OKLAHOMA COOPERATIVE EXTENSION SERVICE AGEC-1000

Rural Broadband Success Story:

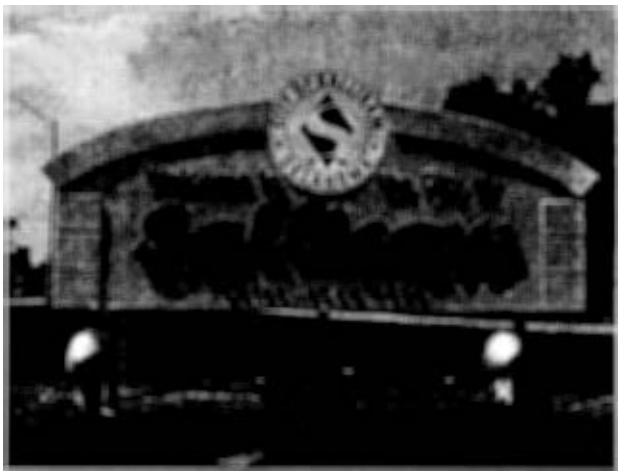
Sallisaw – A Fiber Optic Network for the Ages

Brian Whitacre
Assistant Professor and Rural Development Specialist

Bill Baker
Sallisaw City Manager

Keith Skelton
Assistant City Manager

Shannon Vann
Mayor of Sallisaw



Introduction

Broadband (or high-speed) Internet access has become a dominant force in today's economy. Companies require broadband access to send and receive large data files, and individuals turn to high-speed access when they want to take online courses, buy and sell items online, or simply entertain themselves. However, rural cities across the nation typically lag behind their urban counterparts when it comes to obtaining the telecommunications infrastructure necessary for this type of access. This is primarily due to the costs of installing this infrastructure – the more densely populated urban areas make attractive targets for private phone and cable companies, who are able to recover their investments relatively quickly in these areas. Ironically, rural areas, which stand to gain the most from the distance-negating nature of the Internet, are often left without any type of broadband access. However, many rural communities across Oklahoma are taking matters into their own hands to obtain this infrastructure. Sallisaw, Oklahoma is such an example.

Background Information

Sallisaw is a rural community in eastern Oklahoma with approximately 8,000 residents and a median family income of around $25,000. The community has about 3,600 residential homes and 600 businesses. Prior to looking into the provision of telecommunication services, the city provided traditional utility services, including power and a municipal solid waste facility.

Interest in upgrading Sallisaw's cable and phone system arose in the early 2000s. The cable television system had been around since the early 1980s and was very limited in terms of the programming available. Additionally, both the cable and phone company changed ownership numerous times during the 1990s and early 2000s, with very few upgrades to either system. The possibility of providing broadband Internet access via the traditional methods (DSL or cable modem) seemed remote. In late 2002, the city staff began researching the possibility of providing their own telecommunications services to the community. After many months of research, feasibility studies, bond issuance, and multiple requests for proposals, construction on a state-of-the-art fiber optic network started in mid 2004. The first customer connection occurred in early 2005, and after a technical trial, the first billing cycle took place just a few months later.

Today, Sallisaw's fiber optic network (known as Diamond-Net) is one of only 31 such municipally-owned systems across the nation (Fiber To The Home Council, 2006). They connect more than 1,200 of the households in Sallisaw and still have a 2-week waiting list for homes requesting service.

The following information is taken from an interview with Sallisaw City Management:

Tell us a little about how Sallisaw became interested in fiber optic technology and the steps you took to see if it was feasible for your community. What other technology options did you consider?

The City was approached by a third party inquiring about a pole attachment agreement for our utility poles along I-40. The company wanted to hang fiber on the poles for their customers. One thing led to another and before we knew it, we were discussing the prospect of Sallisaw operating on their cable television system. Our city staff was directed to perform some preliminary research into the idea and to see if it was feasible.

After seeing what a fiber optic system could offer our community, other technologies, such as a coaxial system or a hybrid coax/fiber system, fell by the way side.

Did you conduct a survey to get community opinion on how you should proceed? What did the results suggest about the community's infrastructure needs?

