation was both cost-effective and efficient. Each WaveTunnel acts as a distributed IDF switch. This approach avoided the need for equipment rooms, HVAC systems, and extensive cabling, allowing the APs to be connected to the WaveTunnel nodes with short cables.

# No other wireless technology exists that can do what the WaveTunnel system can do.

## Impact on Digital Equity

This initiative by QUILT and Airvine exemplifies the commitment to closing the digital divide by providing access to affordable high-speed internet services. By leveraging innovative technology solutions, QUILT has empowered the residents of Burnham to become active participants in the digital economy. This project not only addresses immediate connectivity issues but also sets the stage for long-term digital inclusion and economic empowerment for underserved communities in Chicago.



In the future, with extra PoE ports available on the WaveTunnel nodes, QUILT can offer to add high-definition video cameras for security should the residents choose to do so. Once you have that multi-gigabit backbone, new applications including IoT based door locks, leak sensors and more all become more than a glimmer of future possibilities – they become today's reality.

**■ ■ Implementing Airvine's WaveTunnel technology at the Burnham complex showcases our dedication to closing the digital divide. By streamlining installation and reducing costs, we've delivered high-speed internet access that transforms residents' lives, driving digital inclusion and empowering our community.**

## Results

Today the residents of Burnham enjoy high-speed internet connections, with each apartment having access to hundreds of Mbps. This enables residents to stream their favorite shows, video conference with families, and send and receive emails with large attachments, thereby improving their quality of life.



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