

Coshocton County Commissioners Bring Wireless Broadband to Underserved Communities



Coshocton County, Ohio

- 564 sq. miles, 22 townships in rural east-central Ohio
- Population 36,000; approximately 600 businesses

“What the commissioners have done on their own, without waiting for someone to ride up on a white horse, is a remarkable thing. It’s a simple, very cost effective model that can be easily replicated to bring broadband to rural, underserved populations.”

– T.J. Justice, Executive Director, Coshocton Port Authority

Situation: Expand broadband services to rural communities

When small business owners, educators, and residents began to approach Coshocton County leaders asking for broadband to keep businesses viable, online learning available to students, and residents connected, county commissioners went to work. When a study confirmed that wireline solutions were too costly, commissioners issued an RFP, hoping for a creative solution.

Solution: Innovative Public-Private Partnership and no financial investment

A small wireless ISP offered to take the risk and fund the investment in wireless broadband infrastructure if the county could provide the vertical infrastructure. When the county’s infrastructure was not enough to provide adequate coverage, the commissioners went to the Ohio MARCS statewide two-way radio system to lease its towers and then sub-lease them to the ISP.

Result

Seven sites are now operating in the county providing wireless broadband to over 400 customers, with over 1,000 on the waiting list. Once all 14 sites are deployed, the goal is to have 80% coverage. “Success is helping our small businesses stay viable and remain in the county,” says Gary Fischer, Coshocton County commissioner. “And success is providing broadband access to students and residents who did not have access before.”

Situation

- Demand for high-speed broadband in underserved areas
- Attract new business and support existing business
- Find innovative funding sources due to lack of budget

Solution

- Develop public-private partnership with local provider
- Deploy Motorola Wireless Broadband Point-to-Multipoint

Results

- Wireless broadband delivered to rural areas and remote offices at no cost to the county
- 400 customers connected first month with more than 1,200 signed up
- Goal to have 80% wireless broadband coverage by 2010
- Access to vital resources for students
- Ability to attract health care professionals



“We chose Motorola because their reputation for quality precedes them. In the past seven years, I’ve used every wireless broadband equipment vendor on the market. From a reliability, feature, and proven technology standpoint, I know it’s going to work and it’s going to deliver what I need it to deliver.”

– Kyle Quillen, CTO, Lightspeed Wireless



Residents in rural communities lobby for broadband

Located midway between the metro areas of Pittsburgh, Pennsylvania and Columbus, Ohio, Coshocton County, Ohio proudly maintains its rural roots. Historic Roscoe Village was recently named “One of the Top 100 towns to visit” by *Midwest Living Magazine*. The county’s fabric of rocky hollows, hills and hiking trails appeals to nature lovers and its wineries, award-winning cheese factory, and even the annual “Apple Butter Stirrin’ Festival” bring visitors to this small county in east central Ohio.

However, the very attributes that give the county its uniqueness also present challenges to economic development and quality of life for its rural population.

In early 2007, the owner of the Pearl Valley Cheese Factory contacted the county commissioners to make an appeal for broadband. Although the metro areas in the county already had high-speed Internet service, residents and small business owners located outside those towns were still using dial-up or costly satellite service.

“He told us his business depended on the Internet to conduct business as well as the ability to swipe credit cards,” says Gary Fischer, Coshocton County commissioner. “Dial-up access was far too slow and unreliable.”

Study discovers large population of underserved

The county reviewed studies undertaken by Connect Ohio to quantify the number of underserved residents and found that over 4,350 homes did not have access to broadband. The county broadband committee and county commissioners explored

the possibility of Internet over wireline, landline, and power lines but found each of those options unfeasible or cost prohibitive.

Like most counties in the U.S., Coshocton County was coping with the economic downturn and did not have available funds, prompting the commissioners to issue a Request for Proposal in the hopes that respondents would propose innovative solutions. Only three responses were submitted—one for \$5 million; one for \$500,000; and one from a small wireless ISP called Lightspeed Wireless, whose proposal required no financial investment from the county. Lightspeed took a long-term view of the county’s situation and understood the potential for growth.

Small Wireless ISP proposes innovative solution

Lightspeed had done their homework and already knew what delivering broadband to the county’s rural areas would entail, some of which had one or two homes per square mile.

“Other than dial-up, the only other alternative for those communities was either a very costly ISDN line or satellite,” says Kyle Quillen, Lightspeed CTO. “Neither of those solutions was fast or reliable enough for what these small businesses required; and because our existing towers were on the fringe, taking broadband into the rural areas would require substantial investment on our part.”

Quillen met with the commissioners and proposed a solution. If the county could identify adequate vertical infrastructure, Lightspeed would take the financial risk and provide the technology to expand wireless broadband across the county with the goal of 80 percent coverage.



Public-private partnership and county-wide collaboration

As part of the original study, the county had already identified existing vertical infrastructure, including water towers, television and radio towers, silos, and the towers within the county that belonged to Ohio's statewide trunked, digital 800 MHz public safety radio system called MARCS (Multi-Agency Radio Communications System). However, because MARCS was a public asset, as a for-profit organization Lightspeed could not lease the towers.

