Virginia Association of Counties
ACHIEVEMENT AWARDS

APPLICATION FORM

All applications must include the following information. Separate applications must be submitted for each eligible program. **Deadline: June 1, 2016.** Please include this application form with electronic entry.

PROGRAM INFORMATION

County: King and Queen

Program Title: King and Queen Broadband Internet

Program Category: Information Technology

CONTACT INFORMATION

Name: Thomas J. Swartzwelder

Title: County Administrator

Department: County Administration

Complete Mailing Address: P.O. Box 177, King & Queen CH, VA 23085

Telephone: 804-785-5975   Website: www.kingandqueenco.net

Email: tswartzwelder@kingandqueenco.net

SIGNATURE OF COUNTY ADMINISTRATOR OR CHIEF ADMINISTRATIVE OFFICER

Name: Thomas J. Swartzwelder

Title: County Administrator

Signature:

Virginia Association of Counties
2016 Achievement Award

Locality/Department: King and Queen County
Administration Office

Program Title: King and Queen County Broadband
Internet

Program Overview/Summary

King and Queen County was once underserved by high speed internet service providers. Only a very limited area of the County had access to high speed internet service via a cable television provider whom had advised the County that they would not expand services. Most citizens within the county relied on slow dial-up access, cellular hotspots and satellite for internet and on-line transactions.

Problem or Issue

According to the Center of Innovative Technology study conducted in 2014, over ninety percent of King and Queen residents use a computer at home, work or school. Forty three percent of those residents did not have Internet. The Center of Innovative Technology found that the people without Internet services did not have it because of cost and that sixteen percent of residents were not able to get internet at all. It was also determined by the study that of the majority of county businesses polled that have websites, less than twenty percent used the internet for sales. Communities that use broadband to sell products experience more rapid growth and are more productive than those who don't sell products online.

Description of Program

Broadband has been a topic of discussion on the Middle Peninsula for several years. The Middle Peninsula Broadband Authority was established in 2010 to find a solution to the region's lack of high-speed Internet availability. After years with no progress, King and Queen County decided to move forward with its own broadband initiative. In 2012, the County established the King and Queen County Wireless Services Authority and partnering with Gamewood Technology Group to provide wireless broadband coverage. King and Queen's network was incorporated into the design and "rides upon" the public safety communications linear microwave backhaul to distribute broadband the length of the County. The program, available online at KQVA.net, utilized four existing tower sites, which allow 70-75 percent coverage throughout the county.

Financing and Staffing

The initial cost to King and Queen County to provide broadband to its citizens was approximately $300,000 (excluding the cost of the microwave network). Since its installation, the County has added two more sites in addition to the original 4 tower sites and has recently voted to add an additional site within the county to help close the coverage gaps.

King and Queen County through a partnership with Gamewood Technology Group (private sector) created KQVA.net. Staffing is provided through Gamewood Technology Group which maintains a local business office and installation facility in the Walkerton area of King and Queen County.

Results of Program

King and Queen County, through the Broadband Internet, was able to switch the government phone system to Voice over Internet Protocol (VoIP). VoIP is a methodology and group of technologies for the delivery of voice communications

and multimedia sessions over Internet Protocol (IP) networks. Switching to VoIP has resulted in a monthly savings of approximately $2,500 to King and Queen County.

King and Queen County currently provides high speed internet to its school system, which has eliminated a $70,000 annual outside expenditure. The school system was utilizing T1 lines prior to switching to the County Broadband Service.

Volunteer Fire and EMS agencies have all been provided service and are now able to upload fire and patient care reports to the required State reporting systems. Broadband Internet in King and Queen County has also provided access for online training materials and video for all local emergency service agencies.

King and Queen County has become the "model" for all rural localities who are looking to provide broadband Internet to their citizens.

