Getting Rural Virginia Connected: A Vision for the Future

Gibson P D*, Uzel A T & Calhoun D B

Virginia Polytechnic Institute and State University (Virginia Tech), Blacksburg, Virginia, USA

Abstract

'Getting Rural Virginia Connected' was designed to help rural communities in Virginia develop the capacities needed to prosper in the information age economy. Virginia's rural communities lag the rest of the state in terms of income, education, and wealth. Most of these rural communities have high rates of poverty, illiteracy and unemployment, but when properly engaged, they can exhibit hidden treasures (e.g. skills, knowledge, and abilities of people) that simply needed to be discovered. Seven counties participated in this multi-faceted project in which citizens received leadership and technology training to run their own community networks. The rise of the Internet, coupled with the potential of having a high quality of life in rural communities, offered the promise that these communities could compete beyond geography. Early on, it was very clear that technology alone was insufficient. These communities needed comprehensive assistance in five areas: 1) leadership training and development for both citizens and local leaders; 2) technology training and development for citizens and local leaders; 3) a long term planning and visioning process that was professionally led; 4) a virtual business incubator program providing technical assistance and business management advice to home-based and small business startups in each community; and 5) appropriate technology systems designed to support governance and economic development. As a result of this initiative, a number of exciting economic happenings have occurred in these rural counties. Most importantly, citizens are now empowered to improve their community capacity to create successful futures.

Keywords

Technology, community, electronic village, leadership, rural

Overview

In the spring of 2000, several Virginia Polytechnic Institute and State University (Virginia Tech) faculty members worked with Carroll County, a rural county in southwest Virginia, on a visioning and planning process. As a result of that process, it became evident that the county needed economic development. However, traditional methods used in the past needed to be supplemented by an emphasis on technology. Citizens felt that they could compete economically if they had an electronic village. Blacksburg Electronic Village in Blacksburg, Virginia, had created an electronic community for Blacksburg's university community and adapted a version for Carroll County. The project worked so well that the Virginia Tech faculty

began to wonder if it could be replicated in other rural counties across the state. Thus, a grant proposal was written.

In October 2001, the US Department of Commerce NTIA (National Telecommunications and Information Administration) awarded a Technology Opportunities Program (TOP) grant to fund a proposal from the Blacksburg Electronic Village (BEV) titled 'Getting Rural Virginia Connected: A Vision for the Future'. The proposal called for the BEV to partner with Virginia Cooperative Extension (VCE) "to help rural communities in Virginia develop the capacities needed to prosper in the Information Economy."

Project description

Using a traditional community development/visioning process, extension agents were asked to engage the local leadership and bring together residents in order to determine the challenges facing their communities and decide how to address them. Then, appropriate information and communications technologies, already available through the BEV, would be used to pursue the identified community goals by facilitating exchanges of information and streamlining transactions among government and citizens, businesses and their customers, community organisations and their members, and among citizens themselves.

Virginia Cooperative Extension agents, having served and built their reputations within the participating communities, knew many of the issues firsthand. They were, therefore, well positioned to bring all interested parties to the table. Blacksburg Electronic Village, one of the oldest and most widely known community networks, would provide systems, training and expertise in matters of deployment. The model called for the following:

1. Recruiting interested residents from each county
2. Facilitating a community planning process
3. Creating an Electronic Village in each county
4. Performing technology assessments in each county
5. Developing a technology master plan for each county.

It was anticipated that the electronic villages developed would provide enough value and benefit to each community that the county would elect to sustain their electronic village beyond the term of the grant.

Participating counties

Virginia's rural communities lag the rest of the state in terms of income, education and wealth. Despite high rates of poverty, illiteracy, and unemployment, many communities want to be connected to the information age economy but struggle to make the transition. Often, rural counties lack the local expertise necessary to be successful in understanding and exploiting the opportunities available to them in an electronic environment. Furthermore, rural

communities are largely ignored by the major telecommunications service providers because the communities are deemed too small to recoup the investment required to upgrade services to a level that will make them competitive players in the new economy. Worn down by decades of deep poverty, loss of economic stability, a continuous outward migration of their brightest and best youth, and the destruction and loss of their local merchant class by chain stores (the Wal-Mart problem), rural communities often suffer from a leadership crisis. Existing aid programs ameliorate suffering but do not provide systemic solutions to move these communities up the economic and social ladder.

The participating counties in the project were spread from Virginia's Eastern Shore to its western border. From east to west, the counties included Accomack and Northampton (the Virginia Eastern Shore), King and Queen, Louisa, Cumberland, Craig, and Dickenson (Figure 1).

