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Type: NONREGULATORY & REGULATORY
Related Topic Areas: Community & Economic Development; Facilities Management; Land Use & Development Regulations; Zoning Regulations

Telecommunications 27

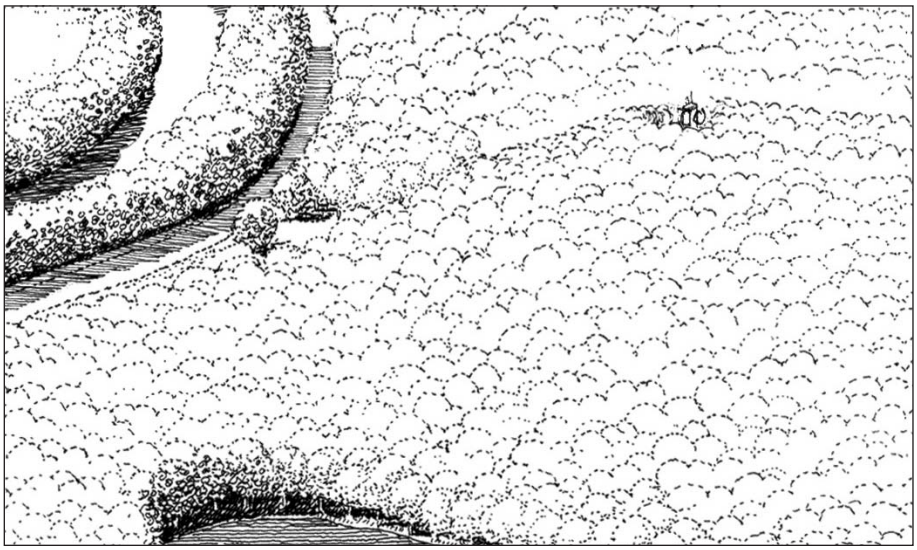
Overview

Vermonters are of mixed mind when it comes to telecommunications systems. We don't much care for roadside utilities and mountaintop towers that interrupt the view; but we also increasingly rely on cell phones, high-speed Internet access, teleconferencing, wireless, and other services that such technologies afford. Expanding telecommunications infrastructure offers new ways to communicate, to access information and global markets, and, for a growing number of telecommuters, to live anywhere and work from home. How changing technologies are affecting our communities and our landscape remains to be seen.

Given the benefits—and increasing necessity—of accessing telecommunications services, it is a state objective to achieve universal broadband availability, 100 percent mobile wireless coverage along Vermont's highways, and wireless fidelity (wi-fi) service in downtowns and key tourist locations by 2010. To accomplish this, the state has adopted a policy to "encourage better local and regional planning and zoning to provide paths for successful deployments of wireless services, including both commercial and public safety wireless services" (2004 Vermont Telecommunications Plan).

The Digital Divide

Telecommunications technologies are resulting in "digital divides" between those who have the access and knowledge to use new technologies and those who do not. Divides exist between urban and rural areas of the state, between high- and low-income Vermonters, and between older and younger segments of the population.



Access to broadband service and wireless networks are essential to economic development. Providing this infrastructure is increasingly seen as a public good requiring public participation in planning and funding. The aesthetic impacts of cell towers, overhead lines, and other elements also require community standards for the location and design of facilities.

Anyone with a computer, modem, and a phone can access the Internet through a dial-up connection, but because of its slow speed and limited capacity for data transmission, dial-up access is rapidly becoming outmoded for many uses. High-speed broadband access is now the state's adopted standard for universal service. Broadband access can be achieved through a variety of wired or wireless technologies—dedicated lines, cable television service modems, digital subscriber lines (DSL) that use phone lines, fixed wireless services from ground antennas, and satellite wireless services. The type, quality, and cost of broadband service varies greatly depending on the type of technology and the number of users.