News Articles/Press Release/ Supporting Documentation

- o Center for Innovative Technology (CIT), May 25, 2016 – Letter of Support
- o Virginia Business, June 28, 2014 – News Article
- o Tidewater Review, July 10, 2014 – News Article
- o Southside Sentinel, February 18, 2015 – News Article
- o Gloucester-Mathews Gazette Journal, July 8, 2015 – News Article
- o Federal Engineering, March 12, 2012 – Press Release

CIT
CENTER FOR INNOVATIVE TECHNOLOGY

To Whom it May Concern,

On the behalf of the Center for Innovative Technology (CIT) I would like to express my full support for King and Queen County's application for the Virginia Association of Counties (VACO) 2016 Achievement Award. As Vice President of Broadband Programs at CIT, I know that there are many obstacles for localities in regards to broadband. Through its public-private partnership, King and Queen County has been able to overcome the obstacles to achieve a successful last-mile broadband solution.

King and Queen County was once vastly underserved, and with no feasible solution apparent, it was falling further into the digital divide. Deciding to be the driver of change in its broadband environment, the County established an authority and partnered with an Internet service provider expanding broadband access for the County agencies and its citizens.

Oftentimes localities place the broadband burden on the providers as well as the state, but King and Queen County took the initiative and championed their own broadband initiative leading to real broadband expansion. The County leveraged their assets and shared infrastructure to serve the county and expand Internet service to the citizens. To this effect the county serves as a model to both rural and urban localities needing improved broadband access.

Access to reliable broadband provides countless benefits, therefore, through its innovative approach to broadband. King and Queen County has not only improved operations at the county-level but has improved the lives of its citizens as well. For this reason, I believe that there is no one more deserving of the VACO 2016 Achievement Award than King and Queen County.

Thank you for your consideration.

Sincerely,

Sandie Terry
Vice President, Broadband Programs
Center for Innovative Technology

Industries › Technology

The digital divide

Lack of high-speed Internet can hamper growth of rural areas

by Richard Foster
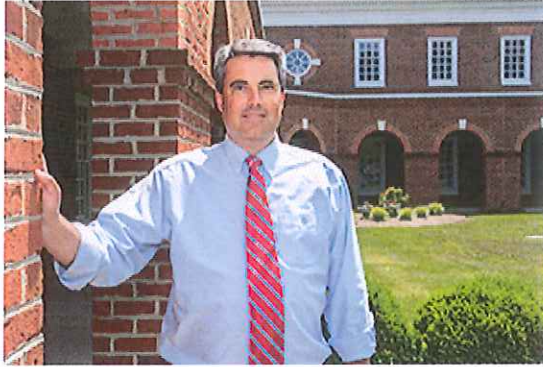
Want to take a trip back through time? Try getting on the Internet in a rural county.

In King and Queen County, where the county government installed a fixed, wireless broadband network last year, County Administrator Tom Swartzwelder says, "This county was dial-up before we put [the county wireless broadband] in, basically. You're taking people from the cart and horse to a Porsche. You're skipping the Model A and everything in between. If you lived in a dial-up world, how little would you use the Internet? … They still think of the Internet as the inconvenience of dialup, sitting and waiting for pages to load."

In rural areas where high-speed Internet availability is spotty at best and may not even be easily available via cellular networks or satellite dishes, there is a growing digital divide. Low-income, disabled, elderly or less educated residents frequently don't understand what broadband is or that it can be used for more than just Facebook and Netflix.

"A lot of folks don't know all the things they can do with broadband, especially as you move into the rural areas," says Sandie Terry, broadband program manager for Virginia's Center for Innovative Technology (CIT). "In these rural areas … people say, 'I have dialup; it takes care of my email, and that's all I need.'"

A nonprofit corporation based in Herndon, CIT supports economic development of technology-based endeavors in Virginia. CIT partnered with King and Queen County earlier this year to launch a federally funded pilot study aimed at increasing broadband adoption and awareness of the benefits of high-speed Internet among rural residents.

In April CIT conducted a direct-mail survey of 534 King and Queen households (out of the 2,900 total in the county), collecting information about residents' computer use, digital literacy and awareness of broadband.

According to preliminary data from the survey, just 68 percent of parents of elementary school students surveyed reported having home Internet access. Furthermore, 17 percent of respondents said they didn't own a home computer. The top reasons cited for not having a computer were expense (47 percent) and not knowing how to use one (29 percent).