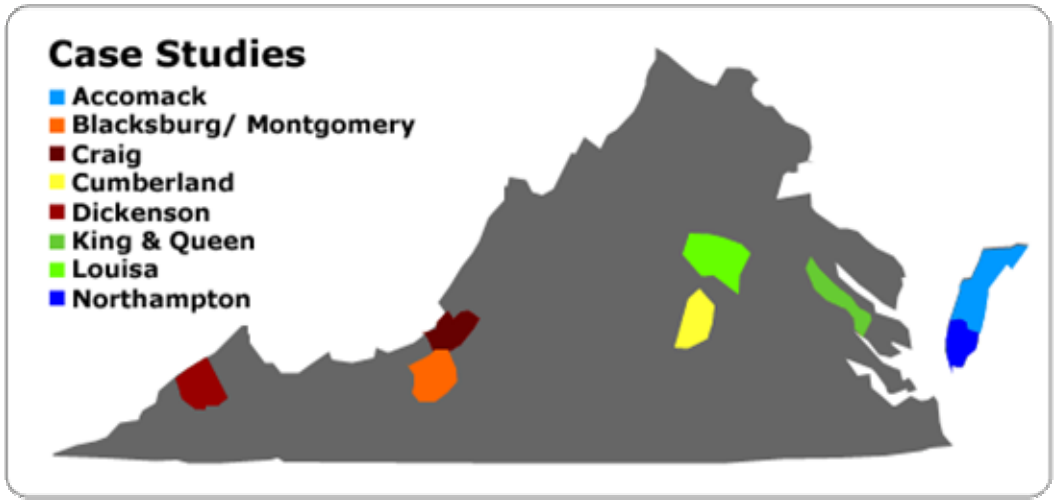

Figure 1. Counties participating in the project

While the seven counties were not exclusive in their need or desire to improve economically, they were chosen because they represented each of the six extension districts in the state; their extension leadership expressed willingness to allocate the effort needed; and the project's leadership felt each was a good match for the project.

From Table 1, it is easy to see that each of the counties had an economic need. When each is compared to the state average, they have significantly higher rates of poverty, high unemployment, significantly lower median household income, and lower education levels.

Table 1. Population statistics of the participating counties

			Quick Facts 2000			
County	**Population**	**Population density**	**Persons below poverty 1999 (%)**	**Unemployment rate**	**High school graduates (% of persons 25+)**	**Median household income ($)**
Accomack	38,305	84.14	18.0	4.22	67.9	30,250
Craig	5091	15.40	10.3	2.57	76.6	37,317
Cumberland	9017	30.21	15.1	1.79	63.8	31,816
Dickenson	16,395	49.43	21.3	8.59	58.9	23,431
King and Queen	6630	20.96	10.9	2.97	68.2	35,941
Louisa	25,627	51.55	10.2	3.05	71.7	39,402
Northampton	13,093	63.10	20.5	2.87	67.4	28,276
Virginia	7,078,515	178.8	9.6	2.21	81.5	46,677

Necessary conditions

The rise of the Internet, coupled with the potential of having a high quality of life in rural communities, offered for the first time the promise that these communities could break the chains of geography. However, several necessary conditions needed to occur if the communities were going to succeed. Injections of technology alone would not be sufficient in making the project successful. These communities needed comprehensive assistance in five areas:

- Leadership training and development for both citizens and local leaders
- Technology training and development for citizens and local leaders
- A long-term planning and visioning process that was professionally led
- Virtual business incubator program providing technical assistance and business management advice to home-based and small business startups in each community
- Appropriate technology systems designed to support governance and economic development.

Project implementation and timeline

An implementation timeline for the three-year project was created with local leadership identified as the essential element for the project's success. Initially, the project planned to

have a local Virginia Cooperative Extension (VCE) agent serve as the leader for coordinating the project. However, personnel turnover at Virginia Tech and among field agents necessitated many changes. For example, in two counties, recently retired VCE agents agreed to lead the project as volunteers.

The first step was obtaining local support. Administrators and other leaders within each of the counties were asked to support the effort. Extension agents and county leaders contacted county administrators and leaders to explain project goals and outcomes and to request their support for the project. Participating counties were asked to contribute $6000 ($2000 a year over three years) to meet the technical costs associated with supporting the project. Following the three-year period, each county would decide if they wanted to continue hosting their community network site on the BEV server or move it to another web hosting service provider. Agents requested leaders to participate and provide names of residents who would be willing to serve on a technology leadership team.

