

A man wearing a brown hat and a blue t-shirt is holding a white smartphone. He is standing in a grassy field with a sheep in the background. The background shows a rolling landscape with trees and hills under a cloudy sky.

Putting Broadband to Work for Vermont

Final Report of the e-Vermont
Community Broadband Project

Fall 2012



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Welcome to this Final Report from the e-Vermont Community Broadband Project

The Vermont Council on Rural Development (VCRD) works with Vermont communities to identify local priorities and rally residents behind those goals.

Since the year 2000, we heard the call from rural Vermonters on the critically important need for broadband connection. We became a key convener of state, federal and non-profit leadership efforts to expand infrastructure in rural Vermont, and a facilitator of local demand aggregation to attract services to rural communities.

Soon another issue emerged – after broadband infrastructure arrives, how do communities make best use of those resources? To answer that question, VCRD led a partnership to form the e-Vermont Community Broadband Project. The partnership included the Vermont State Department of Libraries, Digital Wish, a national leader in one-to-one computing curricula for schools, Front Porch Forum, a Vermont-designed and community-based social networking system, the Vermont State Colleges, VT Small Business Development Center, and the Snelling Center for Government.

For two years the e-Vermont Partnership worked throughout Vermont to expand business capacity and create new jobs, build neighbor-to-neighbor communications, transform schools by personalizing learning and accessing new worlds of ideas and activities, make libraries information centers and gateways to the online world, launch innovative digital literacy programs, and give municipalities a new power to communicate and serve their citizens.

We have built a cultural infrastructure for innovation, founded on local leadership, and providing models for rural towns everywhere.

In areas just coming into broadband service throughout rural America many people don't recognize the benefits of new digital resources: businesses lack websites and social networking, schools don't use online offerings, and libraries don't have the equipment or experience to connect patrons with online resources. One in five adults doesn't use the Internet at all. On the other hand, younger folks who have grown up with broadband will not choose to live in towns lacking fast connections and digital culture.

In 2010, the Broadband Technology Opportunities Program allocated federal stimulus funds to e-Vermont to overcome the digital divide and build innovation in rural use of new broadband capacity as a way to support sustainable broadband adoption. Private funders committed to closing this divide provided matching support, for which we thank the Evslin Family Foundation, VT Community Foundation, Microsoft, Comcast, Dell, VT Rural Partnership, UVM Center for Rural Studies, and the Jan and David Blittersdorf Foundation.

e-Vermont was founded on the power of community. Its services were customized to meet local needs under local leadership. It supported community goals to strategically use the Internet to solve local problems and build local opportunities. It built established models of local action in 24 communities that can be used across the state and country. This report shares some of their lessons; more are found online at www.e4vt.org.

VCRD, and e-Vermont, are founded on faith in local community and democracy in action. It has been our honor to serve as a catalyst for innovation in the e-Vermont communities and to now contribute the findings of this report for replication elsewhere.

Paul Costello, Executive Director,
Vermont Council on Rural
Development



Introduction

Why does the Internet matter?

Over the course of two years, the e-Vermont Community Broadband Project asked this question and got blank stares from both people who couldn't imagine life without the Internet and people who couldn't imagine why they would want the Internet in their lives.

It's a fair question.

In 2010–2012, the length of the e-Vermont project, the state of Vermont was in the process of deploying \$410 million in federal investment plus private capital to bring broadband (high speed Internet) to all Vermonters by the end of 2013. In 2011, the Governor established the ConnectVT office to coordinate the efforts for universal availability and the website broadbandvt.org launched to let Vermonters report their address for service if they had not yet received high speed Internet.

In these same years, the Pew Internet & American Life Project reported that one in five adults doesn't use the Internet. For older demographics, 65 and up, that number jumps to more than half not using the Internet. In lower income households, a third of adults don't use the Internet. Do these non-users think that the Internet matters? National and statewide surveys have consistently found that when households have broadband available to them and do not subscribe, half of respondents say that it's because they don't see the Internet's relevance to their lives.

This split marks a profound divide in the way we use technology in our lives and our communities that has important implications for the work that's gone into bringing broadband to all Vermonters. Broadband can be transformative for economic development, community communications, education, health, government, all aspects of rural life – but only if we use it effectively. At the same time, service providers often balk at building out into rural areas because the low overall population and disproportionate number of households who elect not to subscribe make for a poor return on investment. Improving adoption rates bolsters the economic case for bringing broadband to all of Vermont. This rule applies not only for today's high speed Internet, but also for the deployment of tomorrow's digital technologies.

In 2009, the Broadband Technology Opportunities Program (BTOP), an American Recovery and Reinvestment Act project, announced their Sustainable Broadband Adoption (SBA) grants program to fund:

Projects that focus on increasing broadband Internet usage and adoption, including among vulnerable populations where broadband technology traditionally has been underutilized. Many projects include digital literacy training and outreach campaigns to increase the relevance of broadband in people's everyday lives.

The e-Vermont Community Broadband Project partners came together to apply for these funds with a new strategy for increasing Internet subscription rates in rural Vermont communities. The Vermont Council on Rural Development (VCRD) served as the lead partner pulling together input from multiple organizations each with their own area of expertise. We built our approach around community-based solutions for sustainable broadband adoption. This focus meant two principal things:

- e-Vermont listened to a community's needs, goals, opportunities, interests, and matched online tools in response.
- e-Vermont partners entered a community with deep expertise in a particular sector – including education, business, community development and municipal government – then brought lessons learned on the ground together into a broader understanding of whole-community needs.