King and Queen's 6,945 residents are widely dispersed throughout the 72-mile-long, 15-mile wide county, which is largely made up of farmland and timberland. King and Queen had tried for some time to entice a telecommunications company to bring high-speed Internet to the county, but companies said the market wasn't big enough and installing a network would be cost-prohibitive. Federal grants for rural broadband were a no-go because the county was considered too close to a metro area, being about 60 miles from Richmond.

Creating its own system

Eventually the county decided to form a wireless service authority and install its own high-speed wireless broadband network, piggybacking onto towers being built to upgrade the county's emergency communications system network.

"No free-market provider was willing to come in and build the infrastructure here," says Swartzwelder. "The Board of Supervisors felt they had to step in and provide this service to citizens and businesses and school-age children."

The school system already has benefited from the new county broadband system in multiple ways, including being able to conduct more online Standards of Learning tests simultaneously. "The Internet speeds are more robust, so we're able to leverage the accessibility of information in ways we weren't always able to do," says Superintendent Stanley Jones.

The county broadband network covers about 75 percent of the county, and officials hope to have the rest of the county covered by 2015. However, only a few hundred homes out of a total of 2,900 are taking advantage of the county broadband so far, and the adoption rate has stalled.

In King and Queen, where the population is aging, digital infrastructure can be crucial to a community's long-term survival and to its residents' quality of life, Terry says.

"When we're talking about the digital divide, it is real, and it's going to grow exponentially," she says. Communities with high-speed Internet and more access to technology will succeed educationally and economically, in addition to being able to provide better health-care and government services.

Lack of broadband and lack of technologically savvy workers also harms the real estate market and economic development, Terry adds: "They're going to lose the tax base; they're going to become older. All of their community assets are going to suffer."

Managing illness

Additionally, being tech literate can save money. Studies have found that savvy shoppers can save as much as $10,000 a year by comparing prices and shopping online, Terry says. "We've got to push out digital literacy training to more of our senior organizations. … Seniors are going to be a key focus of the programs we put in place in King and Queen."

Bay Aging President and CEO Kathy Vesley-Massey participates in King and Queen County's broadband work group and agrees that more education is needed. Her Urbanna-based nonprofit provides services to senior citizens in the Northern Neck and Middle Peninsula that include free computer literacy classes at its 10 senior centers.

In addition to helping seniors combat social isolation by connecting with friends and family via Facebook or Skype, broadband can be even more important for seniors by helping them manage chronic illnesses. "Most of the health-care systems now have some form of patient navigator. You can go online and get all your health records … access what the doctor's discharge plan was for you, access when your follow-ups are," Vesley-Massey says. "The tools that are available online are just really, really important to these senior populations."

"From a social services perspective, so much of our business is going online as well … SNAP benefits, Medicaid," says King and Queen Department of Social Services Director Betty Dougherty. She also chairs the King and Queen Resource Council and is part of the broadband work group. "With our county being so geographically spread out, they don't have to drive into social services and fill out a paper application. They can go online and put in their information … and even do a pre-application screening before they submit for benefits."

CIT plans to submit its full report and recommendations to the volunteer King and Queen County broadband work group by July. Some of those recommendations could include programs to refurbish old computers and distribute them to the elderly and needy, Terry says. Other initiatives could include more digital literacy training and also working with the county government to ensure it's making the best use of its online assets, such as posting relevant information on its municipal website and providing online payments for tax bills and county fees.

"People say, 'Well how much broadband do we really need?' but … we're going to have more and more devices in our homes connecting to the Internet, so the bandwidth has to come up," Terry says. "If you consider rural areas where someone's depending on satellite or 4G mi-fi, that's not going to sustain those people long. They're going to end up wanting and needing more bandwidth and if they can't get it in those areas, they're going to move out."

Reader Comments

Addressing the digital gap in King and Queen

By **Amy Jo Martin, amartin@tidewaterreview.com**

JULY 10, 2014, 5:00 AM

KING & QUEEN — In today's digitally driven world, it's hard to imagine life without the Internet.

But that's a reality for nearly half of the residents in King and Queen County. Whether it's cost, lack of service or digital knowledge, a large sector of the rural population still hasn't logged on.