Next, extension agents were briefed about the proposed implementation plan for this project and received technology training in the following areas: introduction to telecommunications infrastructure; community technology assessments and the Computer System Policy Project (CSPP) model to be used as a starting point for the assessment; and an introduction to community networks and how they can make local communities more effective in solving problems by engaging more citizens in local issues and creating a stronger sense of community.

The third and ultimately most important step was establishing the local technology leadership teams. Each extension agent or local leader was requested to recruit at least ten residents, who represented a broad cross section of all segments of the community and had a strong interest and commitment to the effort and willingness to contribute time and energy. The members of the Technology Leadership Team (TLT) served as the steering committee in providing ongoing direction and accountability for the county's project. Ultimately, their commitment and energy was a fundamental force in the success of the project.

The TLT served as the core group for planning and implementing the Take Charge program intended to reach out to the entire community, work with project staff and Virginia Tech faculty to perform an assessment of current technology in the community, serve as facilitators in community workshops and forums to enhance the understanding of the general public about the potential of technology; work with project staff to identify and secure the resources necessary to fulfill and sustain the strategies of the local plan; and to remain in place after the end of the TOP funding with a commitment to fulfill and sustain the strategies of the local plan. Hindsight has proven what was anticipated from the outset of this program, i.e.

leadership and the creation of local leadership teams were the single most important factors in determining the overall success of the project.

Following their recruitment, the TLTs received the training needed for the project. In addition to being introduced to the technology and network functions, they were taught how the Take Charge program works to empower citizens and assumed the necessary responsibilities to make the program a success.

Take Charge used in this project is adapted from the Take Charge: Economic Development in Small Communities program published by the North Central Regional Center for Rural Development. When the grant was written, it was envisioned that each participating county would conduct a Take Charge program. However, some counties didn't think they needed to conduct this program and used issues published in their planning documents or other process. The Take Charge process is designed to empower leaders, decision-makers, and residents within a county in addressing local problems and issues and also in creating a vision for their county's future.

The Take Charge process consists of three, three-hour workshops designed to foster collaboration among the citizens of each community, to move the group toward consensus and to provide a framework for creating a vision for the county. Planning this event requires a lot of energy and organisation because agents and their TLTs must invite all residents, publicise meeting times and places, plan dinners and prepare notebooks for each meeting. The three workshops are organised around three questions:

- Workshop No. 1 — Where Are We Now?
  - Examine historical and current trends and characteristics of the community and consider implications for the future
  - Self-examination of the community's strengths and vulnerabilities in terms of financial, social, human, and natural assets.
- Workshop No. 2 — Where Do We Want To Be?
  - Develop a collective vision for the future of the community. Findings for each community will be combined to develop a collective vision for the future of the county.
  - Assess the opportunities for and threats to achieving that vision.
- Workshop No. 3 — How Do We Get There?
  - Identify and frame overarching development issues
  - Identify existing resources to help address these issue
  - Explore alternative ways to organise the community for action.

Part of the resistance in conducting a comprehensive community visioning/planning program centered around a serious 'disconnect' that seemed to be ingrained in this project. Some

people saw this project as only bringing technology to the community rather than the community taking charge of its future through the use of technology.

Using technology

During the pilot project in Carroll County, technology was identified as a potential tool to increase economic development. In the counties participating in this project, they knew from the outset that they would receive technology and often made that their goal rather than the comprehensive approach we had envisioned. In this project, technology was artificially incorporated into the community planning process.

Some counties failed to see the importance of citizen empowerment and organisation that occurs through Take Charge or a similar process. The process of conducting situation analysis of the county's problems and/or issues identification and visioning process led to better understanding of the value of the technology in their communities as a means for addressing or alleviating their problems. In addition, the community buy-in would provide the support needed to sustain a community website.

Community networks

During the second year of the project, the community network was deployed. Training sessions were held to familiarise team members with each of the services which were deployed in stages. Each county held a public launch of their community networks to let residents know about the various offerings available to them. Each participating county received the following suite of services:

- Community Web Site hosting — Each community received web space and server administration for a community web site or 'portal'. This is a full-service, permanent site with nightly backups, complete statistics reporting, full text search engine and 125 megabytes of space.
- Community Web Site Design — BEV professionals design community portals in conjunction with local leadership. Based on community input, BEV develops an overall site design strategy and creates pre-coded HTML templates for site content. BEV provides training on how to update and maintain the community portal using these templates.
- Community Connections — Website and email hosting services for community groups. This section provides county listings and links to participating civic, faith-based and other community organisations regarding services and opportunities. An online registration system means that no local technical or setup support is required. Each group is provided with a URL (for example: civic.ourtown.org). Community groups receive the following services:
  - A website (up to 20 megabytes of text and graphics). Sample URL: <http://civic.yourcountyaddress.net/yourgroup/>.