The customer base in rural areas often is not large enough to attract service providers. The cost of a computer, add-on equipment, and monthly service fees and the lack of training also limit access among certain segments of the population, including many elderly and low-income residents. All these factors contribute to a "digital divide" between those who have access and those who do not. Providing access to everyone is a challenge that will need to be addressed at all levels of government.

Telecommunications services are provided by private utilities that are regulated by both the Federal Communications Commission (FCC) and the Vermont Public Service Board. The federal government, in its efforts to promote nationwide expansion of telecommunications infrastructure, has set limits on the ability of both state and local governments to regulate facilities and services. It also has programs to help extend access into areas that are underserved by commercial providers.

It's not always clear how local government fits into this process, but a

growing number of communities are working to both gain local access to expanding telecommunications infrastructure and to address related impacts through local regulation. The state and an increasing number of local governments are also moving toward "e-government" through the development of interactive municipal websites—or "web portals"—that consolidate online access to a variety of government programs and information through one primary website.

Local planning to accommodate telecommunications facilities is a key element of this process. The Vermont Planning and Development Act (24 V.S.A., Chapter 117) is generally silent on planning for telecommunications, though this falls under general state-planning goals regarding infrastructure expansion and public investment and the requirement for local plans to include utility and facility elements. Chapter 117 more specifically enables local communities to regulate "wireless telecommunications facilities and ancillary improvements" (§4414[12]). Local telecommunications regulations must conform to federal requirements and the municipal plan.

Community Connect Projects

Local communities around the country are working to bring broadband access into rural areas by building partnerships that create leverage in the telecommunications market. In Vermont, these efforts are being coordinated through the Vermont Council of Rural Development's Rural Broadband Project. Limited funding in support of these efforts is available through the Agency of Commerce and Community Development's Community Broadband Grants program.

Community projects typically include the following steps, as described in more detail in "Wiring Rural Vermont: A Tool Kit for Community Telecommunications Planning":

1. **Appoint a Task Force.** This involves organizing a local telecommunications committee or task force to guide the process and build critical partnerships with local government, businesses, organizations, health-care and educational institutions, and other potential users or customers.
2. **Conduct a Telecommunications Needs Assessment.** There are a number of readily available methods, including community surveys, that can be used to conduct local and regional telecommunications needs assessments. The purpose of these assessments is to gather information about existing telecommunications facilities and providers, the extent to which existing services are being used, and gaps where additional services, facilities, or coverage may be needed. The type of assessment depends largely on the intended service area and the potential users to be served—whether it's a few local businesses and institutions, the entire community, or an even larger region that includes neighboring communities. The assessment area should be large enough to encompass the potential customer base needed to attract service providers; it may be necessary to expand geographically or to include more local groups in the assessment.
3. **Establish Aggregate Demand.** This step involves organizing the local market to attract outside investors. The Berkshire Connect Model—first used in rural Massachusetts and currently being applied in Vermont—is a type of "aggregation" strategy used to establish a customer base that's large enough to attract service providers. Connect organizations are formed as nonprofits comprised of potential customers who want improved and affordable telecommunications access. These organizations in effect serve as a single customer that negotiates with service providers to invest in infrastructure and offer needed services. Connect initiatives include a general agreement that members will use a common carrier and associated services. The group must be large enough to generate revenues that will support private investment.
4. **Solicit Proposals.** This step involves identifying potential service providers and issuing requests for proposals. Requests should present in some detail information about current and projected demand, including the proposed service area, the types and numbers of customers, the types of services and applications needed, and desired price ranges.
5. **Contract for Services.** The local organization can then negotiate a contract for services with the selected provider.

If no providers respond, additional planning—and some public funding for telecommunications infrastructure development—may be needed. Though the state is promoting universal coverage through the private sector, it acknowledges that public investment also may be needed to guar-

Vermont Rural Broadband Project

The Vermont Council on Rural Development (VCRD) has created the Vermont Rural Broadband Project to help rural communities around the state in their local efforts to secure reliable and affordable broadband service. VCRD notes that the solution for each community may be different—from encouraging small local providers to helping towns create their own service. The goal of the project is to connect individuals who need service with local community groups that are working to bring service into their area. As of this writing, the project includes nearly thirty local and regional working groups.