To close that digital divide, the Center for Innovative Technology (CIT) is exploring ways to bring Internet access and technology training to King and Queen.

"There is a real opportunity there," said CIT Program Manager Sandie Terry. "There is an aging population and they need an outreach program to increase digital literacy across the county."

King and Queen County Administrator Tom Swartzwelder recently approached CIT for help after he discovered that although the county provides wireless service for its residents, it is being underutilized.

CIT recently conducted a six-month study to assess wireless access in King and Queen and better understand why only 300 residents are taking advantage of the county's broadband system.

The $3,500 state-funded survey, a part of the National Telecommunications and Information Administration (NTIA) broadband initiative, revealed that 43 percent of residents are still not connected to the Internet.

Wireless service

The King and Queen County Wireless Service Authority and Gamewood Technology Group Inc. partnered in 2012 to use wireless technology to provide King and Queen high-speed Internet service. The program, available online at KQVA.net, utilizes four existing tower sites, which allow 70-75 percent coverage throughout the county.

Swartzwelder said there are still several pockets of service problems throughout the county but they could be addressed if eight to 10 residents in that area request service.

"We currently have 300 customers on our broadband and most are younger households. They usually have some sort of Internet, whether it's from the county or another provider like Verizon or Cox," Swartzwelder said. "For the most part, the aging population and economically disadvantaged residents do not utilize the program."

Firsthand experience

One of the 300 customers enjoying the county's broadband service is St. Stephen's Church resident and School Board Chairman Joseph Williams.

"It really is wonderful," he said.

Williams was one of the beta testers when the program first launched. He stuck with the service after he saw the advantages.

"I have four kids so we have a lot of video streaming and with this broadband service, we can all watch videos with no delays or buffering," Williams said.

"It also has no data limit, costs a lot less than the private services, and it is much faster."

Now on the county's broadband system, Williams can stream and telework in real time without any trouble. He said he enjoyed the county's broadband so much he upgraded to direct-by-site, which only costs him $30 per month.

"It's an amazing deal and I will never go back," said Williams, who admitted that he was reluctant at first to use the county's system.

"As a whole, my belief is that the government should stay out of such a thing, but now that I have it, I am glad that they didn't," he said.

"This is the best thing about King and Queen County, bar none," he said.

The survey says ...

CIT found that the people without Internet do not have it because they think it's too costly (41 percent), they do not know how to use a computer (22 percent), it's not available (16 percent), or they don't want or need it (12 percent).

The initial resident surveys were sent to 2,900 King and Queen County households in March. About 18 percent, or 600 residents, responded. Terry called this "a significant statistical sample of the county population," with every area represented.

The surveys revealed that the majority of residents with Internet use it to email friends and family, make online purchases, pay bills and/or read the news.

Though the majority of businesses polled have websites, less than 20 percent use the Internet for sales.

The businesses that do not use Internet do so mainly because they don't think it is relevant, although CIT reported that communities that use broadband to sell products experience more rapid growth and are more productive than those who don't sell products online.

"I was surprised with how many businesses in King and Queen are online," Terry said. "But when I saw that so many do not sell online, I knew that we could help them.

"We are here to build a set of resources for the community programs, which we hope will transform this community."

Next steps

Once the survey findings are evaluated by late July or early August, CIT will present an action plan to give residents the opportunity to have access to technology, discounts and training.

Swartzwelder said he aims to have the action plan in place by fall.

According to Terry, the next step in spreading broadband services in King and Queen is to meet with Swartzwelder about bringing online service to the local government and using broadband service to communicate with the community via its website.

CIT also plans on discussing how the local library can partner with the county's Business Assistance Center to offer digital literacy training for residents and businesses, as well as a computer-refurbishing program, possibly in conjunction with the local tech schools.

"We would love to be able to donate some computers to some kids in need and give them a training session," Terry said.

Terry estimates that CIT will develop a broadband action plan and propose it to the King and Queen Board of Supervisors by the end of August.