    - Two permanent email addresses for group use (with forwarding, if needed) and webmail access. Sample address: yourgroup@civic.yourcountyaddress.net.

    - A broadcast mailing list that makes it easy to send messages to your members (up to 100 subscribers). Example: yourgroup@civic.yourcountyaddress.net.
- A Community Calendar — Each community receives an online, interactive community calendar. Administrators can add, delete, and update events using a web interface. This calendar is integrated into the colour scheme and navigation of the main community website. This calendar is used for such things as local and state government meetings, church or club meetings and/or recreational events.
- A Discussion Forum — A threaded online forum facilitates community discussion about current events, community projects, and local government. Asynchronous virtual 'town meetings' have proven helpful in drawing together members of the community who would otherwise find it difficult to attend.
- Village Mall — An automated online business directory where e-villagers can create their own listings and link them to their websites. Local leaders maintain administrative control over posts to the mall.
- Virtual Business Incubator **—** a component to assist start-up businesses to develop a personal website for describing products and/or services. Groups receiving a Virtual Business Incubator account get:
    - A website (up to 20 megabytes of text and graphics). Sample URL: <http://vbi.yourcountyaddress.net/yourgroup/>.
    - Two permanent email addresses for group use (with forwarding, if needed) and webmail access. Sample address: yourgroup@vbi.yourcountyaddress.net.
    - A broadcast mailing list that makes it easy to send messages to your members (up to 100 subscribers). Example: yourgroup@vbi.yourcountyaddress.net.
- Online Community (‘Villager’) Directory — Individuals, organisations and businesses create and edit their own listings in the directory. Villagers can choose to share personal information such as name, phone number, address, email and URL.
- Wombat Web Builder — An online web development tool assembled by combining two open-source applications. No experience, HTML, broadband or FTP is needed for e-villagers to create their own web presence.

Technology plans

As part of this project, each participating county received a Technology Assessment and Master Plan based on the Computer System Policy Project (CSPP) Readiness Guide. This was a significant effort. The details can be found at <http://top.bev.net/tamp> and includes the technology assessments and master plans for each county as well as appendices. This phase of the project was conducted by John Nichols of Virginia Tech, an Information Technology Manager at Virginia Tech and a veteran in the planning and deployment of

telecommunications infrastructure. He spent more than a year working on this component of the project, evaluating available assessment instruments suitable for this purpose, using them to design a questionnaire appropriate for this project, conducting technology assessments and using that data to develop a technology master plan for each county. The methodology for developing the technology plan was a three-step process. First, identify needs and goals. Second, identify technology solution alternatives. Third, recommend solutions that appear to be most applicable. Needs and goals were determined from community interviews and recommendations from leaders in the federal government, Virginia State Government and from industry experts. Technology alternatives include DSL, Cable TV modem, wireless, BPL, satellite, and fibre optics. Recommendations include a vision, mission and consolidated goals from extensive lists recommended from the federal, state, and local sources. Coordination with the Virginia Center for Information Technology (CIT) and other partners were recommended. Funding sources were covered in a guide prepared by CIT. Periodic reassessments are recommended to measure progress.

Virtual Business Incubator

The final portion of technology was the launching of the Virtual Business Incubator and community connections. These packages were designed to allow home-based and micro businesses (approximately five employees or fewer) as well as community organisations an opportunity to establish a presence on the Internet without incurring any overhead. These packages consisted of web hosting, two email accounts and an online mailing list of up to 100 subscribers. Training was provided to those who signed up for these services on how to put up their websites. Interns working with the BEV assisted some of these businesses and organisations with their websites as well.

Some project outcomes

Community planning

Of greatest significance may be the fact that so many of the project's participants (44 per cent) said that they had never participated in a community planning experience before. For instance, Cumberland County had the highest level of participation overall (69 people) and the highest percentage of new participants (59 per cent), which may reflect both a particularly strong core leadership in that county and a broad base of recruitment. Participant opinions of Take Charge were uniformly high. In general, the Take Charge process did an excellent job of setting the stage and initially getting people involved in the participating counties.