The e-Vermont Community Broadband program received one of only 12 grants in the first SBA round nationally. Vermont was one of only two states in this round to use a community-based approach to broadband adoption. A strong group of additional funders matched the federal grant funds, including the Vermont Community Foundation, Evslin Family Foundation, University of Vermont's Center for Rural Studies, Vermont Rural Partnership, Jan and David Blittersdorf Foundation, Microsoft, Dell and Comcast.

Through a competitive application process, the e-Vermont partners selected 24 rural communities from around the state to receive services between spring of 2010 and spring of 2012. Community Directors from VCRD coordinated partner efforts and also worked with towns to identify, and implement, projects built to respond to specific local needs. Over the course of the two years of in-community work:

- o **Digital Wish** distributed 1,326 Netbooks to classrooms serving 1,294 Vermont students, conducted over 3,000 educator trainings and launched a statewide afterschool program where students could create computer games and websites using Microsoft Kodu and Expression software.
- o **Vermont Small Business Development Center** worked directly with 143 business clients, presented 45 business workshops, and developed a toolkit for businesses starting to explore online strategies for meeting their business goals.
- o **Snelling Center for Government** built websites with 15 municipalities statewide and developed an online resource center describing the process. The Snelling Center led regional workshops and the May 2012 closing conference on Vermont's Digital Future (report available at www.e4vt.org).



e-Vermont Partner Organizations:

Digital Wish
digitalwish.com

Front Porch Forum
frontporchforum.com

Snelling Center for Government
snellingcenter.org

Vermont Council on Rural Development
vtrural.org

Vermont Department of Libraries
libraries.vermont.gov

Vermont Small Business Development Center
vtsbdc.org

Vermont State Colleges
vsc.edu



e-Vermont worked in rural communities in every corner of the state. Read community profiles at e4vt.org.

- o **Vermont State Colleges** offered 68 workshops on basic Internet topics and piloted two new projects. Internet Interns places students in local libraries to provide computer assistance for patrons, iConnect trains participants in technical and pedagogical skills for working with people new to using the Internet.
- o **Vermont Department of Libraries** worked directly with 27 public libraries to upgrade equipment, expand public Internet access and improve online services.
- o **Front Porch Forum** built 28 forums with 8,577 subscribers in e-Vermont communities. The average subscription rate is 32% of households (as of summer 2012), with some towns reaching rates over 80%. In December, 2011, FPF launched a new online community calendar tool through e-Vermont.

Under the leadership of the **Vermont Council on Rural Development**, e-Vermont communities also pursued independently developed projects, including wireless Internet zones for downtowns, online archives for local historic documents, a computer learning center for conducting workshops led by local instructors, public Internet access using mobile computer labs, community open houses showing how local entrepreneurs use online tools in the creative economy, equipment for a community media center that helps organizations tell their stories in a multimedia format, and improvements to online farmers' markets.

Summary sheets for the work in each of our individual e-Vermont communities are found online at e4vt.org.¹

The following pages of this report describe partner accomplishments in more detail alongside the tools and resources e-Vermont leaves behind for any community leaders who want to optimize the ways that broadband infrastructure meets local goals. We strongly encourage reviewing the online version of the report, with expanded resource links at e4vt.org.



¹<http://e4vt.org/programs/e-vermont/communities>

Accessing the Online World

The e-Vermont Community Broadband Project did not build broadband infrastructure, but we did address Internet access through projects that increased free, public Internet options. Communities sought assistance with creating public Internet access for a variety of reasons:

- If not all parts of the community had received high speed Internet infrastructure, free high speed options in downtown areas could help cover the gap in service while construction projects continued toward the goal of universal broadband access.
- For community members who could not afford household Internet subscriptions and did not have work-based options, free public Internet connected them with vital communications and services.
- Public options for getting online supported digital literacy efforts. They gave beginners virtual practice space and created known points of connection – such as a library – where e-Vermont could make instructional materials and tutors available (see *Teaching Internet Basics*, page 8).
- The Digital Wish 1:1 computer initiative focused on a school-to-home connection for students receiving Netbooks. While teachers did have options for saving online pages to ensure students without Internet access at home could complete their assignments, offering convenient places to get online outside of school and home expanded learning opportunities for both the students and their families.
- Although many visitors and travelling businesspeople use mobile technology to stay connected, many tasks are simply more convenient to do on a computer with a wireless connection. Projects like downtown Wi-Fi zones and hotspots now provide a useful amenity to travelers passing through e-Vermont communities.

The starting point for finding public Internet access in a community is usually the public library. As part of e-Vermont, the Vermont Department of Libraries directed funds to purchase computer equipment, and expand online services, in public libraries. Over the course of two years, e-Vermont allocated \$96,000 to 27 libraries. In spring of 2012, Google matched this amount with 100 donated computers that went to a network of public libraries and adult education centers. All computers supported the goal of increased public Internet access.

