

Revitalizing a Landmark: The Carlisle Building, Chillicothe, Ohio

BROADBAND COMMUNITIES showcases the Carlisle Building, a historic landmark in downtown Chillicothe, Ohio. The building's recent makeover as housing and office space for the Adena Health System included state-of-the-art fiber optic broadband and managed Wi-Fi. Thanks to Misty Tuttle of Horizon Telcom and Ty McBee of Adena Health System for gathering the information for this profile.

By Masha Zager / *Broadband Communities*

The Carlisle Building, built in 1885, is located in the heart of Chillicothe's downtown. A beautiful and beloved building that some Chillicothe residents thought of as a "castle," it housed a variety of stores and apartments over the years until vandals set fire to it in 2003. Severely damaged, the building sat condemned and vacant for a decade. Several attempts to restore it failed, and it began to have a negative effect on the neighborhood around it.

The board of trustees of Adena Health System, a regional health care provider headquartered in Chillicothe, asked management to consider whether Adena could help restore the building for the community's benefit. Ty McBee, business development director, says Adena had an emerging need for housing to support its graduate medical education program and decided the building was well-suited for that purpose. "At the beginning of our analysis, the graduate medical education program was pretty new, so it didn't quite

hit us early on," he says. "But as we continued to look, it became evident."

In 2014, Adena partnered with The Chesler Group, a Cleveland developer that specializes in renovating historic buildings. When Adena signed a 15-year lease for most of the space, Chesler bought the building and undertook a \$7 million project to restore it to its former glory – and equip it with the kind of broadband that medical students require both for educational purposes and for entertainment in their limited free time. Horizon Telcom, an incumbent telco based in Chillicothe since 1895, was selected to install a fiber network and provide services.

The facility now includes medical student housing as well as office space





for about a dozen community-facing Adena caregivers. Adena occupies the majority of the Carlisle Building, with 32 furnished apartments located on the three upper levels. These apartments serve as living quarters for medical students, for those doing their residencies at Adena and for some medical staff. McBee explains that Adena has contracts with several medical schools that send students to train with its doctors for time periods that range from 30-day rotations to a full year or more. A few apartments are kept available for very short-term visits – for example, doctors visiting Adena to interview for positions there.

The living experience in the Carlisle Building, coupled with the educational

opportunities Adena offers at its Paccar Medical Education Center, is attracting talented students and future health care workers who come to the area for their education. The hope is that many will stay to practice medicine in the community.

Mark Shuter, Adena president and CEO, says the project offers a way to meet the housing needs

of the young doctors training in Chillicothe and is also a way to give back to the community by helping to spur economic growth in downtown Chillicothe, Adena's hometown for more than 120 years. Such organizations as JobsOhio, the City of Chillicothe, the Chillicothe Ross Community Foundation and several historical associations, along with state

The renovated Carlisle Building is serving as an anchor for revitalization of Chillicothe's downtown area.

PROPERTY OF THE MONTH



Apartments at the Carlisle Building are rented furnished to young medical professionals, often for short rotations. Services must be provided quickly to accommodate this fast turnover.

and local leaders, have recognized the importance of the community revitalization effort.

McBee says the renovated Carlisle Building is, as hoped, serving as an anchor for the downtown area. Several nearby buildings have been sold with plans of being renovated, and several new businesses have been established in the past year. The future of downtown Chillicothe is looking bright.

VITAL STATISTICS

Property description: The Carlisle Building is located in the heart of Chillicothe's downtown on the corner of Paint and Main streets. In 2003, the building suffered extensive damage as a result of

arson and sat vacant for a decade. In 2014, Adena Health System brought in Cleveland-based historical development firm The Chesler Group Inc. to complete the \$7 million revitalization. The building now includes 32 modern, urban loft-style apartments for Adena Health System's visiting medical students and physician residents. The first floor houses office space for the Adena Health Foundation and some community-facing Adena Health System personnel.

Demographics: Young medical professionals occupy the living quarters.

Greenfield or retrofit? Retrofit

Number of units: 32 living units with office/meeting space on ground level

Style: Mid-rise

Time to deploy? This was a rapid deployment. Horizon Telcom began talks in August 2015, had a contract signed by October 1 and completed the installation by November 1.