Sustained involvement

Another measure of increasing involvement on key issues is the level at which counties are sustaining project related activities now that the funded portion of the project is over. In

addition to meetings by leadership teams in various counties, spin-off activities resulting from this project continue to occur.

In addition to the growth in the number of hits on the websites, counties have been able to document the growth in the number of businesses and community organisations who listed themselves in the Village Mall section of their respective Electronic Village Web sites. The average number of unique visits per county website in the month in which they were launched was 63.5. In June 2004, when the funded portion of the project ended, that average had climbed to 335.7, a five-fold increase in twelve months. Though it may be unrealistic to assume that growth at this level can be sustained, the data does indicate that the sites have been well received and quickly adopted by many residents of counties.

Another measure of Internet use is the number of businesses who listed themselves in the Village Mall section of their respective Electronic Village Web sites. This number went from zero when the project began to a total of 333 businesses in March 2005. Of course, simply listing businesses online has no value if visitors don't access those listings. Therefore, we analysed data on visits to the Village Mall. In the first month that the county websites were deployed, we had an average of 58.7 visits to the Village Mall listings. In June, 2004, when the funded portion of the project ended, the average monthly visits to the Village Mall had grown to 159.5, an increase by a factor of 2.7. These numbers indicate that residents of these counties and others are both using the Internet and looking at local businesses for their needs, an encouraging indicator for the small business economy in these counties. Also, we measured the use of the community organisations' websites set up as part of this project. These listings went from zero a month when the project began to 122 in March 2005. Hits on community organisation listings rose from an average of 48.6 hits per site in the first month to 112.7 in the last month of the project, an increase by a factor of 2.3. This indicates that community organisations in these counties are enjoying a growth in Internet use similar to that of small businesses.

The Virtual Business Incubator (VBI) package was designed specifically to help home and micro businesses (approximately five employees or fewer) establish a web presence and promote their businesses online. By the end of the project, we had set up a total of 39 VBI accounts in the seven participating counties with each county (with the exception of Dickenson) having at least five accounts.

In addition to home and micro business owners signing up to use the Web, 122 faith-based and community organisations have signed up for the Community Connections packages that allow them to use the Internet to provide information to existing members and to promote their mission to potential new ones. In their 2002 article 'Building Sustainable Communities through

Network Building', Valdis Krebs and June Holley state ‘‘Communities are built on connections. Connections usually provide better opportunities”,
(see <http://www.orgnet.com/BuildingNetworks.pdf>).
Because community organisations play this significant role in connecting residents within communities, they undoubtedly are contributing not only to social wellbeing but to economic opportunity as well.

Electronic presence

Each county now has a presence in cyberspace facilitated through the creation of an electronic village. Because counties on the Eastern Shore of Virginia (Accomack and Northampton) had the Eastern Shore Virginia Portal, <http://easternshorevirginiaportal.com>, they chose to use the portal as their community network. Team members in all counties received training on BEV in a Box services provided with their electronic village sites to ensure they could manage and administer their electronic villages.

Electronic village sites for the five counties using these services are as follows:

- Craig: <http://www.craigev.net>
- Cumberland: <http://www.cumberlandfirst.net>
- Dickenson: http://www.dcev.net>
- King and Queen: <http://www.kqinfotrail.net>
- Louisa: <http://www.louisaelectronicvillage.net>.

These sites have been well received in their communities. As of March 2005 a total of 333 local businesses had listed themselves on Village Malls and were finding customers among the residents of participating and nearby counties. A total of 122 community organisations were listed online to promote themselves to community residents.

Unanticipated outcomes

One unanticipated outcome has been the BEV internship program. The BEV internship program was launched during this project to give interns and volunteers real world experience working on websites for community organisations and businesses. While determining how to provide more website development assistance to counties in need, the BEV received requests from both the Woodrow Wilson Rehabilitation Center (WWRC) in Staunton, Virginia, and the New River Community College to place interns. Thus far, BEV has matched three interns with multiple businesses and community organisations to establish their initial web page at no cost to them. In return, the interns have been given the option of placing on the pages they produce a link to a site provided by BEV where the intern may place a resume and online portfolio.

In addition, the WWRC interns are performing their work over the Internet from Staunton, Virginia, even though the server is in Blacksburg and their customers are dispersed across the state. These interns, should they choose to do so, can continue to do the same work from anywhere in the commonwealth where they can find appropriate connectivity. Furthermore, the highly successful personnel screening and self-training techniques developed through Project Train IT at Woodrow Wilson were impressive. This model, developed under a grant from the US Department of Labor, can scale and could be used to create online entrepreneurial and economic opportunities virtually for anyone. The BEV hopes that this program will be able to continue and be a partner in the future.