Some communities requested additional access locations beyond their libraries. A partnership with Comcast allowed some non-profit organizations to receive complimentary Internet subscriptions that many turned into public access points. Bridgewater, for example, put their Grande connection from Comcast to work organizing a major relief effort following severe

From **Poultney...**

“People have told us that they are thankful for the increased number of computers...we received through e-Vermont... Perhaps the largest number of new computer users has been [people] with no computer experience coming in to learn how to file for [social service] benefits. Many have been grateful for the ready availability of computers, now that there is seldom a wait list, and the friendly assistance of our [e-Vermont] intern Lee and the library staff.. We have many out-of-town visitors who use our computers/wifi and the new downtown wireless network to keep up on their work while on vacation in Poultney. Some have used the Poultney Public Library to work online at jobs as far away as Alaska!”

~ Rebecca Cook, Director,
Poultney Public Library



Find a toolkit for creating Internet access in your community at e4vt.org

flooding from Tropical Storm Irene and shared their experience at the e-Vermont regional conference.

Some towns made creative use of hot spots. In Bristol, the public library sent a mobile computer lab to senior lunch sites that were converted into hot spots, allowing seniors to access the Internet. Fairfield's library built a mobile lab to send to farms for workers' use. Middlesex and Bristol both experimented with opening up school computer labs for access by the community.

One of the more ambitious approaches to public Internet access was the Wi-Fi zones built by seven e-Vermont communities. Wi-Fi zones differ from hot spots in the amount of area they cover; they use equipment called repeaters to bring the signal throughout a downtown or across a town green. We modeled the e-Vermont zones on the Wireless Woodstock project, with help from Haystack Digital. A toolkit describing how to create wireless Internet zones is available online as part of our Public Internet Access toolkit.²

Jay and Westfield, *two small towns on Vermont's Canadian border, knew their residents needed more access to computers and the Internet. But where should the access be located to make it convenient for the greatest number of people? It turned out they didn't need to find one place – instead they used e-Vermont funds to purchase a mobile computer lab that can travel easily to community centers and hot spots in either town. Local volunteers also stepped forward offer tech training to go along with the computers. It's a shared success for the region.*

Bridgewater *was hit hard by flooding during Tropical Storm Irene in 2011. Many systems for communication went down for days. Luckily, just two weeks before the storm, Comcast had donated an Internet connection to the local grange hall and e-Vermont had added a wireless router to create a hotspot. This historic hall quickly became a hub for community members to get online and coordinate relief efforts. Having a hotspot let people who'd lost power or been displaced by the storm stay connected. The virtual relief center brought in so many supplies that they spilled over from the Grange hall to the town garages. Read more on the community stories page at e4vt.org.*

Along the way, e-Vermont and our partners identified several needs for public Internet access beyond simply creating more of it:

- As essential services go online, including unemployment benefits and applications for other assistance programs, it becomes increasingly important to not only have public Internet access available, but also to offer some level of privacy to patrons who are entering personal information online.
- Providing public Internet access will invariably open the question of what additional services go along with it, for example technical troubleshooting, answering specific computer questions, and helping increase basic digital literacy (see *Teaching Internet Basics*, pg 8). Sometimes demand for these additional needs makes organizations reluctant to advertise public Internet access. On the other hand, some e-Vermont projects specifically offered workshops and other assistance to draw visitors to newly opened public access points.
- Equipment donations are often critical to successful public Internet access points, as many patrons who don't have Internet access elsewhere will not have their own devices to bring. However, collecting donations that are sufficiently up to date, configuring them for their new home, delivering them, and then installing the network once they arrive all requires planning, modest funding, and multiple people's time.



Libraries have become the gateways to online information for many rural communities. Vermont has a network of 183 public libraries.

Getting Online in Vermont:

While public Internet access options vary from community to community, statewide networks exist through:

- Public Libraries (183 statewide)
- Adult Education Centers
- Adult Technical Education Centers
- Community Assisters (for accessing state benefits)
- Dept. of Labor Resources Centers (for accessing employment information & benefits)

Broadbandvt.org is Vermont's portal to broadband information – go here to find out about coverage & look up a public access point near you.

 **BroadbandVT.org**
Vermont's Broadband Information Resource

*Community College of Vermont
academic centers in*

Morristown *and*

Newport *hosted the first*

trials of what became the iConnect

program. Instructor Mary Kay

Dreher made a lot of adjustments

while she developed the final

program, but one thing remained

the same - her belief that with a

little encouragement anyone can

get comfortable online. “One

thing that was so striking to me

in all the research I did was the

reality that adult learners are

really goal oriented and self

directed...” she says, “...often

[instructors] miss the mark on

holding up that goal oriented

approach.” See the results at

e4vt.org/iconnect.