Date services started being delivered: October 20, 2015

Any special requirements: The only requirements were self-imposed by Horizon. This building will be a major boost to the Chillicothe community, and world-class broadband services are essential to attracting visiting doctors and young medical residents to the hospital and the area. Bill McKell, president of Horizon Telcom, says, "We are demonstrating a level of broadband service available in the Carlisle that is not just on par with but superior to the level of service [residents] would receive anywhere in the world. With the carrier-class Wi-Fi capabilities of the Calix GigaCenters, we can bring that broadband experience to residents in every corner of a building that is more than 100 years old."

SERVICES

Services offered on the network: Each room receives 10 Mbps of wireless Internet access (upgradable to 1 Gbps) and IPTV services.

Provider choice: Horizon Telcom is the exclusive provider.

Technical support: Horizon Telcom provides 24/7 technical support for all customers. Because of the rapid resident turnover, Horizon works closely with the building manager to make sure each room is ready for new residents and that their needs are being met.

BUSINESS ISSUES

Which parts of the network are owned by the service provider, and which parts are owned by the property owner? Horizon Telcom owns and maintains the entire network. "We wanted this

PROPERTY OF THE MONTH HIGHLIGHTS ~ The Carlisle Building, Chillicothe, Ohio ~

- Restoration of a historic landmark anchors a depressed downtown area.
- Local telco installs fiber-to-the-floor network for graduate medical student housing.
- Managed carrier-class Wi-Fi network supports wireless Internet and TV access in each unit.
- Vendors include Calix and Entone.

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Installing wireless technology in a building constructed more than 130 years ago was a challenge – but Horizon Telcom succeeded in making it work.

property to be a showcase,” says a Horizon spokesperson.

Is there a bulk-service agreement? Yes, each unit is provided with 10 Mbps of wireless Internet and with IPTV service.

Can residents upgrade from the bulk services? Residents can increase their bandwidth or purchase premium movie channels.

Network benefits: As the Carlisle Building is such a unique property, the value of the network is difficult to quantify. Horizon Telcom hopes the new doctors housed in the building will make Chillicothe their home and will chose Horizon as their provider when they purchase their own homes.

TECHNOLOGY ISSUES

Broadband architecture: Fiber to a wiring closet on each floor, Cat 5e cable to each unit

Methods for running cables within buildings: During construction, single-mode fiber cable was run up the fiber chase of the building from the basement to the fourth floor.

Products used: Calix E7-2 optical line terminal, Calix 716GE active Ethernet optical network terminal, Calix 844E GigaCenter Wi-Fi gateway, Calix Consumer Connect management software, Entone Kamai set-top box

LESSONS LEARNED

These answers are from Horizon Telcom.

What was the biggest challenge? One of our biggest challenges was finding a set-top box solution and vendor that supported 5.4 Ghz, 802.11ac wireless IPTV to work with the

Calix GigaCenter we planned to place in each room.

Another was actually installing wireless technology in a building constructed more than 130 years ago. We selected the Calix GigaCenter for its power, but that power presents a problem in an MDU environment. Finding a way to navigate a historic building while managing network channels and signal strength became our greatest challenge. We designed the project with all these factors in mind and then adjusted and tweaked once live.

We used tools to survey the Wi-Fi environment to ensure each access point was using the least busy Wi-Fi channel. We also reduced the channel size to give us the ability to use more Wi-Fi channels within the spectrum in the busy Wi-Fi environment. We decreased the transmit power levels of the access point to eliminate signal overlap between apartments and neighboring buildings.

We also surveyed each apartment and placed the access points in central locations to ensure maximum PHY rates [physical layer rates, or the speed at which client devices communicate with access points] with the IPTV set-top boxes and the customer’s connected devices.

What was the biggest success? Creating a future-proof, carrier-class Wi-Fi solution to support wireless IPTV in tandem with high-quality, high-speed Internet service in an MDU setting. This solution provided us the infrastructure to deliver gigabit services in the future with no physical changes needed, only provisioning.

What should other providers consider before they get started on a similar deployment? Work closely with the developers to ensure that you are providing them with a solution that fits their vision. Once you have that, think one, two and three years out: What will the needs be? How can you put a solution in place that is scalable to meet the future demands with little additional capital investment? You want this solution to be scalable for the future. ❖

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The Calix GigaCenter provides wireless Internet access and video.