Another unanticipated product of this project is the web authoring system for novices and first time creators of websites. Some individuals who had signed up for the Virtual Business Incubator and Community Connections packages were intimidated by the prospect of putting up their first website, despite the training provided. One way to overcome this obstacle was through the BEV internship program described earlier. At the same time, BEV launched an effort to locate an easy to use, low (or no) cost package that could be added on to the BEV in Box offering without too much effort. This software offered the basic functionality and was adapted for use with Virtual Business and Community connection accounts.

Also, through this project, alliances with community colleges to promote economic and workforce development activities occurred. The Eastern Shore Community College and Southside Community College have held web design workshops and business development courses that have benefited residents of the Eastern Shore (Accomack and Northampton) and Cumberland counties, respectively. It is anticipated that further affiliations of this nature will lead to classes and training on a variety of topics such as business development, workforce training and web design.

A noteworthy outcome of the work on this project in King and Queen County was the organisation of a regional Agritourism Business Opportunities Conference held in King and Queen Courthouse on 9 May 2003. More than 60 people registered for the conference, including the Director and Associate Director of Virginia Cooperative Extension, a staff member of Congresswoman J A Davis from Virginia Congressional District 1 and economic development officers from surrounding counties. Evaluation survey results indicated that the conference met a perceived need and that additional community readiness workshops of this nature are needed.

Project accomplishments

The development of electronic villages not only provided tangible means for increased participation in an economy that thrives on the exchange of timely information between producers and consumers of goods and services, this project also empowered citizens by

providing a focus and framework to discuss significant issues facing communities by utilising technology to improve social and economic environments and building community capacity.

Each county has access to a technology master plan that outlines their most likely technology infrastructure options and suggests next steps that might be taken to achieve the vision that they articulated during the consensus building phase of this project. Examples of these efforts include writing proposals to bring broadband to rural areas, forming partnerships with local school systems to ensure that there is a trained work force and involving the Chamber of Commerce and local governments in supporting technology initiatives for new and existing small businesses.

In addition, county residents have reported an increase in Internet usage to locate local resources; home-based and micro businesses have utilised it for local and extended marketing that has, in turn, encouraged other businesses to list themselves on the Village Mall. As a result, local organisations and businesses have gained unprecedented exposure in their communities through a new marketing and communications channel.

The online Community Connections has increased community 'networking' opportunities for end users; the Community Calendar has increased citizens' awareness of public meetings and allowed input through the Discussion Forum. This forum has fostered an increased awareness of local issues whereby citizens' voices are heard by elected officials and other community leaders.

Stories from the counties

In every participating county, on a regular basis, citizens and community leaders share suggestions and comments relative to their community electronic village. Some are:

> "As a county supervisor, I hear very positive comments about our web page. Several citizens have commented that they found helpful information about the county and services available via the web page. I know that more local businesses will use web pages in the future to promote their businesses. We also discovered that Cumberland will need broadband to stay in touch with the rest of the world. I feel that this technology project has opened Cumberland's eyes to see the possibilities. I am excited about our future and look forward to working with the citizens of Cumberland, BEV and VCE to achieve our technology goals." (Van Petty, Cumberland County)
>
> Ted Overby stated that since he had a web page developed for his business specialising in countertops, in a matter of a few days of posting his web site, he received seven jobs. (Cumberland County)

“Our business has increased since setting up a Virtual Business Incubator account. We are getting business from outside the county. We Love Our Site!” (Carol Eltzroth and George Costen, Cumberland County)

“I’m getting orders from people out of the county since listing my business on the web site; this distinguishes me from an average cake-maker.” (Sarah Schember, Cumberland County)

“I have had this Web design business for almost 8 years but expanded and relocated to an office outside of my home this year. .. I can confidently say that (the electronic village) has played a major role in raising the demand for my services. Until the last year, most of my business was from out of the area and sometimes out of state. Local businesses had not seen the need to expand to the internet. Most even saw having a web site as a luxury, not a necessity. With the development of the DCEV and a few other projects at the same time, business owners finally see that without a web site they are being left behind. Also, people finally see how the internet "levels the playing field" for them. I am already seeing how this has affected our community. Technology is coming to the forefront and the TLT has the opportunity to lead even in ways other than the DCEV.” (Kim Carol, Dickenson County)