Teaching Internet Basics

Teaching basic digital literacy in e-Vermont began with workshops offered by Vermont State Colleges (VSC) instructors in e-Vermont communities. Over the course of two years, VSC offered more than 60 workshops, bringing college level instructors directly to residents of rural towns around the state. A webinar series through VSC and e-Vermont partners added more topics that were open to remote participants; these webcasts are collected in an online library and available for use by other communities.³

Although their workshops ultimately reached 450 Vermonters, VSC saw a need to incorporate some additional elements missing from the workshop format:

- 1) Emphasis on 1:1 assistance: Across the board beginners preferred individual attention.
- 2) Instruction offered when the learner has a particular question. While many computer beginners may simply decide it's time to learn computers, many more make this decision when they have a specific need – like looking for a job or communicating with grandchildren. These hooks not only drive beginners to find instruction, they also keep them practicing online so that the instruction translates to actual learning.
- 3) Attention to options for self teaching: Many adult learners will not have time for a series of structured classes in digital literacy. Plus, even if they do complete basic classes, they will need to be able to learn new tools on their own to keep current with changing technology. There are many tutorials online for learning Internet basics, a new learner in a 1:1 setting needs to master the threshold skills required to get to those online teaching tools. e-Vermont offers an introductory page to beginner resources developed by VSC and recommended tutorials from other organizations.⁴

Two e-Vermont programs developed and piloted by VSC, with leadership from the Community College of Vermont, addressed these critical elements beyond what workshops could offer. The reach of CCV academic centers, within 25 miles of 95% of Vermont residents, allowed for a quick roll out of



³ <http://e4vt.org/programs/e-vermont/newsevents/webinars>

⁴ <http://e4vt.org/programs/e-vermont/toolkit/internet-basics/beginners>

statewide pilot programs in both e-Vermont communities and the network of organizations working with e-Vermont.

1 The **Internet Interns**⁵ program placed trained student interns in 14 libraries in e-Vermont towns where they provided over 360 hours of one-on-one assistance to patrons, along with instruction to library staff and volunteers. Some libraries worked with students to design additional programs, such as outreach to home schooling groups for small group sessions, bringing mobile computer labs to senior lunches, and offering a “KindleGarten” workshop.

One-on-one instruction provided at the local library, on a consistent weekly schedule, offers advantages not found in standard computer classes. Learners can seek assistance in a familiar community place and do so at the time when they need it. Learners receive highly tailored instruction, allowing them to move at their own pace and follow their own interests, increasing the likelihood that they will practice the skills they’ve learned. The instruction happens at a public Internet access point, so learners have a place to come back to throughout the week for practice.

This format for assistance had not previously expanded in a systematic way across Vermont because many libraries lacked staff and volunteer capacity to offer it, a problem that partnering with VSC solved. In recognition of the innovative collaboration between the Vermont State Colleges and public libraries to meet a previous unmet need, the Vermont Community Foundation awarded these partners one of their first Innovation and Collaboration grants to extend Internet Interns into the 2012-2013 school year.

2 The **iConnect**⁶ program for teaching Internet basics is a new approach to achieving statewide digital literacy that has the potential to serve as a national model. The iConnect training was developed based on two findings:



- i. Many beginners are being pushed onto the Internet for the first time as essential information and services go to primarily online formats. These Internet beginners now have a compelling reason to gain digital literacy skills, but many aren’t seeking help at traditional computer classes or workshops. Instead, they’re seeking assistance with a particular Internet need, such as filing for unemployment benefits, applying for a job or applying for assistance from the Agency of Human Services; the lack of digital literacy is a secondary issue for these learners. This trend is turning employment resource centers,

“I love that something that seems so simple and easy to me can be so meaningful and life-changing for someone else. I’ve had comments like “Thank you, I think you just saved my marriage” that help me to see what a huge obstacle Internet-literacy can be!”

“I recently had a session with a gentleman who is 81! He told me that he had decided he would no longer make excuses about not knowing how to use a computer and was determined to finally learn how to use the Internet despite the carpal tunnel which made it painful for him. I was so inspired by his drive to learn something new despite the excuses available to him!”

– Quotes from Internet Interns



⁵ <http://e4vt.org/programs/e-vermont/internet-interns>

⁶ <http://e4vt.org/programs/e-vermont/toolkit/internet-basics/instructors>

*Find toolkits for Internet Basics,
iConnect & Beginner Friendly Websites
at e4vt.org*



Community Action Programs, libraries and other organizations into de facto Internet training centers. That change has led to new training needs for employees and volunteers.

- ii. The Internet itself offers many great tools for learning basic skills. Beginners can teach themselves using online tutorials, as long as they have an Internet connection and the threshold skills needed to access those online tutorials. The ability to impart these threshold skills is a key goal for iConnect participants (see *Teaching Internet Basics*, pg 8).

The iConnect: Skills for Working with Internet Beginners training is a three-hour workshop, with supporting materials, that helps participants:

- Assess levels of digital literacy
- Walk beginners through specific online tasks
- Highlight core Internet skills for beginners
- Give beginners the resources they need for further learning

The iConnect program is designed for anyone interested in improving their ability to work with Internet beginners in any setting, whether that is providing customer service for a job application site, helping a citizen navigate online government information, or showing a library patron how to find information online. The goal is for participants to be able communicate effectively and efficiently. Part of this effective communication is helping beginners start on the path towards digital independence by imparting basic concepts and options for learning more.

CCV instructors designed, tested, and refined iConnect with six test runs of the program at CCV academic centers in Newport, Morrisville, and two each in Montpelier and Winooski. They then created a turnkey package that allows any organization to adapt the training to their needs and independently present the workshop and materials. These tools are all available online at e4vt.org/iconnect. The Department of Libraries is making the printed materials available throughout the public library system and is adapting iConnect to become a training for librarians in fall of 2012.