"After it's improved and in place for a while, we'd like to do another citizen survey to access the impact of the programs," said Terry. "We know we won't see an impact overnight, but we're hoping to see some positive growth."

Swartzwelder remains positive that expanding broadband literacy among residents will help the county economically and help the residents keep up with the digital age.

"I think it's going to be a very positive thing. There's so much information online and when people learn how to use the Internet, it opens the doors for so many folks," he said. "Everything is online, including social services and Medicaid. It might change people's lives if they can order prescriptions from home, you never know.

"This is going to improve the residents' quality of life in this Internet-driven world."

Residents interested in the county's broadband service should call KQVA.net at 804-769-2022 or complete an online form.

Martin can be reached by phone at 804-885-0040.

The CIT survey

revealed that:

•More residents ages 65 and older responded to the survey than any other age demographic.

•King and Queen residents ages 65 and older, as well as the town of Mascot, have the least wireless subscriptions.

•91 residents had used a computer at home, work or school.

•17 percent do not have a computer at home.

•43 percent do not have Internet.

•People without Internet do not have it because they think it's too costly (41 percent), they do not know how to use a computer (22 percent), it's not available (16 percent), or they don't want or need it (12 percent).

•The demographic with the most Internet subscriptions are residents ages 45-54.

•17 percent of the King and Queen residents polled have businesses, 74 percent of which use the Internet.

•The majority of elementary school parents and guardians surveyed said their children use the Internet one to two days a week (28 percent), while 24 percent said their children never use the

Internet in school. Twenty percent of guardians admitted to not knowing how often their children use the Internet in school.

•Twenty percent of middle school guardians said their children use the Internet every day, although 19 percent also admitted to not knowing how often their children use Internet in school.

•Nearly half of the high school guardians polled said their children use the Internet every day, followed by one to two times per week (28 percent) at school.

•Thirty-four of the middle school guardians and 27 percent of high school guardians said their children are never assigned homework using the Internet.

Southside Sentinel

SSentinel.com

Home · News · Videos · Photos · Community · Sports · School · Church · Obituaries · Classifieds · Supplements · Webcam · Search

News

Text size: Large | Small

Broadband is here, in K&Q

by Tom Chillemi

Broadband internet could come to Middlesex County when its outdated public safety radio system is updated.

County administrator Matt Walker said broadband could "piggyback," using the same emergency radio towers that currently serve the sheriff's office, fire departments and rescue squads.

The model for this type of broadband has been in use in King and Queen County for about 2.5 years, said K&Q County Administrator Thomas J. Swartzwelder. "It works very well. Before implementation, there was virtually no internet in the county beyond wireless telephone service and satellite."

King and Queen County currently provides high speed internet to its school system, which has eliminated a $70,000 annual line item from its budget, he said. "We have switched the government phone system to Voice over Internet Protocol (VoIP), said Swartzwelder. "We also have used the service to complement and increase public safety."

> *"Deployment of a P25 compliant radio system would be a first step toward extending broadband service to rural unserved or underserved areas of the county, similar to what King and Queen County has done."*
> *— Middlesex County Administrator Matt Walker*

VoIP is a methodology and group of technologies for the delivery of voice communications and multimedia sessions over Internet Protocol (IP) networks.

Switching to VOIP has resulted in a monthly savings of $2,500 to King and Queen, said Swartzwelder.

Middlesex County is considering using the same type of P25 emergency radio system that is now in King and Queen, which also could be used for broadband distribution, said Walker. "We are currently reviewing the two P25 compliant radio systems. Deployment of a P25 compliant radio system would be a first step toward extending broadband service to rural unserved or underserved areas of the county, similar to what King and Queen County has done.

Read the rest of this story in this week's Southside Sentinel at newstands throughout the county, or sign up here to receive a print and/or electronic pdf subscription.

posted 02.18.2015

By commenting, you agree to our policy on comments.

0 Comments   Sort by   Newest ▼

Add a comment...

Facebook Comments Plugin

G f y 🖶 + 0

GLOUCESTER-MATHEWS
GAZETTE-JOURNAL

Gloucester considers broadband service

by Quinton Sheppard - Posted on Jul 08, 2015 - 01:13 PM

Gloucester County residents may see the availability of public high-speed wireless internet service in the future, as the county's board of supervisors explored several possibilities for providing the service during its meeting Tuesday night in the colonial courthouse.