Marjorie Lewter, DVM and single parent uses the Internet to publicise and build her in-home veterinary practice. She had limited time, expertise and resources to build her business while providing for her young daughter, so she signed up for a Virtual Business Incubator account and got assistance putting up her website. (Craig County)

”Being a very rural county, we found most people are just starting to use the Internet as a source of information. We found most small businesses were interested in having a Web site but thought it would be too expensive and just had no idea about how to begin to get one. If we had not offered free Web sites and information on how to get started, most would not have gotten one.” (His wife designs, makes, and sells custom handbags. Many potential customers who lived outside the county were asking for her Web site so they could see a sample of her offerings. She was frustrated because she didn't have a Web site and it was cost prohibitive for her to set one up to find out if it was worth doing. When she heard about the Virtual Business Incubator offering, she signed up for an account and became one of the first local business persons in King and Queen County to do so. As a result of this she is now able to reach a broader customer base and therefore expand her business.) (Lawrence Simpkins, King and Queen County)

Eddie Weindel, owner of a sign company, consistently participated in discussions and community meetings. He was so enthusiastic about the project's potential for the county that he created 25 political campaign-type signs publicising the KQInfoTrail. (King and Queen County)

The owners of a campground discovered a river excursion boat business when they logged in to the KQInfoTrail for the first time. Now campers looking for something to do in and around the area are referred to this and other attractions such as two museums and historic homes. (King and Queen County)

One family had talked about turning their 30-acre farm into a family business with each family member developing and managing a different component. It developed into an up-and-coming regional agribusiness resource, signed up for a Virtual Business Incubator account and created their website, which provides a great overview of the family, their philosophy and current offerings: farm-grown honey, shiitake mushrooms, blueberries, and nursery stock. Future plans include handmade crafts (their own and others from across the county), archery lessons, pony rides, and a three-hole golf course — things specifically designed to keep some people busy while others peruse sales or "pick their own." (King and Queen County)

The first community group web page belonged to the Woman's Club of King and Queen. The enthusiasm displayed by this group of ladies, ages 60 and over, was very refreshing. The older generation led the younger into new and exciting adventures.

One community member that visited the website during its first week discovered a local river boat cruise and made reservations for her entire extended family to take a cruise that very next weekend. (King and Queen County)

One discussion dealt with the inactivity of the local Parks and Recreation Department. After a clarification and upon learning that a member from this individual’s voting district was needed, she volunteered and a new representative to the local Parks and Recreation Commission was installed. (King and Queen County)

A member of the Upper King and Queen Ruritan Club stated that “…I have lived in the county for over 30 years and this (the KQInfoTrail) is the best thing to happen to the county in all that time…excited about the potential economic impact this could have over time…" (King and Queen County)

Some lessons learned and recommendations

It is difficult to implement such a complex project during a time of administrative and personnel changes. To orient and inform the county project leaders about the project and its expectations, a two-day project meeting was held. However, shortly thereafter several key administrative persons were replaced within the respective partners (i.e. VCE and BEV). Both, a new associate director in VCE who was in charge of the project, and a new director of BEV who served as the overall director of the project, came on board. Also, the project's technical coordinator was replaced. These three people were critical to the success of the project providing both stability and direction to the project. Also, the project had identified extension agents who worked in the selected counties to be each county's project leader (coordinator). During the time the project was being launched, VCE downsized and reassigned some of its agents, resulting in some agents acquainted with the project leaving and being replaced. This created a 'disconnect' in the project because those leaving had attended the original orientation meeting about the project. While the newly-assigned agents were given an orientation, in some instances their new assignment was not well received. Many considered the additional work of the project to be on top of an already full work load.

The geographic separation of the participating counties presented a tremendous challenge in communication. To keep everyone informed, BEV set up a TOP website, which included meeting minutes, publicity materials, PowerPoint programs, pictures of local meetings and activities and the project's Implementation Plan. The implementation plan included explanations of each step. An additional VCE specialist was hired by the project to manage the project and act as a liaison between the project's administrators and field agents and volunteers (e.g. TLT members). However, the geographical locations of the counties proved difficult for the specialist to manage with counties located within the central part of the state receiving attention at the expense of those further away.

Because of the difficulty in accomplishing so many technology details with too few resources, a plan should have been implemented to extend the partnership with extension to include their area's IT specialists in assisting with technical support and identifying and/or providing resources for meetings and workshops. This person could have relieved the pressure on the BEV folks and become fundamental in the longevity of the project. It was unrealistic to think that the project staff could work effectively with the entire state in a hands-on capacity.