An indirect outcome of the digital literacy work described above has been the Beginner Friendly Website Design toolkit. While testing best practices for walking beginners through websites, iConnect participants noticed design elements that made these sites unnecessarily confusing. Even sites that meet basic usability guidelines may still be difficult for a beginner audience. Beginner-friendly elements are summarized in the online toolkit.⁷

⁷ <http://e4vt.org/programs/e-vermont/toolkit/internet-basics/tips-beginner-friendly-website>

Online Tools for Real World Communications

Community Based Social Networking

Throughout Vermont, communities look to online tools to improve communications, but also worry that too much time in the online world will weaken ties in the real world. This healthy skepticism and shared value of community relationships makes Vermont the perfect place to develop online tools that serve as a force multiplier for existing connections in the community fabric. The e-Vermont approach of always starting with local needs underscores this ultimate goal of building community.

Front Porch Forum (FPF) is an online platform for sparking informal community conversations that focuses on strengthening real world connections. It began when founder Michael Wood-Lewis discovered he had no good way to get to know his new Burlington neighbors. The online connections he created through FPF served as a modern day equivalent of borrowing a cup of sugar. Today, almost 80% of FPF participants think that it makes their neighborhood feel more neighborly.

At the start of e-Vermont, FPF had spread throughout Chittenden County; e-Vermont introduced this network to rural towns throughout the rest of the state. FPF built 28 new forums in e-Vermont communities. At the end of the project, these forums averaged a subscription rate of 32% of households. These rates continue to grow; after just one year some e-Vermont towns had already passed the 50% mark.

Unlike many online tools, such as listserves, Front Porch Forum is moderated. Employees manage information flow, clustering messages into easy-to-read e-newsletters so that users aren't overwhelmed by traffic. These online community managers also ensure that personal attacks stay out of the conversation, and very occasionally a topic of conversation is placed out-of-bounds if it turns too negative.

Another aspect of Front Porch Forum is that it requires participants to use their actual names, not e-mail addresses or user names, for their correspondence. The early emphasis in these forums tends to be on "classifieds" style postings – for example, borrowing tools, hiring someone

90% of FPF participants think it improved their neighborhood, 78% feel it makes their neighborhood more neighborly. Meanwhile, nationally, 86% of us believe neighbors affect our happiness but only 25% know the names of most of our neighbors.

*Community communications are on the minds of town residents across Vermont. When the e-Vermont community of **Pownal** worked with VCRD in 2006 to set local priorities through a Community Visit, they came to a priority that's common throughout the state:*

“Many residents feel that having three geographically distinct communities contributes to weak communications. Pownal should develop a systematic communications strategy to boost positive community identity (in and out of town) and improve communications across community groups. A committee of residents could consider and implement possibilities around building a town newspaper or newsletter, developing the town website (with leadership from the town's youth in design and production), setting up a bulletin board or kiosk, producing a town directory, issuing local press releases, and systematically reaching out to newcomers to the community.”

-2006 Pownal Community Visit Report

*Tropical Storm Irene turned the normally calm Mad River that flows through **Moretown** into a torrent that took houses and bridges in its wake. Just prior to the storm, this e-Vermont community was slowly building interest in their new Front Porch Forum. With the storm came an explosion of activity. Membership leapt 50% and printed versions of the posts appeared each day at the Town Hall. Alongside updates from town officials came citizen comments like this one: “We’ve lost half a house but we’ve gained a community.”*

Visit the Snelling online resource center at evermontbroadband.org



to mow the lawn, announcing school events – which then lead to neighbors meeting each other in real life for the exchange. Forums usually mature to include debate of local issues, organizing community-wide projects, and engaging with local government.

Longstanding FPF platforms tend to have very high usage rates, both in the number of participating households and in the frequency of posts. They usually reach these rates in one of three ways: a local champion heavily promotes the service and signs up a large number of people from the beginning, a significant community event occurs and people look for a neutral place to discuss it, or the sign ups simply reach a tipping point when, after years of slow but steady growth, it seems like “everyone” is on FPF and there is a rapid sign up from the remaining households. E-Vermont towns appear to also follow this pattern.

One new tool requested by several e-Vermont communities was a common calendar. This calendar needed to be a widget that could go on any local website and also needed to become, and remain, populated with events from the beginning. While communities had started calendars with good intentions in the past, they often found that un-staffed calendars didn’t get enough use to take off. Managing the calendars, while it solved the problem of keeping events up to date, became a significant burden for local volunteers. e-Vermont’s solution was a Front Porch Forum-linked calendar. This tool offers a web form to submit events from inside or outside the FPF system and pulls events from FPF postings to add to the calendar. All 28 e-Vermont FPF’s now have this tool.

Digital Tools for Municipalities

A different type of community communications tool is platforms for sharing official information from the municipal government. As part of e-Vermont, the Snelling Center for Government developed a simple, inexpensive template for municipal governments to use, along with a resource center offering guidelines on creating a municipal website.⁸



The guidelines in the Snelling resource center help town officials know where to begin with a website project. However, work in e-Vermont communities also revealed some more profound cultural shifts that need to happen for an online municipal government presence to flourish across Vermont towns:

- Municipal officers and volunteers need to be comfortable themselves with online tools before they are comfortable interacting with citizens online.