For more information, contact VCRD (www.vrcd.org) or the project's website: www.vtruralbroadband.com.

Public Access Improvements

In 2001, the Gates Foundation put more than 175 public access computers in sixty-five Vermont public libraries. By mid-2004, 71 percent of public libraries in the state had high-speed Internet connections.

antee the availability of affordable broadband access in the state's most rural areas. Other sources of federal, state and private funding may also be available, depending on the type of community and project. More information about community connect projects, and potential funding sources is available from the Vermont Council of Rural Development, the Vermont Broadband Council, the Vermont Public Service Department, the Agency of Commerce and Community Development, and your regional planning commission.

Community Access Initiatives

Programs that offer information, access and assistance to local residents should be explored as funding, staff and volunteer time permit. Depending on the size of the community and available resources such efforts may include:

Establishing public Internet access sites at schools, public libraries, town offices, or "community access centers"—public places where people have free and assisted access to computers and computer-related technology, including the Internet. A number of assistance programs are available, including the state's K12Net that provides network and Internet access to local schools and more than 100 public libraries in Vermont.

Sponsoring community training programs designed to increase computer and internet literacy, through local schools, volunteer or nonprofit groups. Some nonprofit groups—such as Cyberskills Vermont based in Chittenden County—offer resources and training programs for a modest fee to cover costs.

Working with nonprofits to provide access to underserved groups. For example, the Vermont Housing Finance Agency (VHFA) is partnering with the state for state-funded projects to serve as "anchor tenants" for broadband access in communities with limited access. Municipal support is often needed to secure project funding, for example through the Vermont Community Development Block Grant Program. The state's Consolidated Plan, which governs this program, now requires that all new affordable housing units are wired to support high-speed video, voice and data. It also identifies for priority funding projects that include broadband infrastructure improvements and accessibility programs to benefit primarily low and moderate income persons.

Public Notice on Internet

24 V.S.A., §4464(a)(4

Chapter 117 specifically authorizes the posting of public notices for development review hearings on municipal websites, but this cannot be used as the primary or only means of public notice; other notice requirements still apply.

E-Government Initiatives

Electronic media and the Internet are redefining how Vermonters interact with state and local government. As Secretary of State Deb Markowitz has observed: "The Internet is . . . an invaluable tool for providing essential governmental services to the people of Vermont." The challenge, she notes, is not just to make the information of government available electronically but to also make it easy for Vermonters to find exactly what they need, when they need it. Given the digital divide, electronic data management issues, and related legal concerns, e-government will not soon replace other more traditional forms of interaction and communication, but it is an increasingly powerful tool that can be used to make government more efficient and accessible while reducing costs.

Vermont Broadband Council

As an affiliate of the Vermont State Colleges, the Vermont Broadband Council, promotes the use and availability of broadband services throughout the state. It sponsors demonstration projects and features case studies from communities around the state that have successfully obtained broadband access, including:

- Burlington Telecom
- MontpelierNet Coop
- Ripton Coop

For more information on local demonstration projects, contact the Vermont Broadband Council.

A first step is developing a local website that provides online information and links to community resources. The secretary of state's office maintains links to municipal websites and will host local websites on a temporary basis. There are also several nonprofit and private service providers that help develop local sites. Many community websites are created by volunteers. This is a great way to get a site up and running, but "official" government websites need some oversight and can quickly outgrow volunteer time and resources. At some point, the municipality will need to budget staff time and funding for site development, maintenance, and updates, as additional features or services are added.