After we did the preliminary research, we issued a Request for Proposal (RFP) for consulting services. The intent of the RFP was to find a firm that would conduct a feasibility study related to the needs of the community. Once selected, the firm (Uptown Services) came into the community and conducted phone surveys, focus groups and in person interviews of businesses. The results were very promising—promising enough for us to move ahead in the project. Some of the wants and needs that were relayed to us were reliability, lower costs, more television channels, and faster Internet speeds.

How did you estimate the amount of investment needed, and how did you obtain it?

One of the items we requested in the feasibility study was to provide an estimate of the investment needed to construct the system. The consultants came back with an estimate that was very close to our actual expenditures. After everything was ready, the Sallisaw Municipal Authority, a public trust of the City of Sallisaw, issued 15-year revenue bonds for approximately $7.5 million to finance the project.

How far along are you in terms of recouping that investment?

We are currently around 1,000 video subscribers. We are estimating that when we reach 1,600 to 1,800 video customers we will be cash positive. We currently are generating sufficient revenue to cover the debt service on our bond issue and to also eat into some of the operational expense. Every customer we add now eats more and more into the operational expenses.

What are the benefits that you see of having a municipally-owned system? What are the drawbacks?

The key benefit of the City owning this system is that the revenue stays in the community. Our current annualized revenue is more than $1.5 million before expenses. As our customer base and revenue grows we will begin to see more net revenue after expenses, and that net will go to other non proprietary city services.

As far as the drawbacks, we had to learn how to run a telecommunications system from scratch. With the help of our consultants and the vendors whom we purchased equipment from, this task was a lot easier, although still very tough.

During this process, has DSL or cable Internet become available in Sallisaw? How has this affected your business?

DSL and cable modems are now available in the community, however the speed and reliability of our fiber optic system blows these services away. They have not hurt our product offering.

What was the hardest part of bringing the system to completion?

The hardest part was after our official launch and the system belonged to Sallisaw. Our management staff and our DiamondNet crews put in a lot of hours. It was very tiresome during the time, but we now see the results of that and it is very satisfying.

One thing I must mention about DiamondNet is our DiamondNet staff learned from the ground up how to operate the system. I cannot say enough about the DiamondNet field technicians and the customer service clerks. They stepped up to the plate and worked through some very tough times. Today they are doing an outstanding job connecting our community to the world.

The City and the community are very proud of our system and what it has brought to the community.

How do you market your services?

During construction and before our official launch, we utilized an advertising campaign using personnel who would actually be working on the project. The theme was "Hometown Connection to the World."

After launch we have done very little advertising. Our growth has come by word of mouth and the news articles published about the system. We are now starting an advertising campaign though, focusing on our Triple Play Package. This package consists of video, telephone, and Internet services – thus the term "Triple Play."

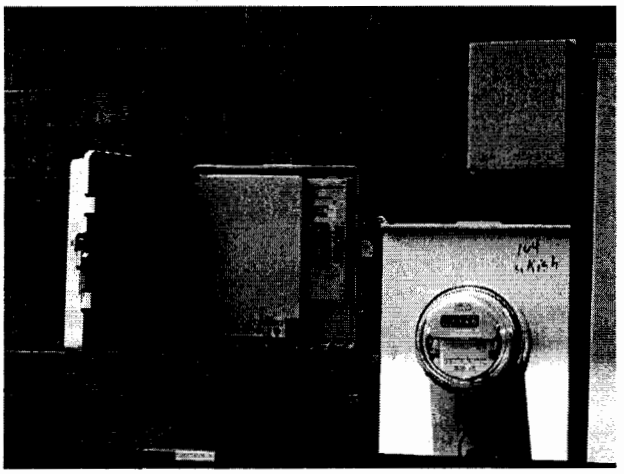
What kind of a time frame did this whole process take, and how important is it to keep to a compact schedule?

The preliminary research and feasibility study took approximately 14 months to complete. Our actual "begin" date as far as preparing for construction and selecting equipment vendors began in January of 2004. We began actual construction in August of 2004 and received the first video signals into our headend (where all of the receivers/converters, etc. are kept) in December 2004. Our official launch was in April 2005. The project was very much fast paced.

It was very important to keep to our schedule due to the fact we knew our bond payments would soon start and we wanted a customer base established to assist with the debt service.

How many households are currently using your system? How many of those subscribe to Internet access?