⁸ <http://e4vt.org/programs/e-vermont/services/scg>

- Adding an online system to municipal government eventually increases access and efficiency, but there is an investment required upfront.
 - Human resources are needed from town offices to set up a first time website. Even with a framework already built, town offices are still responsible for developing policies, content, and a plan for regularly updating the site. Some towns received assistance from Vermont State Colleges interns, funded through e-Vermont.
 - Websites can be inexpensive, but for many towns they are new budget lines that need to be approved.
 - Some functions that municipalities may want to put online require creation of online systems at the state level. For example, e-Vermont funded an application that allowed online access to the statewide lister database managed by NEMRC. In another example, when Pownal attempted to make an online guide to the Certificate of Public Good process, they found inconsistencies within and across state departments in what public documents / announcements are available online, making it hard for a town to create a single online information source.
- Online systems do not replace offline systems. Just as Front Porch Forum enhances but does not replace neighbor-to-neighbor interactions, online municipal government should not take away offline options for civic engagement.
- The state's guidance for local municipalities using online tools is evolving, both in the rules and regulations, and in the technical assistance available from organizations that train and support municipal officers.

Some e-Vermont communities started projects specific to helping local committees and working groups communicate with the rest of the town. Middletown Springs, for example, requested Flip Cameras to let groups make simple videos. In Ludlow, the local public access TV station received more sophisticated equipment to support their media lab that helped local non-profits tell their stories through online video. Several town historical societies had an interest in putting their collections online, starting with the extensive Russell Collection found in Arlington. e-Vermont supported equipment and provided advising to help towns with this project, and developed a toolkit for other communities interested in creating digital records of local history.⁹

While e-Vermont did not address Town Meeting as a stand-alone project, the program did include a presentation on this topic in the final regional workshop and many towns used FPF to

Arlington *used e-Vermont help to build an online archive of historic materials.*



⁹ <http://e4vt.org/programs/e-vermont/toolkit/local-history/menu>

discuss issues ahead of their meeting. The e-Vermont application from Middlesex began with the Town Meeting Solutions Committee's interest in new ways to engage citizens and FPF became one of their major projects. We anticipate that using technology to engage citizens in their Town Meeting will be a topic of growing interest over the next several years.

The May 8th conference on Vermont's Digital Future added final recommendations on *Connecting Communities*. Many recommendations began with digital literacy and online access; to truly have a community wide conversation, everyone needs access to the necessary tools. This concern over inclusiveness is why many best practices in online tools today are complements to offline interactions. The conference also clearly identified local and state government leadership as key. Leaders in government can set standards, create expectations and hold themselves accountable for ensuring that there is a seamless transfer of information onto online platforms. From these basic building blocks, Vermont communities can enter into ambitious projects for using online tools to improve the way neighbors connect with each other.



What are Vermonters visions for bridging the digital future? Read the conference report at e4vt.org.

Growing Vermont Businesses Online

As part of e-Vermont, the Vermont Small Business Development Center (VtSBDC) provided an e-Vermont adviser to work with businesses in e-Vermont towns on their use of online tools. This marked the first VtSBDC program committed entirely to developing basic broadband skills for business; it included workshops, one-on-one advising, and small grants to some businesses for web projects. Many of the workshop materials appear in the e4vt.org toolkit on business basics.¹⁰

All communities had a high demand for VtSBDC services. By June 2012, the e-Vermont VtSBDC advisor had presented 45 business workshops in communities (plus more at regional workshops and conferences) and directly advised 143 businesses. The Vermont Department of Labor has provided additional funding for new workshops that included cloud computing and mobile applications. Combined with remaining e-Vermont funds, this additional grant will allow services to communities to continue through the end of 2012.

Few programs exist that target business owners developing basic competencies for utilizing online tools. These skills are generally beyond basic digital literacy, but remain at the introductory level. The most common skills these business owners are learning appear at the end of this section, and they begin with the simple question of why a business would get online.

e-Vermont found that the best strategy to help these business owners grow their businesses online has four components:

- Starting with basic business planning and core business goals, then matching particular tools to those goals. Starting small, with a few targeted steps, allows business owners to become accustomed to using online tools without becoming overwhelmed by the time commitment needed to adopt many new things at once. Starting with clarity in basic goals ensures that businesses can measure the impacts of online tools.
- Combining workshop, written, or online basic information with 1:1 advising.
- Providing funding so that businesses can get professional assistance as they improve their online presence. While there are many free tools available, a poorly executed online presence or one that requires a business owner to learn too many new skills and dedicate too much time at the start is self defeating.
- Providing instruction and advice from a neutral source, not a company or individual selling a service or platform.



The e-Vermont VtSBDC advisor provided one-on-one advising to over 143 businesses in less than two years.

¹⁰ <http://e4vt.org/programs/e-vermont/toolkit/business/menu>

*Longtime **Poultney** print shop owner Chuck Colvin wanted to help other entrepreneurs realize their dreams.*

So, he developed the Poultney Small Business Center, a three-story 20,000-square-foot business rental space that opened in 2009. But he wasn't sure how to get the word out about the vibrant space at low rents for business start ups.

With help from e-Vermont, Chuck quickly got to work establishing a website and learning the basics of social media marketing. These efforts led to the establishment of www.poultneysmallbusinesscenter.com and an ever-evolving social media presence. Within several months, ten businesses had moved in with more on the horizon.