Immediately, the county commissioners went to work and began talking to state officials, congressmen, representatives and senators to gain access to those public towers. Through that process, they discovered that the county could lease the towers, then sub-lease them to Lightspeed.

"As a board of commissioners, we were challenged with providing adequate infrastructure that will in turn stimulate economic growth," Fischer said. "We figured out a way to be a conduit to get this public asset to the private sector for the benefit of our residents."

The county that wouldn't take 'no' for an answer

But the county didn't stop there. The commissioners met with MARCS director, Darryl Anderson, who

enthusiastically got on board and not only gave his approval, he worked with his superiors and collectively, they arrived at a monthly lease fee the commissioners were happy with. Mr. Anderson also allowed the county to move its public safety communications equipment to the MARCS towers in order to improve 9-1-1 service.

The next stop was a visit to the American Electric Power (AEP), Ohio's power company. When asked if Lightspeed could lease space on the company's towers, the answer was unequivocally no. However, after AEP learned more about the project and realized what the commissioners were trying to accomplish, they not only agreed, they matched MARCS' lease fee.

Finally, the commissioners applied for a \$38,000 grant from the Appalachian Regional Commission, which they extended towards the MARCS tower rental. The commissioners agreed to waive the monthly lease fee for Lightspeed to use its 9-1-1 towers, until the fees would have accumulated up to \$38,000—which would represent their matching funds.

"What makes this story unique is that even though people said it would never work, you have a group of people who wouldn't take no for an answer," says Quillen.



"Wireless broadband solves a problem for some of our employers whose businesses are located in rural areas of the county. It allows them to continue having a presence in the county, lets them re-invest, and helps them strengthen their future."

—T.J. Justice, Executive Director, Coshocton Port Authority



Motorola Point-to-Multipoint Wireless Broadband

Lightspeed chose Motorola's Point-to-Multipoint wireless broadband system to deliver service in the 900 MHz and 5.4 GHz unlicensed bands and 4.9 GHz in licensed bands. With a range of 1.5 miles to over eight miles (depending on data rate), a small footprint, and easily deployable, the Point-to-Multipoint solution enables service scalability and high reliability, even in the presence of interference. The system enabled Lightspeed to deliver cost effective connectivity throughout the county, even in non-line-of-sight situations.

"We chose Motorola because their reputation for quality precedes them," says Quillen. "In the past seven years, I've used every wireless broadband equipment vendor on the market. From a reliability, feature, and proven technology standpoint, I know the Motorola equipment is going to work and it's going to deliver what I need it to deliver."



County-wide wireless broadband with no investment from the county

Lightspeed began deploying in April 2009 and currently has installed seven of the planned 14 sites. Within the first month, nearly 400 customers were connected with more than 1,200 signed up and waiting.

"There are a lot of communities across the United States that have the same problem we had and are waiting for someone to solve the problem," says T.J. Justice, executive director for the Coshocton Port Authority which is the community's economic development agency. "What the commissioners have done on their own, without waiting for someone to ride up on a white horse, is a remarkable thing. It's a simple, very cost effective model that can be easily replicated to bring broadband to rural, underserved populations."

Coshocton County's broadband deployment has enabled the following:

- **Access to vital resources for students:** The ability to apply to college, request financial assistance, attend tutoring sessions, and take classes on-line is critical for students who work or live in remote locations of the county. "It is essential that students

have the ability to be comfortable with technology in order to be competitive in the job market," says Dorothy Skowrunski, Coshocton Campus Administrator, Central Ohio Technical College.

- **Connecting remote county offices:** Sharing data, accessing secure websites, and uploading reports is slow and cumbersome with dial-up, impeding productivity and decreasing job satisfaction. "Access to high-speed Internet has helped me with my job," says Cathy Williamson, Fiscal Officer for Monroe Township. "I am now able to look up a broad array of resources to help answer questions I may have."

- **Ability to attract health care professionals:** Although broadband was available in the county's urban areas, lack of high-speed access to some rural areas was a negative factor to health care workers who were considering a move to the county. "Doctors were telling us that the only way they'd come to the county was if they could access medical records from their homes," says Mike LaVigne, Coshocton County IT director.

- **Access to wireless broadband for residents:** Families living in rural areas can now pay taxes, apply for and purchase licenses, and access critical information on the County's website, including where to get flu shots, how to sign up for an emergency calling system, and numerous other vital resources.

"We never really expected or asked for awards or accolades during this process," says Fischer. "The bottom line was to get this technology out to our people and help retain and stimulate business growth. I'll be the first to admit how surprised I was at the benefit this is bringing to the community. It's even more than we expected."

Chamber of Commerce presents award to Board of Commissioners

On August 13, 2009, the Coshocton County Chamber of Commerce, Executive Director Carol Remington, presented the Board of Commissioners the Chamber's Community Improvement Award for innovative, forward thinking that has become a model for rural broadband solutions.



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