We currently have 1,200 customers, 755 of which subscribe to Internet service.



Have you seen any impact from the system in terms of economic development? Are businesses more interested in locating in Sallisaw now, or has there been an increase in the number of people moving into town?

Sallisaw is currently going through a residential growth period. We did notice a jump in inquiries related to Sallisaw and what the community had to offer right after our launch. We feel the current growth was something that was going to happen with or without the system, but the companies inquiring about Sallisaw were very impressed that we operate a fiber system the way we do.

We do expect big things in the future.

This concludes the interview with Sallisaw City Management.

Benefits of Broadband Access

Rural households, businesses, and community organizations can all benefit from the productive use of broadband access. Many people take educational classes online, earning diplomas ranging from GED equivalency to graduate degrees, while others use the Internet to create income opportunities. Sites like eBay (www.eBay.com) and Craigslist (www.craigslist.com) have become common secondary (or even primary) sources of income for a number of Americans. In fact, a study by AC Neilson indicated that more than 1.5 million Americans supplement their income each year by selling products through eBay.

Businesses typically use broadband access to transfer data, take advantage of online training courses, and develop a website presence – including selling their products online. Community organizations can also use broadband access. Most communities have their own website, which allows quicker interaction between the governing body and the residents, and also provides a place to tell the rest of the world about their hometown. Further, a recent study from MIT indicates that communities with broadband access experienced more rapid growth in employment and the number of businesses than those areas without access (Lehr, Osorio, Gillet, and Sirbu, 2006). Therefore, there is some evidence to suggest that the presence of broadband access is beneficial to a community.

Of course, there are also many opportunities for social interaction with broadband access including participation on message boards, weblogs, and professional associations. The demand for broadband is also highly driven by the vast array of entertainment options available online, including entire movies, downloadable songs, and video gaming.

Assistance Available for Communities Without Broadband

A number of resources are available to assist those rural areas without broadband in bringing some type of access into their community. The USDA rural development telecommunications program offers several grants and loans to communities and private firms interested in constructing broadband infrastructure in rural America. These programs include Community Connect grants, Distance Learning and Telemedicine Grants, Broadband loans, and Rural Utility Service loans. Additionally, Oklahoma Cooperative Extension Service has several programs that can benefit rural areas in this regard. Programming information consists of sessions on how to effectively use the Internet (including specific info on eBay and website development) and strategic planning processes that cover various options for obtaining broadband infrastructure. These strategic planning options include interacting with the local cable and phone company providers, forming a public-private partnership for sharing infrastructure costs, and even operating a municipally-owned broadband system. Other organizations, such as the Oklahoma Technology Council (OTC) and the Oklahoma Municipal League (OML), are also interested in providing help to rural areas interested in this topic. Contact your county Extension office, or any of the rural development specialists or other interested parties listed in Table 1, for additional information.

Table 1. List of Resources.

Name	*Contact*	*Phone*	*Website*
OSU/OCES	County Extension office (see your phone directory)		
OSU/Rural Development	Brian Whitacre Stan Ralstin Jack Frye	405-744-9825 405-237-7677 580-332-4100	www.rd.okstate.edu
OTC	Jim Mason	405-239-3669	www.oktechcouncil.com
OML	Danny George	405-528-7515	www.oml.org

Additional Reading / Sources

Fiber To The Home Council. (2006). *U.S. Optical Fiber Communities – 2006 with Customers Served Today via Fiber-to-the-Home*. www.ftthcouncil.org

Horrigan, J. (2006). *Home Broadband Adoption 2006*. The Pew Internet and American Life Project. http://www.pewinternet.org

Lehr, W., C. Osorio, S. Gillet, and M. Sirbu. (2006). *Measuring Broadband's Economic Impact*. Presented at 33rd Research Conference on Communication, Information, and Internet Policy.

Issued in furtherance of Cooperative Extension work, acts of May 8 and June 30, 1914, in cooperation with the U.S. Department of Agriculture, Robert E. Whitson, Director of Cooperative Extension Service, Oklahoma State University, Stillwater, Oklahoma. This publication is printed and issued by Oklahoma State University as authorized by the Vice President, Dean, and Director of the Division of Agricultural Sciences and Natural Resources and has been prepared and distributed at a cost of 20 cents per copy. 0407 GH.