The primary options for businesses today who want assistance in improving their use of online tools are topic-specific workshops or contracting with a specialist for help. While these options work for many businesses, they don't provide the same type of comprehensive, neutral, novice-friendly assistance that was available from e-Vermont.

Recommendations from the *Economic Opportunities* track of the statewide conference on Vermont's Digital Future echoed this recognition that business owners need more training in foundational skills for using online tools. Recommendations included proving baseline digital literacy alongside training tailored for business owners, an "Internet 101" training for businesses, and a framework for understanding technology and online tools as investments, not only expenses.

e-Vermont started all advising sessions by working with a business owner to understand the needs particular to his or her business. Based on that assessment, business owners most frequently requested assistance to:

- Increase comfort levels with working online, including some basic computer skills
- Gain basic understanding of website security and business network security
- Establish a Google 'Place Page'
- Raise awareness of no-cost tools available to small businesses (Google tools, Weebly, etc.) and identify which best meet their needs
- Establish a business website, generally through contracting with a designer; understand website functionality and design processes
- Re-design an old or ineffective website
- Understand basics of Search Engine Optimization (SEO) and how websites are indexed (e.g., meta data, description, keywords, link farming)
- Improve office efficiency through use of online tools (Google apps, mobile apps, office communication, Adobe Connect, etc.)
- Establish a focused e-mail marketing strategy
- Understand and use e-mail marketing software
- Understand and use social media marketing tools and strategies (Facebook, Twitter, YouTube)
- Maintain consistent branding online and off
- Develop basic understanding of computer coding for content management, link farming, Search Engine Optimization.

Some businesses also sought e-commerce assistance to:

- Understand effective design elements and content structuring (Customers should be at point of sale in 3 clicks or less, placement of shopping cart, purchase points, etc.)
- Install analytics software
- Understand how to read website analytics and use the data effectively
- Install and use software to monitor inventory, online sales, shipping costs, etc.
- Integrate Quickbooks, or equivalent program, into online sales software

21st Century Education

In too many classrooms, technology is an "add-on" amenity instead of a tool integrated into the learning experience. e-Vermont partner Digital Wish takes a comprehensive approach to changing this attitude in 4th – 6th grade classrooms through:

- Providing a computer and Internet access to every student in the room
- Working in the classroom and in teacher trainings to integrate technology tools into teaching all subjects, not just special technology classes
- Ensuring each student has a starting foundation in digital citizenship and information literacy to help them navigate the web
- Linking in-school technology to home and community by allowing computers to travel with students beyond the school, hosting parent nights, encouraging students to share what they are learning with their family, and designing community engagement projects as part of the curriculum

A more detailed perspective on this comprehensive approach is provided in Digital Wish's conceptual road map for developing technology initiatives. This map is shared with all participating schools and posted online at e4vt.org.¹¹

As part of e-Vermont, Digital Wish placed equipment, trainers, and resource materials in elementary schools in each of our participating communities. The initiative reached 1,294 students, distributed 1,326 Dell Netbooks and provided 3,156 hours of Digital Wish staff time working in schools. Educator trainings reached 1,465 educators with a total of 3,395 training sessions. Digital Wish paired their in-person work with supporting materials for six curriculum units in: digital citizenship, oral news gathering and research, collaboration for business exploration, media creation and presentation, "I've got a problem, I'm solving it!" and creativity and innovation.

Digital Wish took learning beyond the classroom walls. The business collaboration unit, for example, engaged students in



A study by Digital Wish of their network found that:

- 73% of students agree that schoolwork is more enjoyable when using a computer.
- 85% of students report that they produce better work and pay closer attention to lessons when they use a computer.
- 95% of students report that it is important to have their own computer at school.
- Technology utilization doubled and even tripled across subjects for students and teachers, with the largest utilization increases in English and research.
- Within 3 months, comfort levels with computing increased in every classroom.
- 86% of students say they get work done more quickly when using a computer.
- 85% of students report that having technology in school is important to their future.

Digital Wish staff spent 3,156 hours working in e-Vermont schools across the state.

¹¹ <http://e4vt.org/programs/e-vermont/toolkit/education-toolkit>



*Through its work in schools around Vermont, Digital Wish has learned the importance of focusing its first unit on digital citizenship and cyber safety. “We know that whatever happens online, we can tell a parent and not feel ashamed,” explains one student at **Dover Elementary School**. “We know how to respond to something we’ve never had to respond to before like cyber bullying.” These are valuable skills to instill in these young digital citizens.*

applying classroom lessons to real world business questions. Students enjoyed the entrepreneurial aspect of this unit. One Moretown teacher tells this story:

*After Skyping with students at **Moretown School**, Red Hen Baking Co. owners and Moretown residents Eliza and Randy George started their first twitter handle (@RedHenBakingCo) after realizing in a discussion with students that they don't fully utilize the Internet to advertise their Middlesex, VT cafe. In exchange for a delicious lunch, owner Eliza Cain got an hour tutorial with Moretown tech teacher Meg Allison about the ins and outs of Twitter. Meg and her students will continue to advise Red Hen on how to promote and grow business at the cafe using the "people" power of social media.*

With matching support from Microsoft, Digital Wish also launched after school clubs for designing websites and computer games, which had participation from 54 students in 14 schools. Students learned to use Kodu and Expressions software in Microsoft trainings, then entered original game and web designs in a statewide contest. Eighteen students received awards.