Many Vermont communities now have websites that are used mainly as an information resource for local residents and businesses. These sites typically include contact information for local officials and boards; meeting schedules and minutes; posted public documents, including local plans and

regulations; upcoming community events; and links to other community organizations. A few municipalities are moving toward more interactive websites that allow local residents to look up mapped information, respond to surveys, discuss community affairs, and conduct government business directly online. For example, Colchester recently added a web log, or "blog" to their website to solicit community feedback and discussion on the update of their municipal plan.

E-government also extends to other areas of municipal record keeping and management. Related guidance documents are available from the secretary of state's office. These documents address evolving standards for e-government and associated legal documentation, system development, and maintenance issues.

Regulating Telecommunications Facilities

Chapter 117, as noted earlier, specifically enables municipalities that have adopted plans in effect to regulate "wireless telecommunications facilities and ancillary improvements" (§4414[12]). Under the 1996 Federal Telecommunications Act, however, local regulations cannot be used to limit access or competition between providers nor to regulate transmissions (or emissions) that come under the FCC's jurisdiction. Local telecommunications regulations must conform to both the municipal plan in effect at the time of adoption and to applicable federal requirements.

Many Vermont communities have adopted wireless facility regulations in recent years—under zoning or as a separate ordinance—largely to address the environmental and visual impacts of telecommunications towers. Local zoning regulations generally treat telecommunications towers as a type of conditional use that is allowed, subject to the approval of the board of adjustment or development review board, in specified zoning districts. In addition to other conditional use requirements, telecom facility regulations or ordinances typically include:

- requirements for the collocation of equipment on existing towers where feasible (note that this may result in fewer, but taller, towers);
- requirements for setbacks from property lines in relation to tower height or "fall zones" in the event of structural failure;
- height restrictions designed to avoid lighting requirements or to limit tower height, for example in relation to the adjoining tree canopy;
- requirements for visual impact assessments from public vantage points (for example, using balloon tests or enhanced images) and siting, screening, or camouflaging requirements to minimize visual impacts;
- requirements for engineering certifications that document the need for a new facility, the adequacy of the structural design to support existing and proposed equipment, and facility compliance with FCC regulations where applicable;
- requirements for the removal of abandoned or unused facilities; or
- exemptions for municipal or emergency dispatch and ham radio facilities that are less than fifty feet in height (see side bar below on antenna structures).

Newer regulations also differentiate between towers and other small-scale facilities that require only administrative review, such as equipment installed on existing towers or structures (silos, ski lifts, or steeples) that do not exceed twenty vertical feet. In some cases, such as for small wi-fi antennas or routers, no local approval may be required. Eliminating the need for board approval expedites the review of facilities that have few, if any, impacts and encourages the deployment of less-intrusive infrastructure. Model regulations that meet both federal and state requirements are available from the Vermont League of Cities and Towns.

Municipal E-Government Project

The UVM Center for Rural Studies' E-Government Project, funded through a series of federal grants, was developed to support the local use of information technology to electronically conduct municipal business. An outgrowth of the center's "Town Officer Connectivity Project," the E-Government Project provides resources for local government and an e-gov listserv available through the center's website (http://crs.uvm .edu/egov/). The project has also sponsored conferences and training sessions for local officials in association with the Vermont League of Cities and Towns and the secretary of state's office.

Regulating Antenna Structures

24 V.S.A. §§2296, 4412(6)

The state, in 2006, enacted this amendment to Chapter 117 that exempts antenna structures that are less than twenty feet in height from local regulation under zoning if they are:

- located on structures within downhill ski areas and
- are used primarily to transmit or receive communication signals for commercial, industrial, municipal, county, or state purposes.

Other antennas less than twenty feet high are also exempt, unless the regulations provide specific standards for their regulation.

With regard to amateur radio antennas, local ordinances must also comply with applicable FCC requirements (under 47 CFR §97.15) by allowing for the erection of amateur radio antennas or antenna support structures that are "at a height and dimension sufficient to accommodate amateur radio service communications" (§2296).