Also, the budget should have been designed to allow for unexpected expenses such as marketing the project, making copies, etc. Also, there were differences between BEV personnel being paid from the project and VCE personnel being paid through cost sharing/matching funds. The time estimated in the budget as a match was inadequate for performing the work required for the project.

A key factor in the project is ‘community’. The project needed to have people who embraced its goals and who were committed to its success. Linking the project to the respective communities was found to be vitally important. Residents needed to take ownership of their county and its future. Some counties attributed their project success to having identified a core group of people within their county who provided drive and sustainability to the project. Also, solid partnerships were found important and needed to be created early on with local government, chamber of commerce, board of supervisors, etc. Emphasis should be placed on including young people in the project. For example, involving the local school system was mentioned by several counties as an important ingredient in having a successful project.

Summary and conclusions

The Getting Rural Virginia Connected: A Vision for the Future project provided assistance to seven counties in developing the capacities needed to prosper in today’s information oriented economy. The project helped county residents to realise their capacity to take ownership of their futures. Importantly, the participating counties were asked to identify problems and issues within their county, vision/plan for their county’s future and use technology appropriately in forming community networks to become part of the information age and enhance their economic development. However, it was found that empowering residents within a rural county is not an easy task. Doing so rests heavily on local leadership, a county’s willingness, and its resident participation. Each county was found to be distinctly different in these areas.

Seven geographically dispersed counties were found to be too many. Project coordination, communication and support seemed to be continually stretched due to so many counties in different parts of the state being included in the project.

At the end of the project, five of the participating counties had developed a community website with two counties, located on the Eastern Shore, partnering with an existing network. In reviewing the developed websites, it was found that each were extremely well done reflecting the uniqueness of the county. Importantly, each of the counties has trained volunteers to maintain their representative website.

The major accomplishments of the project which tended to stand out from the evaluation included: 1) new partnering efforts; 2) project outcomes; 3) unexpected outcomes; and 4) recommendations/lessons learned from the project. The first of these, new partnering efforts, included BEV and VCE agencies working together as major partners. There is an expectation for there to be initiatives in rural development between these two in the future. An unexpected partner was the community networking efforts already in place on the Eastern Shore. The Eastern Shore Virginia Portal was a community network through which partnering efforts resulted in benefits to the entire region. Other partnerships included counties working with

community colleges (e.g. Eastern Shore Community College and Southside Community College) and local school systems (e.g. Cumberland Middle and High School and King and Queen High School).

The second area of accomplishment for the project was in expected outcomes. While several of the outcomes were modified, those standing out include the technology assessments conducted and the developed Technology Master Plans for each county. These individual plans are vitally important to counties planning for their future in the technology age and provide substantial information and direction regarding existing and emerging technologies.

The third area of accomplishment is the unexpected outcomes of the project. Several of these reflect how the project helped communities assume more control of their future through using technology. Those that standout include King and Queen County, which created a Business Opportunities Conference and focussed on agri-tourism and in developing new partnerships and programs. As unexpected outcomes, they demonstrate the benefits that counties realised beyond the project. Both of these ventures show how counties that have been empowered to use technology in determining their own futures can independently create opportunities for their residents.

Finally, there were many lessons learned from the project. While several stand out as important to the project's success, it should be emphasised that the participating counties were different in how they implemented the project, with some struggling with one thing and others struggling with something else. One of the most important lessons was in getting the residents within the county interested in the project and becoming actively involved.

Overall, the project demonstrated that using the process developed for the project can successfully empower rural counties in planning for their future and benefiting their residents through the use of technology. Counties were found to have used technology to enhance their economies by implementing a community network. Community benefits associated with the project are far reaching because it has empowered the participating counties to take ownership in planning their own future and in using technology.

References

Ayers J et.al. 1990, *Take Charge: Economic Development in Small Communities,* North Central Regional Center for Rural Development.

Bruce F A & Lambur M 2004, 'An Evaluation Report of the Getting rural Virginia Connected: A Vision for the Future Project', prepared for the US Department of Commerce Technology Opportunities Program (TOP).

Krebs V & Holley J 2002, 'Building Sustainable Communities through Network Building', <http://www.orgnet.com/BuildingNetworks.pdf>.

Final Public Report 2004, ‘Getting Rural Virginia Connected: a Vision for the Future’, <http://top.bev.net>.

US Census Bureau, Virginia Quick Facts, <http://quickfacts.census.gov/qfd/states/51/51131.html>.