Scene from StarRacer (contest winner)

Thanks to a generous grant from the A.D. Henderson Foundation, Digital Wish will be able to return to their e-Vermont schools in 2012 to study best practices for sustainability and to share what they learn with other interested schools. Many of the resources developed during e-Vermont will also become available in an online teacher reference center in fall, 2012.

In addition to the particular resources for implementing successful one-computer-per-child programs, the experience of Digital Wish points to some broader concepts for 21st century education in Vermont schools:

- Technology in the classroom, when used effectively, prepares students for the workforce not only by helping them be comfortable with computers, the Internet, and other tools but also by helping them become more engaged learners. Digital Wish found that 85% of their students report paying closer attention to lessons when they use a computer.
- Students need earlier introductions to online safety, digital citizenship, and assessing information found online – teachers were already reporting problems in these areas by 4th grade.
- For teachers to effectively use technology in the classroom they need comfort with the particular tools, but also to view technology in service to their greater educational goals.

Technology offers new ways to reach existing goals, it should not replace or distract from core teaching.

- All teachers need to be proficient in evaluating online information, which may mean additional professional development and continuing education that keeps pace with technological changes. No matter how technology is used (if at all) in a particular classroom, today's students will be getting their information online.
- Online access for students needs to be easy – which requires equipment for every student and Internet connections that can support the highest speeds. Stopping the class to visit a computer lab, students waiting in line to use a computer, designated times for technology, all interrupt integration into the curriculum.
- Involving students in their community as part of technology-related projects helps them feel more engaged in their education. For example, a business mentorship project where students imagined being entrepreneurs and building their own business proved a successful way to teach everything from math (budgets) to art (marketing design).
- Spillover can happen from classroom to classroom, as more students and parents want 1:1 computers and as teachers have a chance to participate in trainings.
- Schools can learn from successful programs in neighboring communities. By pairing examples of success with supporting information on fundraising, curriculum development, and use of community resources, Digital Wish is creating a statewide impact from the experience of 24 schools.

Digital Wish is turning lessons learned in e-Vermont into a guide for any school interested in funding and sustaining technology in the classroom



*Sixth grade students at **Hardwick** Elementary classrooms are getting more connected with their teachers when it comes to organizing their homework and getting up to speed on classwork when absent. Each teacher created a classroom website that allows students (and their parents) to keep track of assignments, deadlines, and events. Lesson plans and content can also be shared between teachers, complete with resources or links when relevant. Says teacher Michael Noyes, "It was nice to have the computers for consistency. I was able to assign [the class] things that could be done on them - no excuses from students." Could this mean the end of that persistent "homework-eating" dog?*

Conclusion

Broadband opens up unprecedented opportunities for Vermonters. With access to people and information anywhere in the world, we can broaden the reach of business, education, and social connections. With interactive communications tools we can strengthen community close to home through civic involvement, information shared with neighbors, and tools to launch and manage projects of local importance. The tools of the digital age offer everyone new ways to be creative and engaged in life in Vermont.

Ensuring that Vermonters can make the most of our broadband resources is a complicated process. We need infrastructure, which will be available throughout Vermont by the end of 2013, but we also need the adoption rates that justify broadband build out today and upgrades tomorrow. We need to know how to best use the Internet. For some people this learning is basic digital literacy, but “digital literacy” doesn’t stop at knowing how to navigate a website; it’s a process of applying online tools to individual, business, and community goals as well as staying up to date as those tools evolve. And we need to be able to guide a new generation in both responsible use of online tools and imagining their potential. Every Vermonter has a role to play in defining the digital culture of our rural towns.

The e-Vermont Community Broadband Project highlighted successful strategies for truly closing Vermont’s digital divide. e-Vermont brought together some of these strategies for a comprehensive approach in 24 communities. While our collaborative project is now complete, each of our partners continues their good work across the state. We are also encouraged by the robust networks of organizations, businesses and individuals beyond the immediate e-Vermont partnership who are bringing broadband to rural communities.

There is so much to celebrate in the creative ways communities and businesses are moving forward in rural Vermont today. We are excited by all that we have accomplished with our state and local partners, and we look forward to ongoing innovation that continues to advance opportunities for all Vermonters.



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e-Vermont was built on partnership. Its successes have been the result of a great alliance of organizations, state, federal and private leadership, committed local champions and dedicated philanthropic investors. We deeply appreciate the contributions of so many to our common efforts in service to the future of rural Vermont.

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- Broadbandvt.org
- Digital Wish
- Flywheel Communications
- Front Porch Forum
- Vermont Council on Rural Development
- Snelling Center for Government
- Vermont Department of Libraries
- Vermont Small Business Development Center
- Vermont State Colleges

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But most of all, we are encouraged by the leadership, dedication, and capability of Vermont digital leaders active as champions in each of the 24 e-Vermont Communities and throughout the state. They are sowing the seeds of community communications, innovation and future prosperity; they are Vermont's digital heroes.

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Vermont Council on Rural Development
PO Box 1384, Montpelier, VT 05601-1384
iinfo@vtrural.org | vtrural.org | e4vt.org

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