Supervisors authorized the county's Information Technology department to issue a survey to all county residents to see how much interest there might be in the project, which could cost the county just over $1 million to set up. However, with current technology, it may only be able to serve a small percentage of county residents.

Gloucester's IT director Scott Varner said King and Queen County now has wireless broadband available to its residents through a partnership with Gamewood Technology Group, Inc. However, the big difference is that King and Queen did not have any widespread internet coverage for its residents prior to the King and Queen Wireless Authority being established.

Gloucester, Varner said, does have various options for internet service providers, including Verizon 4G LTE and Hughesnet Satellite internet for residents in outlying areas. Also, Verizon DSL and Cox high-speed internet are available in parts of the county.

According to Varner, the county's option for wireless internet, if it were pursued, would not be for the speed, but to alleviate data caps for customers.

He said King and Queen currently provides a speed of six megabits per second, compared to Verizon Wireless offering about 13 Mbps; HughesNet, 8; Verizon DSL, 8, and Cox high-speed internet, 45.

According to Varner, the King and Queen County Wireless Authority established the following prices for its service, ranging from $29.99 per month for the basic internet speed of 512 kilobytes per second, up to $89.99 per month for the top speed, 6 Mbps.

"The higher level is actually very expensive for a lot of households," Varner said.

He said King and Queen is not quickly recouping its investment in the wireless broadband, but said they had to do something. "It was more a quality of life issue with them," Varner said, "as well as getting a connection for their schools and government offices."

If Gloucester enters into public broadband, Varner said the county's two main competitors would be Verizon 4G LTE and HughesNet. He said customers that currently have Verizon DSL and Cox high-speed internet would likely keep their service because of its price and the speed of the service.

Federal Engineering®

King & Queen County Retains Federal Engineering for Broadband Communications Consulting

FAIRFAX, VIRGINIA, March 12, 2012 — King & Queen County, Virginia has retained Federal Engineering, Inc. (*FE*) to provide telecommunications and technology consulting for a county-wide broadband communications project.

Mr. Ronald F. Bosco, *FE's* President, described the project: "King and Queen County is currently underserved by high speed Internet service providers. Only a very limited area of the County has access to high speed Internet service via a cable television provider and there is no expectation that the current CATV provider will be able to expand the services. Federal Engineering has assisted the County in a recent upgraded of its public safety communications system, including a high speed microwave connection between four towers that extend the length of the County. The County is interested in using this existing microwave infrastructure as part of a public-private partnership to provide fixed, wireless, high-speed Internet service to many areas of the County that currently have no broadband access. To assist in this effort, *FE* will provide procurement assistance including development of a request for proposals targeted to potential wireless Internet service providers with whom the County can partner. *FE* will also assist in the proposal evaluations and vendor negotiations."

Mr. Thomas J. Swartzwelder, County Administrator, stated: "King & Queen County has been working with Federal Engineering since 2008. The firm has been instrumental in the modernization of our public safety communications systems. With *FE's* assistance, we have successfully upgraded to a P25 digital radio system at less cost than originally envisioned. This new system has significantly increased radio coverage for our first responders. Federal Engineering has consistently exceeded our expectations. We have retained them for this important project based upon their strong performance and intimate knowledge of the County's communications environment."

FE provides a wide range of land mobile radio analysis, design, procurement support, and implementation management services for public safety, public service, transportation, and energy organizations. The firm also provides security analyses, disaster recovery planning, strategic assessments, product analyses, market research, and business planning services in telecommunications and related fields.

As a nationwide communications systems planning and design firm, Federal Engineering develops voice, data, and video networks for numerous firms including aerospace, energy, finance, education, publishing, and computer services. In addition to its private sector work, *FE* has completed over a thousand communications projects for 40 state governments, as well as numerous local and federal government clients. *FE's* certified independence ensures that clients receive objective, unbiased consulting services that are not influenced by any particular technology, product, vendor, or approach.